PART 1 GENERAL

1.01 PROJECT
   A. Project Name: East Tennessee State New Football Stadium.
   B. SBC No.: 166/005-02-2013
   C. Owner's Name: East Tennessee State University/Tennessee Board of Regents.
   D. Architect's Name: McCarty Holsaple McCarty, Inc.
   E. The Project consists of the construction of football stadium, including but not limited to, deep foundations, steel frame, concrete, masonry, waterproofing, glazing, doors, hardware, roofing and site work including all utilities. Scope includes football field, concourses, seating bowl, east side hospitality venue, skybox structure, concessions/toilets pod structures, entrance gate, and certain replacement structures.

1.02 CONTRACT DESCRIPTION
   A. Contract Type: Construction Manager at Risk based on Guaranteed Maximum Price as described in Document 00.52.13 - Standard Form of Agreement.

1.03 OWNER OCCUPANCY
   A. Owner intends to occupy the Project upon Substantial Completion.
   B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
   C. Schedule the Work to accommodate Owner occupancy.

1.04 CONTRACTOR USE OF SITE AND PREMISES
   A. Construction Operations: Limited to areas noted on Drawings.
   B. Provide access to and from site as required by law and by Owner:
      1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
      2. Do not obstruct roadways, sidewalks, or other public ways without permit.
   C. Time Restrictions:
      1. Limit conduct of especially noisy exterior work to the hours of 7:00 AM to 6:00 PM.
   D. Utility Outages and Shutdown:
      1. Limit shutdown of utility services to 4 hours at a time, arranged at least 72 hours in advance with Owner.
      2. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION
SECTION 01 25 13
PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SUBSTITUTIONS:

A. Substitute products should not be ordered and shall not be installed without written approval or acceptance from Designer. Contractor assumes all risks associated with premature ordering and installation of substitute products.

B. The specifically named manufacturers, products, and systems, and descriptive characteristics used in the Contract Documents normally serve only to establish a level of quality and a performance standard. Unless specific restriction is placed upon an item in the specifications, Contractor may submit proposals for substitutions. The Owner reserves the right to disallow substitutions. Contractor assumes risks associated with possible rejection of proposals for substitution submitted during the life of the contract.

C. Delays caused by tardiness of Contractor in preparing and forwarding submittals do not constitute an acceptable basis for consideration of substitute products. Delays due to factors which were in effect prior to project bidding do not constitute an acceptable basis for consideration of substitute products.

1.02 SUBSTITUTION REQUEST FORM:

A. Requests for substitutions shall be submitted to Designer on the form exhibited as Section 01 25 33, or in a similar format which provides the same or more information.

B. When making requests for substitutions, Contractor assumes the following responsibilities:

1. To have personally investigated the proposed substitute product and determined it is equal or superior in all respects to that specified;

2. To provide the same warranty for substitute that Contractor would for that specified;

3. To provide complete cost data, and waive all claims for additional costs related to substitution which subsequently become apparent; and

4. To coordinate installation of the accepted substitute, making such changes as may be required for Work to be complete in all respects.

END OF SECTION
SECTION 01 25 33
PRODUCT SUBSTITUTION REQUEST FORM

To: 

Attn: 

Specified Item: 

Project: 

Proposed Substitute: 

1. The following are attached (Mark all that apply):
   - Complete Description
   - Laboratory Tests
   - Catalog
   - Spec Data
   - Information on the availability of maintenance services and replacement materials for proposed substitute(s)
   - Names, addresses, and phone numbers of fabricators and suppliers for proposed substitute(s)

2. This substitution will have the following effects on dimensions, guages, weights, etc.: 

3. This substitution will have the following effects on wiring, piping, ductwork, etc.: 

4. This substitution will have the following effects on other trades:

5. This substitution will have the following effect on construction Schedules:

6. The proposed substitute(s) differs from the specified product(s) in quality and performance as follows:

7. Manufacturers guarantees for the substitute(s) and the specified product(s) are (check one):
   - the same
   - different (if different, explain below)
8. If the proposed substitution is accepted, it will result in:
   [ ] no cost impact  [ ] a cost increase of
   [ ] a cost decrease of
   (If change in cost is indicated, itemization on specified Cost Itemization Form is attached)

9. License fees or royalties are pending on the proposed substitute.
   [ ] No  [ ] Yes (if yes, explain below)

10. The undersigned or the firm represented shall pay for additional studies, investigations, submittals, redesign, and analysis by the Designer necessitated by this substitution request.

   Substitutions must be requested in accordance with applicable Contract requirements. After bidding, substitutions are to be submitted only by Contractor. Substitute products should not be ordered or installed without written acceptance.

Submitted by:  
Sign here: ___________________________________________  Date: ______________________

Name:______________________________________________  Telephone: ______________________

type or print:________________________________________

for:__________________________________________________

Name of firm:________________________________________

Address: ____________________________________________

Street
address:____________________________________________

and mailing
address
if different:

City, State,
and Zip Code: _________________________________________

Designer’s Review Comments:

[ ] Accepted  [ ] Rejected

[ ] Accepted as noted  [ ] Rejected (received too late)

[ ] Rejected (submittal incomplete)

Additional comments: ________________________________________________________________

For the Designer:

Signature here: ___________________________________________  Date: ______________________
SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 SUPPORTING DOCUMENTATION for PROPOSALS or CLAIMS


B. For a change in the Work, specifically describe proposed change, or briefly describe the proposed change with specific reference to a completely descriptive attachment, such as a Request for Proposal from the Designer.

C. For a change in Contract Sum, state briefly the reason for change, state the amount, and provide itemization of values on the following forms, or similar forms providing the same information:
   1. Section 01 26 54 Form for Price Summary: listing the itemizations of work by subcontractors and the Contractor that together apply to an entire related change in work.
   2. Section 01 26 55 Form for Price of Work: detailing the quantities, units, costs, and extensions for materials, equipment, and labor, subtotaled, plus overhead, and profit related to a specific proposed change in the Work.
   3. Section 01 26 56 Form for Price of Time: if applicable, deriving an average cost per day.

D. For a change in Contract Time:
   1. Fully describe the extent of and reasons for the change and effect of the change on the construction schedule, and attach a revised Progress Schedule. Take into account weekends, holidays, and the specified standard baseline for weather delays during the period of the requested extension.
   2. For a change based on weather-related delay, provide and attach:
      a. applicable specified Weather Delay Reports, or, if none is specified, daily work logs that describe actual local weather conditions and their impact on progress.
      b. National Oceanic and Atmospheric Administration (NOAA) weather data, for corroboration.
      c. NOAA comparative data on normals, means, and extremes if such data or another weather baseline is not already provided in Contract Documents.

1.02 SIGNATURES for Change Order:

A. Form shall be similar in format and content to Section 01 26 40, and signed by authorized representatives of each of the entities required by Conditions of the Contract.

B. Normal procedure shall be that:
   1. Designer prepares and submits supporting documents to Owner.
   2. Owner produces and signs three (3) counterparts of form; transmits by fax, e-mail, or other means, informational copies to its Construction Representative, Designer, and Contractor; and forwards.
   3. Owner’s Construction Representative receives counterparts, and brings them to next Progress Meeting, unless urgency and opportunity make for a more timely execution.
   4. Designer and Contractor both sign all three (3) counterparts at Progress Meeting. Each retains a counterpart, and the Owner’s Construction Representative retains the third for the Owner.

END OF SECTION
PART 1 - GENERAL

1.01 EXTENSIONS OF CONTRACT TIME

A. If the basis exists for an extension of time in accordance with paragraph 8.3 of the Conditions, an extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for that month.

1.02 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

A. The Owner has reviewed weather data available from the National Oceanic and Atmospheric Administration and determined a Standard Baseline of average climatic range for the State of Tennessee.

B. Standard Baseline shall be regarded as the normal and anticipatable number of calendar days for each month during which construction activity shall be expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

C. Standard Baseline is as follows:

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<th>Month</th>
<th>Standard Baseline</th>
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<tbody>
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1.03 ADVERSE WEATHER and WEATHER DELAY DAYS

A. Adverse Weather is defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:

1. precipitation (rain, snow, or ice) in excess of one-tenth inch (0.10") liquid measure
2. temperatures which do not rise above 32 degrees F by 10:00 a.m.
3. temperatures which do not rise above that specified for the day's construction activity by 10:00 a.m., if any is specified
4. sustained wind in excess of twenty-five (25) m.p.h.
5. standing snow in excess of one inch (1.00")

B. Adverse Weather may include, if appropriate, "dry-out" or "mud" days:

1. for rain days above the standard baseline;
2. only if there is a hindrance to site access or sitework, such as excavation, backfill, and footings; and,
3. at a rate no greater than 1 make-up day for each day or consecutive days of rain beyond the standard baseline that total 1.0 inch or more, liquid measure, unless specifically recommended otherwise by the Designer.

C. A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the contractor's scheduled work day, including a weekend day or holiday if Contractor has scheduled construction activity that day.
1.04 DOCUMENTATION and SUBMITTALS

A. WEATHER DELAY REPORT:

1. Use a copy of Section 01 26 25 as a Weather Delay Report, indicating for each calendar month the
days on which construction activity affecting the critical path of the Work was prevented by weather
conditions.

2. In the column for the cause, indicate measurement of precipitation, temperature, wind, or other
influencing factors.

3. Describe the construction activity that was scheduled, on the critical path, and delayed.

4. At the end of the month, add up the number of days delay, subtract the baseline number given in this
Section, and show the resulting claimable days in excess of baseline.

5. Submit a copy of the completed report with the next application for payment. Reports submitted with
applications for payment do not constitute a claim or preliminary claim for extension of time.

B. When making a claim for a time extension based on weather delay(s):

1. Submit a copy of all reports completed since the last month for which a time extension was previously
claim, or the commencement of Work if no previous claim, through the last month for which delay is
being claimed. Claims for time extension based upon weather delays are unjustified if a submitted
report does not corroborate the claim or if no report was submitted when it was required with an
application for payment.

2. Submit daily jobsite work logs showing which and to what extent construction activities have been
affected by weather on a monthly basis.

3. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather
station or other independently verified source approved by Designer at beginning of project.

4. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods, and
submit in accordance with the procedures for Claims established in Article 15 of the Conditions, and
the applicable General Requirements.

5. If an extension of the Contract Time is appropriate, it shall be implemented in accordance with the
provisions of Article 7 of the Conditions, and the applicable General Requirements.

END OF SECTION
## SECTION 01 26 25
### WEATHER DELAY REPORT

<table>
<thead>
<tr>
<th>Date</th>
<th>Weather condition causing delay</th>
<th>Work scheduled on critical path for this day that was delayed</th>
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Total number of days this month with delay due to weather

Baseline number from Section 01 26 20

Total – Baseline = claimable days
SECTION 01 26 40
FORM FOR AMENDMENT, CHANGE ORDER, OR DIRECTIVE

[ ] Amendment  Modification
[ ] Change Order  Number:
[ ] Construction Change Directive  PROJECT:

Original Contract Date:
This Change initiated:

The following changes in the Contract are hereby directed:

<table>
<thead>
<tr>
<th>Item</th>
<th>Reference</th>
<th>Work</th>
<th>Contract-Sum</th>
<th>Contract-Time</th>
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</thead>
</table>

The original Contract Sum ................................................................. $
Net Change previously authorized .......................................................... $
The Contract Sum prior to this Modification ............................................ $
This modification ( increases / does not change / decreases ) the Contract Sum...... $
The new Contract sum, including this modification .....................................$
This modification ( increases / does not change / decreases ) the Contract Time......
The new Contract Time, including this modification .....................................
The last day of the Contract Time, including this modification ......................

CONTRACTOR  DESIGNER  OWNER
Signed  Signed  Signed
Name & Date  Name & Date  Name & Date
For For For

01 26 40
Form for Amendment, Change Order, or Directive
Jun 05 OFD 012640 Page 1 of 1
### SECTION 01 26 54
### FORM FOR PRICE SUMMARY

<table>
<thead>
<tr>
<th>Work by Subcontractors</th>
<th>Name of Subcontractor</th>
<th>Costs and Allowances</th>
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Subtotal: 0.00

General Contractor mark-up on Subtotal: %  = 0.00

Subtotal for General Contractor for work by subcontractors: 0.00

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<th>Work by General Contractor</th>
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Subtotal (including Subcontractors and the General Contractor): 0.00

Bond Premium: %  = 0.00

Total: 0.00

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Cells with red underline (if viewed in color) are for you to fill in. Others are protected.

Rounding off is permitted if rounding up for decreases and rounding down for increases. Math functions in XLS show rounded to nearest penny, but carry exact value for calculations. Let embedded math do its work.

This XLS spreadsheet is available on Owner's website, Designers' Manual, Bidding Documents, listed by its Section number and title.
### SECTION 01 26 55
#### FORM FOR PRICE OF WORK

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<th>SBC Project Number</th>
<th>Project Name:</th>
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Work itemized below provided by:

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<th>Proposal Number</th>
<th>Date Itemized</th>
<th>Page of pages</th>
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**Materials Subtotal**: 0.00  
**Equipment Subtotal**: 0.00  
**Labor Subtotal**: 0.00

**% Sales Tax =** 0.00  
**% Burden =** 0.00

**Cost**: 0.00  
**Cost**: 0.00  
**Cost**: 0.00

Subtotal of Costs of Materials + Equipment + Labor = $0.00

10% Overhead allowed on costs = $0.00

Subtotal of Costs + Overhead = $0.00

5% Profit allowed on Costs + Overhead = $0.00

Total for this change = $0.00

Cells with red underline (if viewed in color) are for you to fill in. Other cells are protected. Rounding off is permitted if rounding up for decreases and rounding down for increases. Math functions in XLS show rounded to nearest penny, but carry exact value for calculations.

Let embedded math in "extension" columns do its work.

This XLS spreadsheet is available on Owner's website, Designers' Manual, Bidding Documents, listed by its Section number and title.

Posted in XLS format  
**July 2012 OFD s012655**  
**Page 1 of 1**
<table>
<thead>
<tr>
<th>Description</th>
<th>Period Cost</th>
<th>Period (Year, Month, Week, Day)</th>
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<td>Field Office Equipment</td>
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<td>Site Toilet(s)</td>
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</table>

Subtotal of Costs: 10% for Overhead: Subtotal with Overhead: 5% for Profit: Total per day:

Cells with red underline (if viewed in color) are for you to fill in. Other cells are protected. Math functions show rounded to penny, but carry exact value for calculations. Let embedded math do its work. Use "Year", "Month", "Week", or "Day" for period. This XLS spreadsheet is available on the Owner's website, Designers' Manual, Bidding Documents, listed by its Section number and Title.
PART 1 - GENERAL

1.01 DEFINITION

A. The CM/GC-GMP Contingency and the Reserve Fund are defined in the CM/GC Master Contract Attachment 1 Scope of Services and Deliverables.

B. The CM/GC-GMP Reserve Fund is an accumulation from trades that were estimated at the time that the GMP was agreed upon and are later bid to complete the trade bidding. Trades that bid less than estimated add the difference to Reserve. Trades that bid more than estimated deduct the difference from Reserve. Once all estimated trades are bid and awarded, if there is a net negative Reserve, the amount is charged to the GMP Contingency, regardless whether the GMP Contingency has sufficient balance to cover the charge. The Reserve does not accumulate from savings through substitutions, reductions in Work, nor unused remainders of allowances; rather, such savings are to be returned to the Owner through an appropriate modification as soon as they occur.

1.02 CM/GC-GMP CONTINGENCY LOG

A. Maintain a Contingency Log on the specified form, showing for each item a sequence number, brief caption description, individual cost, the portion of that cost currently incurred for Total Completed and Stored to Date of applications for payment, and whether the item needs or has received concurrence required by 1.02.C. If there are Phases, make sequence numbering subordinate to each Phase, grouping the items by Phase, and provide a subtotal for each Phase.

B. Providing a copy of Log to Owner and Designer constitutes written advisement for items clearly fitting definition.

C. When providing an updated Log that contains items not clearly fitting Contingency definitions that have not been given written concurrence by Owner and Designer accepting the inclusion in the Contingency, identify such items and obtain written concurrence from Designer and Owner’s construction representative in the form of their initials upon a copy of the Log next to each such item.

1.03 RESERVE FUND LOG

A. Maintain a Reserve Fund Log on the specified form, showing for each estimated trade:
   1. the Name of the successfully bidding subcontractor engaged for the trade, once trade bidding is actually completed. Until then, while trade bidding is pending, leave the subcontractor blank;
   2. the Date for trade bidding, whether pending a future occurrence, or actually having occurred;
   3. the Description of the trade, and, if the amount of the trade is split between multiple line items in the schedule of values, the line items of the Schedule of Values that together account for the full amount of the trade;
   4. the Estimated Value of the trade as agreed;
   5. the Actual Price of the trade, once trade bidding has actually occurred and subcontracts awarded based upon bidding; and,
   6. the Effect on Reserve, which is the Estimated Value minus the Actual Price.

B. The Reserve Log spreadsheet calculates the Effect on Reserve once a Name is filled in. This formula is filled in for enough rows to fill most or all of the first page. If the Log requires further rows, copy the formula into the additional rows.

C. List the estimated trades in the order they are listed in the agreement and amendments, if any.

D. As trade bidding is completed for each trade, report the results, identifying the trade(s) procured, and providing an updated copy of the Reserve Log, bid tabulation, and a copy of the bids received.
E. If an estimated trade is not procured by bidding, it loses its status as an estimated trade and instead becomes a scope gap to be paid from the GMP Contingency. In this case, enter this in the Reserve Log with “scope gap” as the Subcontractor, the effective date as the Date, the Description unchanged, the Estimated Value unchanged, zero as the Actual Price, and the resulting increase Effect on Reserve.

F. If Owner authorizes a transfer of Reserve into Contingency, enter this in the Reserve Log with the name of the Owner employee authorizing the transfer as the Subcontractor, the authorization date as the Date, “Owner authorized transfer” as the Description, zero as the Estimated Value, the amount of authorized transfer as the Actual Price, and the resulting decrease Effect on Reserve. Such a transfer can only be authorized from the Tennessee Board of Regents Office of Administration and Facilities Development by its Construction Management Assistant Director, Director of Construction Management, or Executive Director.

G. Attach current copy of Reserve Log to each counterpart of each Application for Payment

1.04 EFFECT ON THE SCHEDULE OF VALUES

A. Include only values consistent with the current Contingency Log and Reserve Log. To the extent that 1.02.C requires concurrence for items, include only values consistent with concurrences received.

B. Include a single line item in the Schedule of Values for the Reserve Fund. If there are no phases in the Schedule of Values, include a single line item in the Schedule of Values for the CM/GC-GMP Contingency, and represent values as for other line items.

C. If there are Phases in the Schedule of Values:
   1. include an overall line item for the portion of the CM/GC-GMP contingency not included in a Phase;
   2. include also a line item in each Phase for its portion of the CM/GC-GMP contingency;
   3. initially, set CM/GC-GMP contingency values at full value for overall, and zero for each phase;
   4. as costs are assigned to CM/GC-GMP Contingency, to the extent costs are applicable within phases, increase scheduled value of applicable Phase, and reduce scheduled value of overall CM/GC-GMP contingency, so their sum remains constant; and,
   5. represent values for each CM/GC-GMP contingency line item as for other line items.

D. Include estimated trades as distinct line items in the Schedule of Values, initially showing these at their Estimated Value, later adjusting them to their Actual Price as the trade bidding is completed.

1.05 EFFECT ON APPLICATIONS FOR PAYMENT:
A total completed and stored to date for an estimated trade cannot be included in an application for payment until the procurement has been completed and the effect on Reserve shown in the Reserve Log.

1.06 EFFECT ON PROGRESS SCHEDULE AND PUBLIC ADVERTISEMENT:

A. In the Progress Schedule, show the bid dates for each estimated trade as also shown in the Reserve Log. In the Progress Schedule, include the period during which the trade will be released for solicitation of its trade bids.

B. Inform the Owner’s bidding coordinator specifically when each trade enters solicitation, and ensure that the bidding coordinator has posted the public advertisement for the suitable period approved by the Owner’s project manager.

END OF SECTION
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Posted in XLS format
General Work for CM/GC
March 2012 OFD s012917 page 1 of 1
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<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Description</th>
<th>Estimated Value</th>
<th>Actual Price</th>
<th>Effect on Reserve</th>
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Current Reserve: 0.00
PART 1 - GENERAL

1.01 Basic Requirements
   A. Retainage escrow requirements are mandated by Chapter No. 340 House Bill No. 966 Public Acts of 1985 which was passed by the Tennessee General Assembly.
   B. Conditions of Contract, in accordance with State law, require retainage to be deposited into an interest-bearing escrow account if the Contract Sum $500,000 or greater. Compliance is mandatory and cannot be waived.
   C. Failure to have the escrow account operational by the time of the contractor's second application for payment can result in delay of payment or inability of the Owner to make payment. Any such delay or inability to pay will not be grounds for relief under the prompt payment statutes.

1.02 The banking institution handling the retainage escrow account must be in an appropriate custodial care agreement with the State Treasurer. If not already in such an agreement, a banking institution can request such an agreement from the State Treasurer, subject to meeting eligibility requirements of TCA section 12-4-108(c).

1.03 Getting Started
   A. Shortly after award of Contract, the Tennessee Department of Finance and Administration (F&A) will send the Contractor its latest information for starting the account. This information typically includes:
      1. procedural guide
      2. forms, including the basic application, colloquially referred to as “Form A”.
      3. list of banks that currently have agreements with the State to host retainage escrow accounts
   B. Getting help
      1. The instructions from F&A will include a name and phone number to call for help:
         a. If the Contractor needs help completing Form A.
         b. If the Contractor plans to use a lending institution that does not have a current agreement with the State for hosting retainage escrow.
      2. At the time this standard specification is written (see bottom left of page) the contact person for help in setting up new escrow accounts and completing Form A is Mary Mansour at (615)741-1317.
   C. To avoid delays in setting up the escrow, and possible delays in payment, do not wait to be contacted by F&A as described above. Instead, if the Contract Sum is $500,000 or greater, as soon as the Contract is awarded, take the Form A that is page 2 of this Section, get it filled out and executed with the escrow bank, and have the bank send the original wet-signature Form to
      ATTN: Mary Mansour
      Tennessee Department of Finance and Administration
      Office of Business and Finance
      Suite 2000 William R. Snodgrass Tennessee Tower
      312 Rosa L. Parks Avenue
      Nashville TN 37243-0294

1.04 A sample of Form A is provided on page 2 of this Section. Otherwise, this is the …
APPLICATION FOR THE SUBSTITUTION OF SECURITIES FOR ALL AMOUNTS RETAINED ON STATE BUILDING COMMISSION CONSTRUCTION CONTRACTS

Date: ________________________________

RE: Contract Number: ________________________________

Project No.: ________________________________

Location: ________________________________

Dear State Building Commission:

Pursuant to the provisions of Tennessee Code Annotated, Sections 12-4-108,

hereby requests that whenever payment for which certain amounts are retained by the State Building Commission as determined by the subject construction contract, the amount so retained be substituted for approved securities, as designated by the Tennessee State Treasurer.

The undersigned Contractor hereby appoints ________________________________ (Name of Banking Institution)
located at ________________________________ (Complete Address of Banking Institution)

agent and attorney-in-fact to receive all amounts retained by the State Building Commission under the provisions of the subject construction Contract and to purchase Retainage Securities of the following type: ________________________________ (Description & Account Number)

The appointed Banking Institution, as indicated by the acceptance signature shown below, agrees to enter or has already entered into a Trust Agreement with the Tennessee State Treasurer to act as custodian and servicing agent of Retainage Securities and to perform all assigned duties and responsibilities with respect thereto as set forth in the Trust Agreement, which is herein incorporated by reference.

Very truly yours,

(Signature of Authorized Representative of Contractor) ________________________________ (Title)

ACCEPTED:

(Signature of Authorized Officer of Banking Institution) ________________________________ (Title)

CONTACT PERSON (BANK) ________________________________

PHONE NUMBER ________________________________

PLEASE PRINT
PART 1 - GENERAL

1.01 RELATED SECTIONS

A. Phases are normally set forth in the Agreement and in the Summary of Work specification, normally from 01 10 00 to 01 10 19, but may differ in this Project Manual.

B. Applications for Payment and the final statement of accounting are normally specified in sections from 01 29 00 to 01 29 99, such as OFD standard Section 01 29 76, but may differ in this Project Manual.

C. Allowances are normally specified in sections from 01 21 00 to 01 21 99, such as OFD standard sections 01 21 13 and 01 21 15. Allowances associated with Unit Prices are normally in sections from 01 22 00 to 01 22 99, such as OFD standard sections 01 22 13 and 01 22 15. The arrangement of sections may differ in this Project Manual.

1.02 FORM and APPROVAL

A. The form for schedule of values shall be AIA Document G703 Continuation Sheet.

B. If objected to by Designer, revise and resubmit to Designer's satisfaction prior to submitting application for payment. If during construction, a line item's total completed and stored to date for payment purposes exceeds or is anticipated to exceed allocations, revise and resubmit a schedule of values such that no values of completed work exceed their allocations.

1.03 ALLOCATION OF VALUES

A. If the Work is divided into defined portions (“Phases”), intended to have distinct commencement, duration, or completion requirements, divide the allocation to correspond to the Phases, then within each Phase, subdivide the allocations as specified in the following paragraphs.

B. Provide at least these three line items to account for General Requirements:
   1. Mobilization, staging, and general start-up costs.
   2. Construction administration and temporary facilities, prorated over the course of the project.
   3. Maintenance of Record Documents, prorated over the course of the project.

C. If sitework is included, other than minor sitework incidental to a building or major structure, include sitework in single line item or group of line items. Within the group, categorize site utilities, roads and parking, and appurtenances according to general type and physical separation. If allowances are stipulated in the Work relating to sitework, provide a line item for each such allowance, including quantity allowances associated with Unit Prices.

D. For each involved building or major structure:
   1. If allowances are stipulated in the Work, provide a line item in the Schedule of Values for each allowance, including quantity allowances associated with Unit Prices.
   2. If the Contract is a CM/GC contract based on a Guaranteed Maximum Price (GMP) with estimated trades identified as a part of the GMP, provide a distinct line item for each estimated trade.
   3. Categorize by major trades or units of work corresponding to the current Progress Schedule, and relate to the Divisions and Sections of the Specifications.
   4. Further subdivide as desired, but maintain a distinct and identifiable correspondence to this allocation.

E. Account for Modifications by incorporating them into the appropriate allocations, or with a line item for each, until incorporating each into the appropriate allocations for the final statement of accounting.

END OF SECTION
PART 1 - GENERAL

1.01 SUBMITTAL:

A. In each application for payment, according to its context, provide:

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B. Provide application documents assembled in order listed above, on 8½” x 11” pages, except 11” x 17” pages can be used for Progress Schedules and Submittal Logs if folded to fit an 8½” x 11” size. Orient all pages as shown below. Provide application sets bound with a single clip (no staple) affixed to the upper left of the G702 first page (according to its orientation).  

C. Counterpart documents shall be original instruments with wet signatures and embossed or wet-stamped seals, in each set of application documents.

D. Provide a draft submission, including attachments, as a PDF attached to an email, to Designer and to the Owner’s construction representative three (3) days prior to actual submittal.

E. Provide actual submission of five (5) sets of the application documents to the Designer at Progress Meeting, Substantial Completion inspection meeting, or final inspection meeting. If submitted outside of these meetings, provide conveyance of application to Designer, from Designer to Owner’s construction representative, and from Owner’s construction representative to Owner’s central office.
1.02 INCLUSIONS AND CALCULATIONS:

A. Accurately represent all values with two decimal places, calculated to the penny.

B. STORED MATERIALS: those suitably stored on-site but not yet incorporated into the Work can be included; and, those suitably stored off-site can be included if documented in accordance with later provisions of this Section.

C. On CM/GC contracts, the total completed and stored to date for estimated trades can only be included once bids have been taken, subcontracts awarded, and the actual price reconciled to the Reserve Log.

D. Calculation of Retainage and amounts withheld:
   1. Credit for completed work and stored materials, and deductions for incomplete work, comprise the “Total Completed and Stored to Date”. The “Total Completed and Stored to Date” shall not include the value of Punch List items that remain incomplete after Substantial Completion.
   2. Retainage is calculated as a percentage of “Total Completed and Stored to Date”: 5% prior to Substantial Completion; 2% after Substantial Completion; then, none at final payment.
   3. Other amounts withheld (i.e., potential liquidated damages or in response to subcontractor claims of non-payment) can be added to the continuation sheet and deducted from the Total Completed and Stored to Date, or can be deducted from the resulting Current Payment Due after retainage and prior payments are accounted.

1.03 FORMS, FORMAT, and CONTENT:

A. G702 Application: Use AIA Document G702 Application and Certificate for Payment
   1. For Project identification, include the Owner’s project number featured prominently, institution name, and work name, which is normally the Project title shown in the Agreement.
   2. Provide a unique, sequential application number.
   3. Include the Contractor’s address exactly as provided in the ACH Form.
   4. Show the County where the Work is located, normally where AIA captions “Contract for”.

B. G703 Continuation: Use AIA Document G703 Continuation Sheet itemized with the line items and values of the Schedule of Values accepted by Designer, and values and percentages for each line item.

C. Final Accounting: Allocate final Contract Sum as if modifications had been fully incorporated in Contract Sum at award of Contract, and shall follow the same format as the Schedule of Values.

D. GMP Contingency Log and Reserve Log, only if a CM/GC contract.

E. Off-Site Stored Materials: If any, provide:
   1. Statement identifying where materials are stored, and assuring that materials are tagged to identify them for use in the project.
   2. Bill(s) of sale for materials claimed that list(s) all items.
   3. Certificate of insurance covering materials claimed, recognizing Owner’s right to make claims.

F. Affidavit of Payment of Debts and Claims: Provide counterpart using AIA Document G706, when requesting final payment for the Work or reduction of retainage to zero for any portion of the Work.

G. Consent of Surety:
   1. If seeking reduction in retainage prior to Final Payment for the entire Work, or final payment on only a portion of the Work, provide counterpart using AIA Document G707A Consent of Surety to Reduction in Retainage, or a similarly formed letter.
   2. If seeking Final Payment, provide counterpart using AIA Document G707 Consent of Surety Company to Final Payment, or a similarly formed letter.
   3. If Contractor has listed exceptions in the Affidavit of Payment, Surety’s consent shall acknowledge such exceptions.
   4. If Contract is not bonded, Consent of Surety is not required, and Owner will instead advertise a public notice of settlement, and wait 30 days for responses, before accepting the application.
   5. Provide counterpart of Power of Attorney with Consent of Surety.

H. Insurance Certificate: If seeking final payment, provide certificate of insurance for products and completed operations as required by Conditions of the Contract sections 9.10.2(2) and 11.1.2.1.c.
I. Statement of continuing insurability: if seeking final payment, a letter written to the effect required by Conditions of the Contract section 9.10.2(3).

J. Use & Occupancy Permit (some jurisdictions have a different name): provide copy with first application following substantial completion.

K. Data Binder Receipt:
   1. with first application following substantial completion, provide copy of document identifying to whom Contractor delivered the Operating and Maintenance Data Binders.
   2. with application for final payment, provide copy of document identifying to whom Contractor delivered Project Data Binders

L. Roof Warranty or warranties, if any required on the Owner’s Section 07 50 35 standard form.

M. Report of Subcontractors and Suppliers, on the standard form.

N. Visitor Log for the period covered by application. After substantial completion, provide Log(s) for periods prior to substantial completion that have not been provided in a prior application.

O. Weather Delay Report for all calendar months completed, up to the date of substantial completion, and not previously submitted.

P. Progress Schedule, updated and current, indicating progress through the period covered by application and scheduled progress through completion of Work. This is not required with the request for final payment.

Q. Shop Drawing Log for entire project through the period covered by application. If there has been no shop drawing log activity since a previous copy was submitted with a previous application, a single page can be substituted saying so and identifying which pay request had the latest up-to-date log. If a log is long and has many of its early pages unchanged since a previous copy was submitted with a previous application, a single page can be substituted for the earlier unchanged pages saying so and identifying which pay request had the latest copy of those pages.

1.04 CERTIFICATION

A. Designer, if in disagreement with the amounts claimed in an application, may either return application to Contractor for revision and resubmittal, or revise application by hand to indicate corrections Designer considers appropriate.

B. Designer, finding an application complete and correct, will certify the application and return one of the sets to Contractor to indicate the action taken.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Electronic document submittal service.
   B. Preconstruction meeting.
   C. Site mobilization meeting.
   D. Progress photographs.
   E. Coordination drawings.
   F. Submittals for review, information, and project closeout.
   G. Number of copies of submittals.
   H. Submittal procedures.

1.02 RELATED REQUIREMENTS
   A. Document 00.72.13 - General Conditions
   B. Document 00.72.16 - Supplementary Conditions
   C. Section 01.31.19 - Project Meetings
   D. Section 01.32.15 - Progress Schedules and Reports
   E. Section 01.77.70 - Closeout Procedures
   F. Section 01.78.21 - Closeout Submittals

1.03 PROJECT COORDINATION
   A. Project Coordinator: Construction Manager.
   B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for construction area access, traffic, and parking facilities.
   C. During construction, coordinate use of site and facilities through the Project Coordinator.
   D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
   E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.
   F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
   G. Make the following types of submittals to Architect through the Project Coordinator:
      1. Requests for interpretation.
      2. Requests for substitution.
      3. Shop drawings, product data, and samples.
      4. Test and inspection reports.
      5. Design data.
      6. Manufacturer's instructions and field reports.
      7. Applications for payment and change order requests.
      8. Progress schedules.
      9. Coordination drawings.
     10. Correction Punch List and Final Correction Punch List for Substantial Completion.
11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE
A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF) format and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.

1. Besides submittals for review, information, and closeout, this procedure applies to requests for information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
2. Contractor and Architect are required to use this service.
3. It is Contractor's responsibility to submit documents in PDF format.
4. Subcontractors, suppliers, and Architect's consultants will be permitted to use the service at no extra charge.
5. Users of the service need an email address, Internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
6. Paper document transmittals will not be reviewed; emailed PDF documents will not be reviewed.
7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Submittal Service: The selected service is: To Be Determined

C. Training: One, one-hour, web-based training session will be arranged for all participants, with representatives of Architect and Contractor participating; further training is the responsibility of the user of the service.

D. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING
A. Refer to Section 01.31.19 - Project Meetings.
B. Architect will schedule a meeting after Owner has approved the initial GMP.
C. Attendance Required:
   1. Owner.
   3. Contractor.
   4. Major Subcontractors.
D. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.
E. The CM shall record meeting notes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS
A. Refer to Section 01.31.19 - Project Meetings
B. Project Coordinator will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

3.04 CONSTRUCTION PROGRESS SCHEDULE
A. See Section 01.32.15 - Progress Schedules and Reports

3.05 PROGRESS PHOTOGRAPHS
A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.
B. Photography Type: Digital; electronic files.
C. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to Architect.
D. In addition to periodic, recurring views, take photographs of each of the following events:
   1. Completion of site clearing.
   2. Excavations in progress.
   3. Foundations in progress and upon completion.
   4. Structural framing in progress and upon completion.
   5. Enclosure of building, upon completion.
   6. Final completion, minimum of ten (10) photos.
E. Views:
   1. Provide non-aerial photographs from four cardinal views at each specified time, until Date of Substantial Completion.
   2. Consult with Architect for instructions on views required.
   3. Provide factual presentation.
   4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
F. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: Via email with project record photo CD.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
   4. Photo CD(s): Provide 2 copies including all photos cumulative to date and PDF file(s), with files organized in separate folders by submittal date.

3.06 COORDINATION DRAWINGS
A. Provide information required by Project Coordinator for preparation of coordination drawings.
B. Review drawings prior to submission to Architect.

3.07 SUBMITTALS FOR REVIEW
A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
3. Samples for selection.
4. Samples for verification.
B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
C. Samples will be reviewed only for aesthetic, color, or finish selection.
D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below.

3.08 SUBMITTALS FOR PROJECT CLOSEOUT
A. See Section 01.77.70 - Closeout Procedures and Section 01.78.21 - Closeout Submittals.

3.09 NUMBER OF COPIES OF SUBMITTALS
A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.10 SUBMITTAL PROCEDURES
A. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
   2. Use of reproductions of the Contract Documents in digital data form to create shop drawings is only permitted as defined.
   3. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
B. Transmit each submittal with a copy of approved submittal form.
C. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
D. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
F. Schedule submittals to expedite the Project, and coordinate submission of related items.
G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor. For submittals that are required to be reviewed by Architect's Consultants allow an additional 5 working days to the time noted above.
H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
I. Provide space for Contractor and Architect review stamps.
J. When revised for resubmission, identify all changes made since previous submission.
K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
L. Submittals not requested will not be recognized or processed.

END OF SECTION
PART 1 - GENERAL

1.01 SCHEDULING AND ATTENDANCE

A. The Designer, in cooperation with the Owner and the Contractor, will schedule and administer a Pre-Construction Conference, periodic Progress Meetings, and other specially called or required meetings.

B. Representatives of the Owner and the Designer will attend.

C. Representatives of the Contractor, subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents. In the case of the Contractor, the representative shall be one who is authorized to sign change orders.

1.02 PRE-CONSTRUCTION CONFERENCE

A. A Pre-Construction Conference will be scheduled and conducted at the project site prior to the issuance of the Notice to Proceed.

B. The Pre-Construction Conference shall be attended by the Contractor’s:
   1. (Office) Job Manager
   2. (Field) Job Superintendent
   3. Major subcontractors’ representatives
   4. Major suppliers’ representatives
   5. Others, as desired.

C. The Pre-Construction Conference is intended to be an opportunity for the Contractor to review administrative, procedural, and temporary facilities requirements of the Contract Documents, and to ask questions concerning the Work.

1.03 PROGRESS MEETINGS

A. Progress Meetings will be scheduled and conducted at the project site, typically twice-monthly, or when deemed advisable by the Designer.

B. Progress Meetings shall be attended by the Contractor’s:
   1. (Office) Job Manager
   2. (Field) Job Superintendent
   3. Subcontractors’ representatives, as befits the agenda
   4. Suppliers’ representatives, as befits the agenda
   5. Others, as appropriate.

C. Progress Meetings are intended to include a monthly opportunity for the Contractor to submit applications for payment, signing of change orders by Designer and Contractor, a general review of the progress of the Work, and identifying and mitigating impediments to timely completion.

D. Progress Meetings will be scheduled and conducted until final completion.

END OF SECTION
SECTION 01 31 90
ADMINISTRATIVE LOGS

PART 1 - GENERAL

1.01 SUBMITTALS LOG

A. If any shop drawings, product data, or sample submittals are required by the Contract Documents, maintain a submittals log to record the status of submittals made to the Designer.

1. Submit three (3) copies with each application for payment.
2. Clearly identify the Project.
3. Record activities with respect to shop drawings, product data, samples, and such other submittals which are required by the Contract Documents.
4. Indicate for each submittal made to date:
   a. Title or name, and type of submittal.
   b. Date submitted to the Designer.
   c. Date returned by the Designer.
   d. General nature of the Designer’s response.

1.02 VISITOR LOG

A. Maintain visitor log in the field office (or with the Project Superintendent when no field office is required) to record visits by all persons not a part of the Contractor's forces, materials suppliers, or subcontractors' forces, until substantial completion of the entire Work.

1. Submit a copy with each counterpart of each application for payment, covering the period since the last log(s) submitted.
2. Clearly identify the Project.
3. Use the form of specification Section 01 31 93, and indicate:
   a. Visitor name and affiliation.
   b. Date and time of visit.
   c. Length of time on site.

END OF SECTION
SECTION 01 31 93
VISITOR LOG

Please print information below if you represent the Owner, institution, Designer or a consultant, a testing agency engaged by the Owner or Designer, a regulatory authority, or yourself as a private individual. Please estimate how long you will be on site, rather than logging out when you leave.

Persons who are employed by the Contractor, a subcontractor, a sub-subcontractor, a supplier, or a testing agency engaged by any of these, are NOT VISITORS, and should not log in on this Log.

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<tr>
<th>Name</th>
<th>Representing</th>
<th>Arrival Date &amp; Time</th>
<th>how long on site</th>
<th>phone number while on site</th>
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PART 1 - GENERAL

1.01 INITIAL PROGRESS SCHEDULE

A. Submit within 21 days of award of the Contract, and not later than the date of submission of the first application for payment. Clearly identify the Project on the schedule.

B. Outline the orderly progress of the Work as planned from the Notice to Proceed through Substantial Completion on the contractually required date. Categorize the Work by Phase (if Phases are specified), major work area, and distinct trade or team, and divide into individual activities of one month or less duration each. Provide an identifiable relationship to the schedule of values. Identify projected monthly progress, points of 50% completion, Substantial Completion, and final completion, and other major milestones. If included in the Work, Commissioning activities and Storm Water Pollution protection Plan (SWPPP) activities shall be among those major milestones. If planting or landscaping that is seasonally sensitive is included in the Work, show that portion of Work distinctly during a seasonally appropriate time.

C. A bar chart or critical path method is acceptable, or other method which is approved by the Designer. Since requests and claims for extension of time require demonstrating effect upon the critical path of Work, a critical path method schedule is recommended, and may be required as supporting documentation to prove validity of a requested or claimed time extensions.

1.02 SUBMITTALS SCHEDULE

A. Submit with the initial Progress Schedule. Clearly identify the Project, and format in a manner similar to the initial progress schedule, utilizing the same method, or make a part of the initial Progress Schedule.

B. Identify submittals to be made. Show date for submission and date by which Designer should respond, allowing sufficient time for review.

C. Designer may require revision of schedule if times allotted for review are insufficient.

1.03 UPDATED PROGRESS SCHEDULE

A. Submit a copy attached to each counterpart of applications for payment.

B. Clearly identify the Project. Format in a manner similar to the initial progress schedule, utilizing the same method.

C. Indicate:
   1. Work as initially scheduled.
   2. Actual progress through the period covered by the current application for payment.
   3. Planned progress through Substantial Completion, including extensions of time made by change order or construction change directive.

D. If actual progress falls behind projections, show how the backlog is to be made up so that the Work will be completed on time.

END OF SECTION
## PART 1 - GENERAL

### 1.01 CODES AND REGULATIONS

**A.** The Regulatory Requirements used for Tennessee Board of Regents projects are listed below as a convenience and may not be inclusive of all that apply. Others may also apply. Comply with all pertinent codes, standards, regulations and laws.

<table>
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<th>Document</th>
<th>Source</th>
<th>Phone</th>
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| 1. 2006 International Building Code  
2006 International Mechanical Code  
2006 International Plumbing Code  
2006 International Fuel Gas Code  
2006 International Fire Code  
Regional Office  
900 Montclair Road  
Birmingham, AL 35213-1206 | (888) 422-7233 |
| 2. 2006 Life Safety Code  
(NFPA No. 101-2006)  
(NFPA Standards as listed in NFPA 1, Chapter 2 – excluding NFPA 5000)  
2008 National Electrical Code | National Fire Protection Association  
1 Battery March Park  
Quincy, Massachusetts 02169-7471 | (800) 344-3555 |
| 3. 2007 Tennessee Elevator Safety Board Rules  
Chapter 0800-3-4  
Elevators, Dumbwaiters, Escalators, and other Lifts  
2007 Board of Boiler Rules  
Chapter 0800-3-3  
Boiler Inspections | Tn. Dept. of Labor and Workforce Development  
Div. of Boiler, Elevator & Amusement Device Inspection  
220 French Landing Drive  
Nashville, TN 37243-1006 | (615) 741-2123 |
| 4. ASHRAE standard 90.1-2007  
Energy Standards for Buildings except Low-Rise Residential Buildings  
ASHRAE standard 90.2-2007  
Energy-Efficient Design of New Low-Rise Residential Buildings  
1791 Tullie Circle NE  
Atlanta, Georgia 30329 | (404) 636-8400 |
| 5. Tennessee Chapters  
0780-2-1, Electrical Installations  
0780-2-2, Codes & Standards  
0780-2-3, Plan & Spec Review  
0780-2-18, Equitable Restrooms | Department of Commerce and Insurance  
Fire Prevention Division  
Codes Enforcement Section  
500 James Robertson Parkway  
Nashville, Tennessee 37243-1162 | (615) 741-2981 |
| 6. ADA Title II, State and local government facilities must follow the requirements of the 2010 standards, including both the Title II regulations at 28 CFR 35.151 and the 2004 ADAAG at 36 CFR part 1191, appendices B and D. In the few places where requirements between the two differ, the requirements of 28 CFR 35.151 prevail. The compliance date is March 15, 2012, for all newly constructed or altered State and local government facilities permitted after this date.  
ADA Title III, Public accommodations and commercial facilities must follow the requirements of the 2010 standards, including both the Title III regulations at 28 CFR part 36, subpart D: and the 2004 ADAAG at 36 CFR part1191, appendices B and D. In the few places where requirements between the two differ, the requirements of 28 CFR part 36, subpart D prevail. The compliance date is March 15, 2012, for all newly constructed or altered facilities permitted after this date. | U.S. Department of Justice  
Civil Rights Division,  
Disability Rights Section-NYA  
950 Pennsylvania Ave, NW  
Washington, DC 20530 | (202) 514-4609 |
| 7. TDEC Division of Water Pollution Control  
Tennessee water quality control act of 1977 (TCA 69-3-101) | Tennessee Department of Environment and Conservation Division of Water Pollution Control  
401 Church Street  
Nashville, TN 37243 | (615) 532-0625 |
SECTION 01 43 25
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 CONTRACTOR'S RESPONSIBILITIES

A. Employ and pay for the services of an independent testing laboratory, approved by the Designer, to perform specified services and testing. Employment of laboratory does not relieve Contractor's obligations to perform the Work of the Contract.

B. Coordinate and pay for inspections and testing required by law, ordinance, rules, regulations, orders, or approvals of public authorities as required by the Contract Documents.
   1. Furnish copies of Products Test reports as required.
   2. Furnish incidental labor and facilities to facilitate inspections and tests and for storage and curing of test samples.
   3. Notify the lab sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
   4. Make arrangements with lab and pay for additional samples and tests required for Contractor's convenience.

1.02 TESTING LABORATORY

A. Qualifications:
   1. Meet "Recommended Requirements for Independent Laboratory Qualification", published by the American Council of Independent Laboratories, and Basic requirements of ASTM E 329 "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction".
   2. Be authorized to operate in the State of Tennessee.
   3. Submit copies to the Designer of the report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during the most recent tour of inspection with the memorandum of remedies of any deficiencies reported by the inspection.

B. Duties and limitations of authority:
   1. Perform specified inspections, sampling, and testing of materials and methods of construction and promptly submit five copies of the written report of each test and inspection to the Designer.
   2. Laboratory is not authorized to release, revoke, alter or enlarge on requirements of the Contract Documents, approve or accept portions of the Work, or perform duties of the Contractor.

END OF SECTION
SECTION 01.45.33
CODE-REQUIRED SPECIAL INSPECTIONS

PART 1  GENERAL - NOT USED

1.01  SECTION INCLUDES
   A. Code-required special inspections.
   B. Testing services incidental to special inspections.
   C. Submittals.

1.02  RELATED REQUIREMENTS
   A. Section 01.30.00 - Administrative Requirements: Submittal procedures.
   B. Section 01/43.25 - Testing Laboratory Services.

1.03  DEFINITIONS
   B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.
   C. Special Inspection:
      1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved contract documents and the referenced standards.
      2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

1.04  REFERENCE STANDARDS
   A. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2011.
   F. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field; 2012.
   J. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Firestops; 2014.
M. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2011 w/Errata.
P. IAS AC291 - Accreditation Criteria for Special Inspection Agencies; 2012.

1.05 SUBMITTALS
A. See Section 01.30.00 - Administrative Requirements, for submittal procedures.
B. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency shall:
   1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
   3. Submit certification that Special Inspection Agency is acceptable to AHJ.
   4. Submit documentation that Special Inspection Agency is accredited by IAS according to IAS AC291.
C. Special Inspection Reports: After each special inspection, Special Inspector shall promptly submit two copies of report; one to Architect and one to the AHJ.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of Special Inspector.
      d. Date and time of special inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of special inspection.
      h. Date of special inspection.
      i. Results of special inspection.
      j. Conformance with Contract Documents.

1.06 SPECIAL INSPECTION AGENCY
A. Construction Manager will employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code.
B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.07 TESTING AND INSPECTION AGENCIES

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL
A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.
   1. Continuous Special Inspection: Special Inspection Agency shall be present in the area where the work is being performed and observe the work at all times the work is in progress.

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2. Periodic Special Inspection: Special Inspection Agency shall be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.02 SPECIAL INSPECTIONS FOR STEEL CONSTRUCTION

A. High-Strength Bolt, Nut and Washer Material:
   1. Verify identification markings conform to ASTM standards specified in the approved contract and to AISC 360, A3.3; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

B. High-Strength Bolting Installation: Verify items listed below comply with AISC 360, Section M2.5.
   1. Snug tight joints; periodic.
   2. Pretensioned and slip-critical joints with matchmarking, twist-off bolt or direct tension indicator method of installation; periodic.

C. Structural Steel and Cold Formed Steel Deck Material:
   1. Structural Steel: Verify identification markings conform to AISC 360, Section M3.5; periodic.
   2. Other Steel: Verify identification markings conform to ASTM standards specified in the approved contract documents; periodic.
   3. Submit manufacturer's certificates of compliance and test reports; periodic.

D. Weld Filler Material:
   1. Verify identification markings conform to AWS standards specified in the approved contract documents and to AISC 360, A3.5; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

E. Welding:
   1. Structural steel and cold formed steel deck:
      a. Complete and partial joint penetration groove welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      b. Multipass fillet welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      c. Single pass fillet welds less than 5/16 inch wide: Verify compliance with AWS D1.1; periodic.
      d. Plug and slot welds: Verify compliance with AWS D1.1/D1.1M; continuous.
      e. Single pass fillet welds 5/16 inch or greater: Verify compliance with AWS D1.1/D1.1M; continuous.
      f. Floor and roof deck welds: Verify compliance with AWS D1.3/D1.3M; continuous.
   2. Reinforcing Steel: Verify items listed below comply with AWS D1.4 and ACI 318, Section 3.5.2.
      a. Verification of weldability; periodic.
      b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames as well as boundary elements of special structural walls of concrete and shear reinforcement; continuous.
      c. Shear reinforcement; continuous.
      d. Other reinforcing steel; periodic.

F. Steel Frame Joint Details: Verify compliance with approved contract documents.
   1. Details, bracing and stiffening; periodic.
   2. Member locations; periodic.
   3. Application of joint details at each connection; periodic.

3.03 SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION

A. Reinforcing Steel, Including Prestressing of Tendons and Placement: Verify compliance with approved contract documents and ACI 318, 3.5 and 7.1 through 7.7; periodic.

B. Reinforcing Steel Welding: Verify compliance with AWS D1.4 and ACI 318, 3.5.2; periodic.
C. Bolts Installed in Concrete: Where allowable loads have been increased or where strength design is used, verify compliance with approved contract documents and ACI 318, 8.1.3 and 21.2.8 prior to and during placement of concrete; continuous.

D. Anchors Installed in Hardened Concrete: Verify compliance with ACI 318, 3.8.6, 8.1.3 and 21.2.8; periodic.

E. Design Mix: Verify plastic concrete complies with the design mix in approved contract documents and with ACI 318, Chapter 4 and 5.2; periodic.

F. Concrete Sampling Concurrent with Strength Test Sampling: Each time fresh concrete is sampled for strength tests, verify compliance with ASTM C172, ASTM C31 and ACI 318, 5.6 and 5.8 and record the following, continuous:
1. Slump.
2. Air content.
3. Temperature of concrete.

G. Specified Curing Temperature and Techniques: Verify compliance with approved contract documents and ACI 318, 5.11 through 5.13; periodic.

3.04 SPECIAL INSPECTIONS FOR MASONRY CONSTRUCTION

A. Masonry Structures Subject to Special Inspection:
1. Engineered masonry in structures classified as "low hazard..." and "substantial hazard to human life in the event of failure".

B. Verify each item below complies with approved contract documents and the applicable articles of ACI 530/530.1/ERTA.
1. Inspections and Approvals:
   a. Verify compliance with the required inspection provisions of the approved contract documents; periodic.
   b. Verify approval of submittals required by contract documents; periodic.
2. Compressive Strength of Masonry: Verify compressive strength of masonry units prior to start of construction unless specifically exempted by code; periodic.
4. Joints and Accessories: When masonry construction begins, verify:
   a. Proportions of site prepared mortar; periodic.
   b. Construction of mortar joints; periodic.
   c. Location of reinforcement, connectors, prestressing tendons, anchorages, etc.; periodic.
5. Structural Elements, Joints, Anchors, Protection: During masonry construction, verify:
   a. Size and location of structural elements; periodic.
   b. Type, size and location of anchors, including anchorage of masonry to structural members, frames or other construction; periodic.
   c. Size, grade and type of reinforcement, anchor bolts and prestressing tendons and anchorages; periodic.
   d. Welding of reinforcing bars; continuous.
6. Grouting Preparation: Prior to grouting, verify:
   a. Grout space is clean; periodic.
   b. Correct placement of reinforcing, connectors, prestressing tendons and anchorages; periodic.
   c. Correctly proportioned site prepared grouts and prestressing grout for bonded tendons; periodic.
   d. Correctly constructed mortar joints; periodic.
3.05 SPECIAL INSPECTIONS FOR SOILS
A. Materials and Placement: Verify each item below complies with approved construction documents and approved geotechnical report.
   1. Design bearing capacity of material below shallow foundations; periodic.
   2. Design depth of excavations and suitability of material at bottom of excavations; periodic.
   4. Subgrade, prior to placement of compacted fill; periodic.
B. Testing: Classify and test excavated material; periodic.

3.06 SPECIAL INSPECTIONS FOR CAST-IN-PLACE DEEP FOUNDATIONS
A. Materials, Equipment and Final Placement: Verify each item below complies with approved construction documents and approved geotechnical report.
   1. Element length; continuous.
   2. Element diameters and bell diameters; continuous.
   3. Embedment into bedrock; continuous.
   4. End bearing strata capacity; continuous.
   5. Placement locations and plumbness; continuous.
   6. Type and size of hammer; continuous.
B. Drilling Operations: Observe and maintain complete and accurate records for each element; continuous.
C. Material Volume: Record concrete and grout volumes.
D. Concrete Elements Associated with Cast-in-Place Deep Foundations: Perform additional inspections as required by the Special Inspections for Concrete Construction article of this section.

3.07 SPECIAL INSPECTIONS FOR SPRAYED FIRE RESISTANT MATERIALS
A. Sprayed Fire Resistant Materials, General:
   1. Verify compliance of sprayed-fire resistant materials with specific fire-rated assemblies shown in the approved contract documents, and with the applicable requirements of the building code.
   2. Perform special inspections after rough installation of electrical, mechanical, plumbing, automatic fire sprinkler and suspension systems for ceilings.
B. Physical and visual tests: Verify compliance with fire resistance rating.
   1. Condition of substrates; periodic.
   2. Thickness of sprayed fire resistant material; periodic.
   3. Density of sprayed fire resistant material in pounds per cubic foot; periodic.
   4. Bond strength (adhesion and cohesion); periodic.
   5. Condition of finished application; periodic.
C. Structural member surface conditions:
   1. Inspect structural member surfaces before application of sprayed fire resistant materials; periodic.
   2. Verify preparation of structural member surfaces complies with approved contract documents and manufacturer's written instructions; periodic.
D. Application:
   1. Ensure minimum ambient temperature before and after application complies with the manufacturer's written instructions; periodic.
   2. Verify area where sprayed fire resistant material is applied is ventilated as required by the manufacturer's written instructions during and after application; periodic.
E. Thickness: Verify that no more than 10 percent of thickness measurements taken from sprayed fire resistant material are less than thickness required by fire resistance design in approved contract
documents. In no case shall the thickness of the sprayed fire resistant material be less than the minimum below.

1. Minimum Allowable Thickness: Tested according to ASTM E605, periodic.

F. Density: Verify density of sprayed fire resistant material is no less than density required by the fire resistance design in the approved contract documents.

G. Bond Strength: Verify adhesive and cohesive bond strength of sprayed fire resistant materials is no less than 150 pounds per square foot when in-place samples of the cured material are tested according to ASTM E736 and as described below.

3.08 SPECIAL INSPECTIONS FOR MASTIC AND INTUMESCENT FIRE RESISTANT COATINGS

A. Verify mastic and intumescent fire resistant coatings comply with AWCI 12-B and the fire resistance rating shown on the approved contract documents.

3.09 SPECIAL INSPECTIONS FOR FIRE RESISTANT PENETRATIONS AND JOINTS

A. Verify penetration firestops in accordance with ASTM E2174.

B. Verify fire resistant joints in accordance with ASTM E2393.

3.10 SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

A. Structural Steel: Comply with the quality assurance plan requirements of AISC 341.

B. Cold Formed Steel Light Frame Construction:
   1. Field welding; periodic.
   2. Screw attachment, bolting, anchoring and other fastening of components within the main seismic force-resisting system; periodic.

C. Architectural Components: Erection and fastening of components below; periodic.
   1. Exterior cladding.
   2. Interior and exterior veneer.
   3. Interior and exterior non-loadbearing walls and partitions.

D. Mechanical and Electrical Components:
   1. Anchorage of electric equipment required for emergency or standby power systems; periodic.

E. Designated Seismic System Verification: Verify label, anchorage or mounting conforms to certificate of compliance provided by manufacturer or fabricator.

F. Structural Testing for Seismic Resistance:
   1. Concrete reinforcement: Comply with ACI 318, Section 21.1.5.2.
      b. Welding: Perform chemical tests complying with ACI 318, Section 3.5.2 to determine weldability; periodic.
   2. Structural Steel: Comply with the quality assurance requirements of AISC 341.

G. Structural Observations for Seismic Resistance: Visually observe structural system for general conformance with the approved contract documents; periodic.

3.11 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:
   2. Perform specified sampling and testing of products in accordance with specified reference standards.
3. Ascertain compliance of materials and products with requirements of Contract Documents.
4. Promptly notify Architect and Contractor of observed irregularities or non-conformance of work or products.
5. Perform additional tests and inspections required by Architect.
6. Submit reports of all tests or inspections specified.

B. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect.
C. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.12 TESTING AGENCY DUTIES AND RESPONSIBILITIES

A. Testing Agency Duties:
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Architect and Contractor of observed irregularities or non-conformance of work or products.
   5. Perform additional tests and inspections required by Architect.
   6. Submit reports of all tests or inspections specified.

B. Limits on Testing or Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the work.

C. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect.
D. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.13 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:
   1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
   2. Cooperate with agency and laboratory personnel; provide access to the work, to manufacturers' facilities, and to fabricators' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to work to be tested or inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
      c. To facilitate tests or inspections.
      d. To provide storage and curing of test samples.
   4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
   5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

END OF SECTION
SECTION 01.50.00
TEMPORARY FACILITIES AND CONTROLS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Temporary utilities.
B. Temporary telecommunications services.
C. Temporary sanitary facilities.
D. Temporary Controls: Barriers, enclosures, and fencing.
E. Security requirements.
F. Vehicular access and parking.
G. Waste removal facilities and services.
H. Project identification sign.
I. Field offices.

1.02  TEMPORARY UTILITIES
A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.
B. New permanent facilities may be used.
C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03  TELECOMMUNICATIONS SERVICES
A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
B. Telecommunications services shall include:
   1. Telephone Land Lines: One line, minimum; one handset per line.
   2. Internet Connections: Minimum of one; DSL modem or faster.
   3. Facsimile Service: Minimum of one dedicated fax machine/printer, with dedicated phone line.

1.04  TEMPORARY SANITARY FACILITIES
A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
B. Maintain daily in clean and sanitary condition.

1.05  BARRIERS
A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
C. Provide protection for plants designated to remain. Replace damaged plants.
D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06  FENCING
A. Construction: Commercial grade chain link fence.
B. Provide 8 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.07 EXTERIOR ENCLOSURES
A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.08 INTERIOR ENCLOSURES
A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces.

1.09 SECURITY
A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
B. Coordinate with Owner's security program.

1.10 VEHICULAR ACCESS AND PARKING
A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
B. Coordinate access and haul routes with governing authorities and Owner.
C. Provide and maintain access to fire hydrants, free of obstructions.
D. Provide means of removing mud from vehicle wheels before entering streets.
E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
F. Existing parking areas located at Go Bucs Drive may be used for construction parking.
G. Do not allow vehicle parking on existing pavement.
H. Provide one parking space for Owner use.
I. Provide one parking space for Architect use.

1.11 WASTE REMOVAL
A. See Section 01.74.19 - Construction Waste Management and Disposal, for additional requirements.
B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
C. Provide containers with lids. Remove trash from site periodically.
D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.12 PROJECT IDENTIFICATION
A. Provide project identification sign of design and construction indicated on Drawings.
B. Erect on site at location established by Architect.
C. No other signs are allowed without Owner permission except those required by law.

1.13 FIELD OFFICES
   A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.
   B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
   C. Provide separate private office similarly equipped and furnished, for use of Architect and Owner.
   D. Locate offices a minimum distance of 30 feet from existing and new structures.

1.14 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS
   A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
   B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
   C. Clean and repair damage caused by installation or use of temporary work.
   D. Restore existing facilities used during construction to original condition.
   E. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION
SECTION 01 57 23
TEMPORARY STORM WATER POLLUTION CONTROL

PART 1 - GENERAL

1.01 JURISDICTION

This project is under the jurisdiction of the Tennessee Department of Environment and Conservation (TDEC) and a Storm Water Pollution Prevention Plan (SWPPP) has been filed. TDEC has provided a Construction General Permit (CGP) Notice of Coverage (CGP-NOC or just NOC). Under a NOC, the Owner is primary permittee, and the Contractor is considered a secondary permittee and may be referred to as a Construction Site Operator, by virtue of having day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions.

1.02 RELATED SECTIONS

A. Copies of the NOC and SWPPP are normally included in the specifications but formatted without a specification section number. They may follow this Section or may be added by addendum or modification, and are to be considered a part of this Section. A copy of each, not bound into larger volumes of the Contract Documents, may be obtained from the Designer for ease of carrying out the requirements below.

B. Other technical aspects of the SWPPP are described in the Contract Documents where appropriate.

1.03 BASIC COORDINATION AND MONITORING

A. NOC: Post a copy of the NOC in a prominent, public location, such as a general notices board where building permit, employment regulations, and prevailing wage rates are posted. Protect the NOC from weather without obstructing its visibility. Repair or replace the NOC if it becomes damaged or missing.

B. SWPPP:

1. Maintain a copy of the SWPPP on site at all times. If a construction office/trailer is on site, keep the SWPPP documents inside it in a designated location. If there is no office/trailer, construct a SWPPP box and store the SWPPP documents therein. If the site is inactive, or does not have an on-site location adequate to store and protect the SWPPP, post a notice alongside the NOC telling where the SWPPP is stored, with a contact name and phone number. If the SWPPP is located off-site, provide reasonable local access to it during normal working hours.

2. Make updated plans and inspection reports available upon request to the operator of the local MS4, inspectors, and local agencies approving EPSC plans, grading plans, or storm water management plans.

C. RAINFALL MONITORING:

1. Maintain a rain gage on site, or determine a reliable local reference resource for rainfall monitoring. Some TBR campuses have such a resource. A resource off of the immediate campus where the project is located is not adequately local for normal daily readings. On days when Contractor's forces are not on site, if an on-campus local resource is unavailable, a rainfall reading can be obtained from a reliable nearby resource.

2. Take 24-hour rainfall depth measurement readings at a consistent time of day each day. When a rain event occurs, record the approximate beginning and ending time. Record the daily readings on the Weather Delay Report, Section 01 26 25, even if Work is not delayed.

3. Keep a copy of rainfall records with the SWPPP.
D. **EPSC FIELD PLANS**: A set of Erosion Prevention and Sediment Control (EPSC) plans shall be designated “field plans” and used to show modifications and updates and the date of each change, which can be hand-written on the sheets. Maintain these field plans nearby the overall project record documents.

E. **SITE ASSESSMENT**: As soon as SWPPP Site Assessment features are in place, notify the Designer that the Work is ready for the SWPPP Site Assessment.

F. **TWICE-WEEKLY INSPECTIONS**:
   1. Conduct inspections of the storm water control measures twice-weekly and at least seventy-two (72) hours apart. Where sites or portion(s) of sites have been temporarily stabilized, or runoff is unlikely due to extreme drought, or winter conditions such as freezing or snow or ice covering, written notification may be submitted to the local environmental field office that inspections are being curtailed; and, if not objected to by that office, then such inspection may be conducted only once per month until construction activity resumes or thaw or precipitation results in runoff. Inspection requirements do not apply after Work has achieved final stabilization.
   2. The person making the inspections must have active certification, having completed the TDEC “Fundamentals of Erosion Prevention and Sediment Control Level 1” course.
   3. A “Construction Stormwater Inspection Certification (Twice-Weekly Inspections)” form must be filled out by the inspector for each inspection. Keep copies of completed forms with the SWPPP. Blanks of this form can be found in the Tennessee Erosion and Sediment Control Handbook, Fourth Edition, August 2012, appendix C, as issued by the Tennessee Department of Environment and Conservation.

G. **FINAL STABILIZATION**: Submit statement of final stabilization to the Designer when permanent site work is in place and temporary storm water control measures have been removed, typically when requesting substantial completion inspection, at the substantial completion inspection, or when requesting final inspection. Final stabilization is defined as seventy percent (70%) density of a permanent groundcover over all previously disturbed area(s).

H. **RECORD DOCUMENTS**: In addition to keeping the Project Record Documents complete with as-built conditions, at Final Stabilization assemble all twice-weekly inspection reports and site audit reports, and include these in the Project Data Binders.

**PART 2 – PRODUCTS**

**PART 3 – EXECUTION**

**END OF SECTION**
PART 1 - GENERAL

1.01 ENVIRONMENTAL HAZARDOUS PRODUCTS, MATERIALS, OR WASTES

A. Do not incorporate in the Work hazardous materials or products as currently defined in the Resource Conservation and Recovery Act of 1976 (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), or Environmental Protection Agency (EPA) regulations, rules, or requirements, as amended, unless the Contract Documents give no other option than to provide a material or product which contains a hazardous material, component, constituent, waste, or leachate. In studying the Contract Documents and carrying out the Work, report at once to the Designer the discovery of a product or material which contains hazardous materials, components, constituents, waste, or leachate.

B. Do not incorporate in the Work a product or material which contains concentrations of a constituent, component, or material above the threshold levels which would require adherence to hazardous waste disposal regulations as currently defined, or could cause a release or threat of release of a hazardous substance at a level that would require a remedial response or removal action as currently defined by RCRA, CERCLA, or the EPA.

C. Select materials and products meeting specified requirements which comply with EPA requirements as regards hazardous materials content. In making requests for substitutions, determine that materials and products proposed for substitution comply with RCRA, CERCLA, and EPA requirements.

END OF SECTION
PART 1  GENERAL

1.01  WASTE MANAGEMENT REQUIREMENTS

A.  Owner requires that this project generate the least amount of trash and waste possible.
B.  Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
C.  Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
D.  Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.
E.  Methods of trash/waste disposal that are not acceptable are:
   1.  Burning on the project site.
   2.  Burying on the project site.
   3.  Dumping or burying on other property, public or private.
   4.  Other illegal dumping or burying.
F.  Regulatory Requirements:  Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02  DEFINITIONS

A.  Clean:  Untreated and unpainted;  not contaminated with oils, solvents, caulk, or the like.
B.  Construction and Demolition Waste:  Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
C.  Hazardous:  Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
D.  Nonhazardous:  Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
E.  Nontoxic:  Neither immediately poisonous to humans nor poisonous after a long period of exposure.
F.  Recyclable:  The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
G.  Recycle:  To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
H.  Recycling:  The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form.  Recycling does not include burning, incinerating, or thermally destroying waste.
I.  Return:  To give back reusable items or unused products to vendors for credit.
J.  Reuse:  To reuse a construction waste material in some manner on the project site.
K.  Salvage:  To remove a waste material from the project site to another site for resale or reuse by others.
L.  Sediment:  Soil and other debris that has been eroded and transported by storm or well production run-off water.
M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

A. See Section 01.30.00 - Administrative Requirements, for submittal procedures.

B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Incinerator Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
      c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   5. Recycled and Salvaged Materials: Include the following information for each:
      a. Identification of material, including those retrieved by installer for use on other projects.
      b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
      c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
      e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
   6. Material Reused on Project: Include the following information for each:
      a. Identification of material and how it was used in the project.
      b. Amount, in tons or cubic yards.
      c. Include weight tickets as evidence of quantity.
   7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01.30.00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
B. See Section 01.50.00 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01.60.00 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01.70.00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

2.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION
SECTION 01 77 70
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 PRE-CLOSEOUT SUBMITTALS

A. Submit required tabulations when Work reaches seventy-five percent completion; however, regardless of percent completion, submit not later than 30 days prior to the scheduled date on which Substantial Completion is required.

B. Submit tabulations of:
   1. Equipment and systems for which the specifications require demonstrations or training, indicating relevant specification sections, scheduled time and place for demonstration and training sessions, and intended audience. Adjust schedule if instructed by Designer to do so.
   2. Equipment and systems for which operating and maintenance data are required in the Operating and Maintenance Data Binders and related documents are required in the Project Data Binders.
   3. Spare parts and extra materials required, indicating the relevant specification sections, and the appropriate party to whom the items are to be delivered.

1.02 REQUEST FOR CLOSEOUT INSPECTION

A. SUBSTANTIAL COMPLETION:
   When Contractor considers Work substantially complete, Contractor shall submit to Designer:
   1. written assertion that Work is Substantially Complete;
   2. a list of items to be completed or corrected and dates scheduled for completion or correction of each item;
   3. certification that orientation and training for facility maintenance personnel is complete or written assertion that such orientation and training will be certified prior to inspection;
   4. written assertion that Operating & Maintenance Data Binders are complete and available or will be prior to inspection;
   5. when a Use and Occupancy Permit applies, a copy of the final approval(s), or written assertion that they will be complete and available prior to inspection;
   6. a draft of the application for payment corresponding to the substantial completion, with written assertion that an application for payment will be ready and submitted at the inspection;
   7. when there is Commissioning, written assertion that Commissioning requirements have been completed or will be prior to inspection.
   8. when there is a storm water permit, written statement of the status of final stabilization required under the Storm Water Pollution Prevention Plan (SWPPP) for the TDEC Construction General Permit (CGP) Notice of Termination (NOT).

B. FINAL INSPECTION:
   When Contractor considers Work complete, Contractor shall submit to Designer:
   1. certification that a qualified person authorized by Contractor has reviewed the Contract Documents and inspected the Work;
   2. written assertion that the Work is complete and in accordance with Contract Documents and ready for Final Inspection;
   3. written assertion that additional materials necessary to augment the Operating & Maintenance Data Binders with instructions for adding these to the Binders, or full replacement Binders, are complete and available or will be prior to inspection;
   4. written assertion that Project Data Binders and Construction Record Documents are complete and available or will be prior to inspection; and,
   5. an application for final payment.
C. Upon receipt of an appropriate request for inspection, Designer will schedule an inspection meeting with Contractor, and Owner's representatives to determine the status of completion.

1.03 RESULTS OF CLOSEOUT INSPECTIONS

A. Should the Designer determine that Work is not complete to the degree asserted by Contractor, Designer will promptly notify Contractor in writing stating the deficiencies. Contractor shall take immediate steps to remedy deficiencies and make a request for Re-Inspection.

B. SUBSTANTIAL COMPLETION: Designer will prepare a Certificate of Substantial Completion accompanied by a list of items to be completed or corrected, and will submit Certificate to Contractor and to Owner for signature with an accounting of Liquidated Damages due, when Designer verifies that:
   1. Work is Substantially Complete based on an inspection conducted pursuant to an appropriate request for Closeout inspection;
   2. orientation and training for facility maintenance personnel is complete; and,
   3. Operating & Maintenance Data Binders are complete and have been delivered to the Owner.

C. FINAL INSPECTION: Designer will certify that the Work is Complete, and will initiate Final Adjustments, when Designer verifies that:
   1. Work is complete in accordance with Contract Documents based on an inspection conducted pursuant to an appropriate request for Closeout inspection;
   2. orientation and training for facility maintenance personnel is complete; and,
   3. additional materials necessary to augment the Operating & Maintenance Data Binders with instructions for adding these to the Binders, or full replacement Binders, are complete and have been delivered to the Owner.
   4. Project Data Binders and Construction Record Documents are complete and have been delivered to the Designer.

1.04 RE-INSPECTION FEES: If the Work fails a Closeout inspection, and a subsequent inspection is requested and conducted based on Contractor assertion of the same stage of completion, Owner will compensate Designer for performing such Re-Inspection as additional services, and deduct the amount of such compensation from the Contract Sum by appropriate modification.

1.05 FINAL ADJUSTMENTS

A. When Designer has certified that the Work is complete, Designer will determine whether modification is needed to reflect appropriate adjustments to Contract Sum which were not previously effected. If such modification is needed, Designer shall assist the Owner in its preparation and deliver it to Contractor, who in the case of a change order, shall sign and return it to Designer.

B. When Designer has certified that the Work and needed modifications to the Contract are complete, and if necessary, Designer will instruct Contractor to submit a revised final application for payment.

1.06 ONE-YEAR CORRECTIVE INSPECTION

A. An inspection will be scheduled and conducted at project site prior to one year from date Substantial Completion was achieved, but as close to the end of that year as is reasonably possible.

B. The inspection will be attended by at least one representative each of Owner, Designer, and Contractor.

C. The inspection will confirm non-conforming items previously identified for correction by the Owner, and whether corrections have been completed or are still outstanding, and is intended to be an opportunity for Contractor to become aware of any outstanding corrections needed.

END OF SECTION
SECTION 01 78 21
CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 DATA BINDERS

A. Provide two complete sets in durable, commercial quality, plastic covered, three ring binders. Identify project and type of data on face and saddle.

B. Provide information required by Contract Documents, including:
   1. Cover sheet giving complete project title and number, Contractor's name, address, phone number, superintendent's name, and related information.
   2. Table of Contents identifying material in Binder, and identifying missing materials to be added later or certifying completeness of Binder.

C. OPERATING & MAINTENANCE DATA BINDERS

1. Provide Product Data. Include: manufacturer; model number; names, addresses, & telephone numbers of suppliers, installers, & servicers; related information for repair, renovation, or additions.

2. Provide Operating and Maintenance Data, including: instructions and schedules for proper operation, maintenance, servicing, and lubrication with manufacturer's parts list, illustrations, assembly drawings, maintenance diagrams, and list of recommended lubricants and cleaning agents; as-installed control diagrams and coordination drawings with color coded piping and wiring diagrams; valve tag charts with numbers, locations, and functions; panel board circuit directories; and, list of materials and parts furnished for Owner. Review brochures and manufacturer's standard printed information for data pertaining to models other than those actually provided, and mark to clearly omit inapplicable information and identify units actually installed.

3. If Commissioning applies, provide Commissioning functional performance test certifications and data. If separate binders of this information have not been submitted already, provide a third copy in a separate binder.

4. If a SWPPP applies, provide a section into which the Designer can add the Storm Water Operation & Maintenance Plan.

D. PROJECT DATA BINDERS

1. On the form exhibited as Section 01 78 88, provide a complete list of subcontractors and material suppliers, including dollar amount, company name, address, phone number, local representative, and information regarding minority-owned business status. List general contractor as first entry.

2. Provide a copy of the Certificate of Substantial Completion.

3. Provide a copy of the State Fire Marshal's Certificate of Occupancy, and other Use and Occupancy Permits, Certificate(s) of Inspection, or letter(s) of acceptance from governing authorities as apply.

4. Provide guarantees, warranties, bonds, certifications, maintenance agreements, service contracts, and related documents, including beginning date, duration, information about instances which might affect validity, and proper procedure in case of failure.

5. If a SWPPP applies, provide the twice-weekly inspection reports and site audit reports.

1.02 CONSTRUCTION RECORD DOCUMENTS: Keep the record copy of Contract Documents required by paragraph 3.11 of the Conditions in good condition and in the course of the Work, legibly mark these to record actual conditions of Work, including: location, depth, and identification of new and existing underground items, utilities, valves, tap points, equipment, service access, test points, and related features; field changes in dimensions and detail; changes by addenda or Modification; and, description and details of features for maintenance, service, replacement, or expansion of the Work.

END OF SECTION
SECTION 01 78 25
DATA BINDER RECEIPT

PART 1 - GENERAL

1.01 RELATED SECTIONS
Section 01 29 76 Payment Procedures
Section 01 77 70 Close-Out Procedures
Section 01 78 21 Close-Out Submittals

1.02 CONTRACTOR PREPARATION AND USE OF THIS FORM

A. Use this form or a reasonable facsimile to verify delivery of Data Binders. Fill in the identifying information following this paragraph, then use the prepared form as a receipt, for signature by the person to whom Data Binders are delivered. Provide a copy of the receipt with the application for payment.

1. For the Application for Payment commensurate with Substantial Completion, provide a copy indicating delivery of Operating and Maintenance Data Binders.

2. For the Application for Payment commensurate with Final Completion, provide a copy indicating delivery of Project Data Binders.

B. Identifying Information:

1. For the Work:

   Project Title:
   (SBC project number, institutional location, and work name)

2. For the Data Binder(s), mark only one of the boxes below:

   - ONLY Operating & Maintenance Data Binder
     (due at substantial completion inspection)
   - ONLY Project Data Binder
     (due at final inspection)
   - BOTH data binders

1.03 RECIPIENT SIGNATURE

A. By signature below, recipient acknowledges receipt of the Data Binder identified above, but does not certify the completeness or correctness of the Data Binder.

Recipient Signature:
Legibly indicate recipient's name and title or affiliation with Owner or Designer

END OF SECTION
# Report of Subcontractors and Suppliers

**SECTION 01 78 88**

**REPORT OF SUBCONTRACTORS AND SUPPLIERS**

<table>
<thead>
<tr>
<th>Project</th>
<th>SBC Project Number</th>
<th>Page of</th>
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</table>

Use first entry on first page for General Contractor

<table>
<thead>
<tr>
<th>Work performed or Material Supplied, and Dollar Value</th>
<th>Firm name and address</th>
<th>Principal Contact and Phone</th>
<th>If a Minority-Owned Business, classification and certifying agency. If not, “NO”.</th>
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</table>
PART 1 - GENERAL: not used

PART 2 - PRODUCTS: not used

PART 3 - EXECUTION

3.01 Equipment Start-up / Commissioning

A. Conduct demonstration and instruction as soon as practicable upon installations, and prior to Substantial Completion inspection. Substantial Completion shall not be certified, nor shall Owner be required to assume responsibility for operating, maintaining, or insuring system, prior to complete demonstration and instruction.

B. Demonstrate operation of newly provided equipment and systems to Designer and to Owner's representative. Instruct Owner's personnel in operation, adjustment, and maintenance of equipment and systems, using the operating and maintenance data as the basis of instruction.

C. Make lists of persons witnessing equipment and systems demonstration, and persons receiving operating instruction, using a format similar to the form included in Section 01 79 25 with project, subject, trainer, session information, and attendees identified. Include copy of lists in the Operating and Maintenance Data Binders.

END OF SECTION
PART 1 – GENERAL

1.01 Use a copy of this page as a planning form for demonstrations and training. Fill in the basic identifying information below:

<table>
<thead>
<tr>
<th>SBC Project Number</th>
<th>Institution/Location</th>
<th>Project Name</th>
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<tr>
<th>Owner’s Facility Coordinator</th>
<th>Phone:</th>
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<tr>
<th>Owner’s Maintenance Contact</th>
<th>Phone:</th>
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<th>Contractor Contact</th>
<th>Phone:</th>
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1.02 If a list of required demonstrations and training has been specified in Division 1, use that list as a starting point, review the project manual for other specifications that require training of the Owner’s operators, and complete the list below. Check the box on left if Demonstration and Training is required on the standard listed subjects; add subjects as identified by review of the specifications and check the box to the left of each; and, schedule and indicate an target date for each. If the number of training subjects exceeds the available space provided here, replace or continue the list on a similarly formatted separate page. Submit the list with the initial Progress Schedule, and update as necessary during the Work to ensure that advance notice of the demonstration and training schedule is acceptable to the Designer.

<table>
<thead>
<tr>
<th>Spec Reference</th>
<th>Subject</th>
<th>Target Date</th>
<th>Actual Date</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Accessibility</td>
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<td>Boiler</td>
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<td>Data Transmission</td>
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<td>Electrical</td>
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<td>Elevator / Conveying</td>
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<td>Mechanical</td>
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<td>Plumbing</td>
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<td>Telecommunications</td>
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PART 2 – PRODUCTS: not used.

PART 3 – EXECUTION

3.01 For each session conducted, use this page as a Training Verification Report.

A. Fill in the information below prior to the session (“End Time” may be filled in after):

SBC Project Number: ________________________________

Institution/Location: ________________________________

Project Name: _____________________________________

Subject Equipment / System:
SpecReference

Demonstration and Training (by whom, where, when)

<table>
<thead>
<tr>
<th>Trainer Name:</th>
<th>Company:</th>
<th>Phone:</th>
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<tbody>
<tr>
<td>Place:</td>
<td>Date:</td>
<td>Start Time:</td>
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</tbody>
</table>

B. Minimum Agenda Requirements:

☐ System Walk-through ☐ Operation ☐ Trouble-shooting ☐ Maintenance ☐ Safety

C. Attendance: Each person receiving the demonstration and training shall sign in below, or on a similarly formatted continuation page:

<table>
<thead>
<tr>
<th>Initials</th>
<th>Legibly print your name</th>
<th>Unit and title or function</th>
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END OF SECTION
PART 1 – GENERAL

1.01 Complete the processes of commissioning selected equipment and systems as specified. These should be listed in a companion section following this section. The absence of such a section does not negate the commissioning responsibilities. In the absence of such a section, review the specifications for commissioning requirements and provide a summary list as a submittal to the Designer for approval prior to performing the required commissioning.

1.02 SUBMITTALS

A. Functional Performance Testing:
Prepare and submit to the Designer Functional Performance Testing Procedures for approval of equipment and systems. Contractor will use forms provided in this section of the specifications. Testing procedures will be detailed step-by-step and specific to each system. The approved procedures will be used to conduct the Functional Performance Testing. Functional Performance Testing will be completed prior to Substantial Completion.

B. Commissioning Data:
Upon completion of the Functional Performance Testing, the Contractor will submit to the Designer the Commissioning section of the Operation and Maintenance Binder. The binder will be divided into sections. The binder will contain copies of the manufacturer’s installation and start-up procedures utilized by the installer and/or contractor, completed Functional Performance Testing Procedures and associated forms from Sections 23 08 xx and 26 08 xx, signed Functional Performance Test Certificates, and equipment and maintenance records for equipment and systems operated prior to Owner acceptance.

1.03 ROLES:

A. Designer, using its Consultants will:
1. Review and approve the contractors Functional Performance Testing Procedures.
2. Report on field observations and report deficiencies to the contractor.
3. Observe the contractors Functional Performance Testing.
5. Review final Commissioning Data.

B. Contractor:
1. Prepare and provide Functional Performance Testing Procedures for Designer approval.
2. Provide installation and start-up of all equipment and systems as prescribed by the manufacturer’s procedures.
3. Perform and maintain a maintenance and service log for equipment and systems that are being operated prior to Owner acceptance.
4. Provide manpower, supplies, testing instruments, etc. required to perform Functional Performance Testing.
6. Prepare three (3) sets of Commissioning Data for Designer review and approval.
1.04 

SYSTEMS TO BE COMMISSIONED:

A. The following Mechanical systems and associated equipment are to be Commissioned as specified in Sections 23 08 xx.
   1. Mechanical (HVAC) Air and Water
   2. Associated Controls and Building Automation
   3. Domestic Hot Water

B. The following Electrical systems and associated equipment are to be Commissioned as specified in Sections 26 08 xx.
   1. Electrical panel boards.
   2. Power Circuits.
   3. Lighting levels.
   4. Generator and/or Back-up Power sources.

PART 2 – PRODUCTS: NOT USED

PART 3 – EXECUTION

3.01 Commissioning Construction Phase:

Complete the following Commissioning activities during the Construction Phase of the project. Submit for review and provide notification of activities.

A. Manufacturer’s system/equipment start-up procedures.
B. Specified manufacturer’s and/or independent testing agency reports.
C. Project schedule that included dates for start-up of equipment and systems, and Functional Performance Testing.
D. Minimum seven (7) day notification of code required testing and specified cleaning of systems.
E. Minimum seven (7) day notification of system and equipment start-up.
F. Control submittal on systems and equipment including drawings, sequences and programming.
G. Prepare detailed Functional Performance Testing Procedures for systems and equipment. Utilize the forms provided in this section of the specifications. Procedures will be detailed, step-by-step, and include description of expected results for verification. Modify test procedures as required by the Designers’ comments. Coordinate and schedule tests so that all parties involved will be present for final testing and acceptance.
H. Correct all deficiencies prior to final acceptance.
I. Prepare a list of all system and equipment warranties specified in the contract documents. Provide the warranty item and the contract document section number. Provide the Designer with an update list throughout the project.
J. Prepare a list of all deliverables specified in the contract documents. Provide the deliverable item and the contract document section number. Provide the Designer with an updated list throughout the project.
K. Prepare a list of all Training and Demonstrations specified in the contract documents. Provide the type of Training and/or Demonstration and the contract document section number. Provide the Designer with an updated list throughout the project.

L. Prepare a list of all tests, reports, services, etc. whether required by codes, independent authorities, or manufacturers as specified in the contract documents. Provide the type of test, report, services, etc. and the contract document section number. In the case that the test is required by state or local codes, update the list as soon as the information is available. Provide the Designer with an updated list throughout the project.

M. Systems and/or equipment will not be used for temporary purposes of any kind until authorized by the Designer in writing to ensure that required maintenance and warranties remain in force. The Contractor will be responsible for maintenance of all systems and equipment until final acceptance and will maintain on site a binder containing schedules of maintenance activities, items checked, repairs or replacements made and documents to verify that the work was performed. The documentation contained in this binder will become part of the Commissioning Binder.

3.02 Commissioning Acceptance Phase:

Complete the following Commissioning activities during the Acceptance Phase of the project. The activities described in this section must be completed prior to substantial completion.

A. Perform Functional Performance Tests of Mechanical and Electrical systems and equipment as specified utilizing the testing procedure prepared by the Contractor and approved by the Designer to verify proper calibration, operation and performance. The Contractor is responsible for providing all manpower, equipment and/or testing instruments required to perform tests. Functional Performance Testing will be performed in the presence of the Designer/Consultant and the Owner. Tests that fail to perform as required, will be retested upon correction. If retesting has to be rescheduled, the Contractor will be responsible for any additional charges.

B. All deliverables prescribed in the contract documents will be delivered to the Owner at the location designated by the Owner.

C. Perform all Training and Demonstrations prescribed in the contract documents.

D. Provide three (3) Final Commissioning Binders to the Designer for review and approval. Ensure that all forms are completely filled out and all testing results documented. If missing or incomplete information and/or data is identified by the Designer, reassemble replacement manuals with complete information prior to project final payment.

END OF SECTION
**SECTION 01 91 23**

**PERFORMANCE TESTING IDENTIFICATION FORM**

<table>
<thead>
<tr>
<th>Owner's Project Number:</th>
<th>166/</th>
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<tbody>
<tr>
<td>Institution or Campus:</td>
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<td>Building:</td>
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<td>Installer:</td>
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**System/Unit Identifier:**

**Location:**

List Each Piece of Equipment Associated with This System and/or Unit by Tag #

<table>
<thead>
<tr>
<th>Piece of Equipment</th>
<th>Tag Number</th>
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Performance Testing Identification Form  
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<table>
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<tr>
<th>Step by Step Detailed Procedure</th>
<th>Expected Result</th>
<th>Observations</th>
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Performance Testing Procedures Form
01 91 26 - 1
SECTION 01 91 29
FUNCTIONAL PERFORMANCE TEST CERTIFICATION

Owner's
Project #: 166/    Project
Name: ______________________

Identification of
Equipment or System: ____________________________________________

Location of
Equipment or System: ____________________________________________

Manufacturer / Supplier: ___________________________________________

This date: ________________________________________________________

Functional Performance
Test Procedure No: _______________________________________________

Components Included: _____________________________________________

The above systems and components integral to this equipment are complete and have undergone Functional
Performance Tests. All Functional Performance Test procedures are complete and have been checked off only
by parties having direct knowledge of the event, as indicted below, respective to each responsible contractor.
This Functional Performance Test is submitted for approval and is subject to the attached list of outstanding items
not completed successfully. Contractor shall submit a Deficiency Form upon completion of any outstanding or
deficient items. None of the outstanding items preclude safe and reliable functional tests being performed.

CHECK ONE:    ☐ Deficiency listing attached; or, ☐ No Deficiencies Found.

All Designer and Contractor punch list items for this system and related equipment have been addressed and
corrected prior to Functional Performance Testing.

The Functional Performance Test procedures were reviewed and approved by the installer and applicable
subcontractors prior to testing.

CONTRACTOR'S CERTIFICATION OF PERFORMANCE:

I hereby certify that the above described equipment or system, has been energized, operated, adjusted, and
balanced in accordance with requirements of the Contract Documents and the manufacturer's recommendations
for a sufficient period to confirm that operation complies in all respects with the Contract Requirements.

     Signature                              Print Name                              Date

Installer: _______________________________  _______________________________  ____________

General
Contractor: _______________________________  _______________________________  ____________

Designer / Consultant: ____________________________  ____________________________  ____________