

PROJECT MANUAL – VOLUME 1
BIDDING AND CONTRACT PROVISIONS
GENERAL REQUIREMENTS
SITEWORK

**MEADOW VIEW ELEMENTARY SCHOOL
HVAC RENOVATION**

BG#

OWNER:
HARDIN COUNTY BOARD OF EDUCATION
MS. NANNETTE JOHNSTON, SUPERINTENDENT

ARCHITECT/STRUCTURAL ENGINEER:

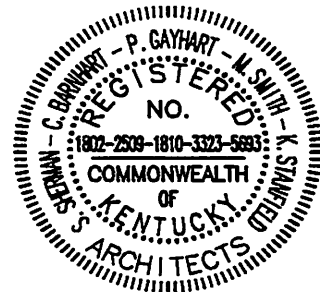
Sherman Carter Barnhart PSC

ARCHITECTURE • INTERIORS • LANDSCAPE ARCHITECTURE • ENGINEERING

CIVIL ENGINEERS:
SHERMAN CARTER BARNHART PSC
2405 HARRODSBURG ROAD
LEXINGTON, KENTUCKY 40504
859-224-1351

MECHANICAL/ELECTRICAL/PLUMBING ENGINEER:
SHROUT TATE WILSON CONSULTING ENGINEERS
628 WINCHESTER ROAD
LEXINGTON, KENTUCKY 40505
859-277-8177

SCB 1322



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ARCHITECTURAL**

**MEADOW VIEW ELEMENTARY
HVAC RENOVATION
RADCLIFF, KENTUCKY**

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**
ARCHITECTURAL COMPUTER SERVICES, INC.

DOCUMENT 00100 - INVITATION TO BID

INVITATION

Sealed proposals for the following work will be received by the:

**HARDIN COUNTY BOARD OF EDUCATION
ELIZABETHTOWN, KENTUCKY
NANNETTE JOHNSTON, SUPERINTENDENT**

in the manner and on the date herein specified for the furnishing of all labor, materials, supplies, tools, services, etc., necessary for:

**MEADOW VIEW ELEMENTARY SCHOOL HVAC RENOVATION
RADCLIFF, KENTUCKY**

as set forth in the specifications and drawings prepared by Sherman Carter Barnhart Architects, 100 Mallard Creek Road, Suite 151, Louisville, Kentucky.

BID SUBMITTAL

Contractors must submit their bids prior to 2 p.m. on Thursday March 13, 2014, at:

**HARDIN COUNTY SCHOOLS CENTRAL OFFICE
65 W.A. JENKINS ROAD
ELIZABETHTOWN, KENTUCKY 42701**

Each proposal shall be submitted on forms obtained from the project manual, Volume 1, Division 0, "Bidding and Contract Provisions": Form of Proposal and Form of Proposal Attachment.

Proposals shall be enclosed in a sealed envelope with the following information on the outside:

**"BID DOCUMENTS"
MEADOW VIEW ELEMENTARY SCHOOL HVAC RENOVATION
RADCLIFF, KENTUCKY
(DATE/TIME)**

One copy of the completed Form of Proposal, with Form of Proposal attachments, will be required from each bidder. Forms of Proposal shall be completely filled out and submitted prior to the time of bids. Corrections to information on the Bid Form must be initialed to be valid. Forms of Proposal not completely or correctly filled out will not be considered. No proposal shall be withdrawn for a period of sixty (60) days after the date of bid opening.

PLANS AND SPECIFICATIONS REVIEWED

Contract Documents may be examined at the following locations:

SHERMAN CARTER BARNHART ARCHITECTS
100 MALLARD CREEK ROAD, SUITE 151
LOUISVILLE, KENTUCKY 40207

HARDIN COUNTY SCHOOLS
65 W.A. JENKINS ROAD
ELIZABETHTOWN, KENTUCKY 42701

McGRAW-HILL CONSTRUCTION DODGE
www.dodgeconstruction.com

BUILDERS' EXCHANGE
2300 MEADOW DRIVE
LOUISVILLE, KENTUCKY 40218

ASSOCIATED BUILDERS AND CONTRACTORS
133A MAGNOLIA STREET
BOWLING GREEN, KENTUCKY 42104

REED CONSTRUCTION DATA
NATIONAL PRODUCTION
ATTN: DOCUMENT PROCESSING
30 TECHNOLOGY PARKWAY SOUTH, SUITE 500
NORCROSS, GEORGIA 30092

Pre-bid conference will be conducted by the Architect on Tuesday, February 25, 2014, at 10 a.m. EST, at Meadow View Elementary School. Immediately following the pre-bid conference, Bidders will be offered a site review of the existing North Hardin High School.

Bid security in the amount of five (5) percent of each Proposal submitted must accompany each Proposal in accord with the Form of Proposal.

ALL PRIME CONTRACTORS, MISCELLANEOUS CONTRACTORS AND OTHERS

Obtaining plans and specifications: For bona fide bidders, at Lynn Imaging, 11460 Bluegrass Parkway, Louisville, Kentucky, 40299, 502-499-8400, www.lynnimaging.com, in accordance with the deposit and charge schedule (below).

It is most important that the requesting firm identify the position of the firm as to prime bidder, material supplier or other. Please give name, address, telephone and fax numbers of person responsible for receiving addenda material and general communication concerning this bid.

TO OBTAIN PRINTED PLANS AND SPECIFICATIONS, a non-refundable fee of One Hundred Seventy-five Dollars (\$175.00) is required per each printed set requested and furnished, payable to Lynn Imaging. **NO PARTIAL SETS WILL BE DISTRIBUTED.**

TO OBTAIN ELECTRONIC (.pdf) FILES OF PLANS AND SPECIFICATIONS ON COMPACT DISC, a non-refundable fee of One Hundred Seventy-five Dollars (\$175.00) is required per compact disc, payable to Lynn Imaging. Any additional shipping or mailing charge shall be assessed by, and payable to, Lynn Imaging separate from the compact disc fee. The compact disc shall contain one copy of the plans and specifications. Prior to release of electronic files, ALL Contractors and Subcontractors are required to obtain from Lynn Imaging Sherman Carter Barnhart's Electronic Files Release form. The release must be signed by a principal or owner of the company requesting the electronic files, and must accompany the compact disc fee check. No electronic files will be provided without receipt of the fee check and signed release form.

NOTE: All addenda shall be issued via email, facsimile, or mail. Compact discs will not contain any issued addenda.

An additional charge for shipping and handling will be assessed by Lynn Imaging for all printed sets or compact discs shipped or mailed. Payment for shipping and handling is to be made separately from the bid document fee, and payable to Lynn Imaging.

RIGHT TO REJECT AND WAIVER

The school board's desire to waive irregularities and informalities as to a bid shall be reviewed and final judgment made by the Kentucky Department of Education Facilities Management Division prior to approval of the contract and financing plan.

MODIFICATION OR WITHDRAWAL OF BID

A Bid may not be modified, withdrawn, or cancelled by the Bidder for a period of sixty (60) days following the time and date designated for receipt of Bids and Bidder so agrees in submitting his Bid.

GENERAL INFORMATION

State or Federal Wage Rates are applicable.

The successful bidder will be required to provide a Performance and Payment Bond, written on AIA Document A312, in the amount of 100% of the contract sum.

END OF SECTION 00100

SECTION 00300 - SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

SCOPE

The following Supplementary Instructions to Bidders modify or add to the AIA Document A701-1997 INSTRUCTIONS TO BIDDERS and the Kentucky Department of Education (KDE) Amendment to AIA A701-1997, copies of which are bound into the Project Manual. Where any Article of the Instructions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 3 BIDDING DOCUMENTS

3.2 INTERPRETATION OF BIDDING DOCUMENTS

Add the following Subparagraphs:

- 3.2.4 WORK REASONABLY INFERRED, BUT NOT PARTICULARLY DELINEATED OR SPECIFIED: The Contractor shall study all drawings and specifications and all conditions relating to the erection of the work, and if any materials or labor evidently necessary for the proper and complete execution of the work, which are not specifically mentioned and included in the drawings and specifications, although reasonably inferred therefrom, unless eliminated by special mention, or if any error or inconsistency appears therein, or in the event of a doubt arising as to the true intent and meaning of the drawings or specifications, he shall report it to the Architect at least ten (10) days in advance of the date for receiving the bid. The Architect will then issue an addendum containing the proper information to all Contractors, to assure fair competition.

In case the Contractor fails to make such report and the Architect is not otherwise advised of such doubtful matter, the Contractor is hereby made responsible for the furnishing of the necessary labor and material reasonable inferred or evidently necessary for the proper execution and completion of the work; for any additional work involved in the correction of apparent errors or inconsistencies and in executing the true extent and meaning of the drawings and specifications as interpreted by the Architect, and all such labor and materials shall be provided at the Contractor's expense and under no condition will any such labor and material be allowed as an extra.

- 3.2.5 DISCREPANCIES: Anything called for in the specifications and not shown on the drawings or shown on the drawings and not called for in the specifications shall be included in both. Where the details and general drawings do not agree, the Contractor shall notify the Architect at least five (5) days before the date of the receipt of bids and the Architect will issue an Addendum to all Contractors as to which of the two methods of construction shall be followed. Failure to make this determination shall make the Contractor subject to furnishing either method as may be later called for by the Architect. In case of discrepancies between the various parts of the plans and specifications, the Contractor shall furnish either method as may be determined by the Architect.

Add the following paragraph to the front end of 3.4.3:

- 3.4.3 Examine bidding documents carefully prior to date for receipt of bids, make written request to

Architect for true meaning of any part of contract documents, for interpretation and correction of any ambiguity, inconsistency or error therein. All interpretations and corrections will be included in an addendum issued by Architect. Contractor's written questions can be sent by photo facsimile to **Justin McElfresh** at Sherman Carter Barnhart Architects, PSC, (502) 721-6111 for interpretation up to and through five (5) days prior to the bid date. Only a written interpretation or correction by addendum shall be binding. No Bidder shall rely upon interpretations or corrections given by any other method.

ARTICLE 5 CONSIDERATION OF BIDS

5.3 ACCEPTANCE OF BID - AWARD

5.3.2 Delete the entire paragraph and replace it with the following:

The Owner shall have the right to accept Alternates in any order or combination. The low bidder shall be determined on the basis of the lowest base bid, plus any or all alternates accepted, and it is in the best interest of the Owner to accept.

Add the following Subparagraph:

5.3.3 Time Limit for Execution of Contract Documents: In the events that a bidder's proposal is accepted by the Owner and such bidder shall fail to execute the contract and to furnish satisfactory performance bond within ten (10) calendar days from the date of notification of the award of contract, the Owner may at its option, determine that the awardee has abandoned the contract. Thereupon the proposal shall become null and void and the guarantee, which accompanied it, shall be forfeited to and become the property of the Owner as liquidated damages from such failure. If the bidder shall execute the contract and furnish satisfactory bond, the bid guarantee will be returned to the bidder by the Owner.

ARTICLE 6 POST-BID INFORMATION

6.1 CONTRACTORS QUALIFICATION STATEMENT

Add to the following Subparagraph 6.1.1:

The listing of more than one subcontractor in a work category shall invalidate bid.

END OF SECTION 00300

DOCUMENT 00800 - SUPPLEMENTARY CONDITIONS

The following Supplementary Conditions modify, change, delete from or add to the AIA A201-2007 GENERAL CONDITIONS and the Kentucky Department of Education (KDE) Amendment to AIA A201-2007, copies of which are bound into the Project Manual. Where an Article of the General Conditions is modified or a Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 1 GENERAL PROVISIONS

The Kentucky Fairness in Construction Act, KRS 371.400 to 371.990, applies to this construction contract, and where there is a conflict between the terms and conditions of these contract documents and the provisions of the Kentucky Fairness in Construction Act, the latter shall prevail.

Within 10 days after award of contract and as required by KRS 45A.343, Section (2)(a), each Contractor and all subcontractors performing work under the contract shall in writing to the Owner reveal any final determination of a violation by the Contractor or Subcontractor within the previous 5-year period pursuant to KRS chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor or Subcontractor. As required by KRS 45A.343, Section (2)(b), contractors and subcontractors performing work under the contract shall be in continuous compliance with the provisions of KRS chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor or Subcontractor for the duration of the contract.

ARTICLE NO. 3 CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Add the following Subparagraph:

- 3.2.4 Plans and specifications for this project show or specify various structural, architectural, mechanical and electrical entities, diagrams and devices for each item. The mention of acceptable manufacturer does not necessarily imply that their particular "standard" product meets all of the requirements of the detail or specifications. Therefore, the cost of deviations, extensions or adjustments required for the low Bidder's product must be included in the General Contractor's bid. No additional cost will be considered.

Add the following Subparagraph:

- 3.2.5 The Contract Documents are complementary and what is called for in one shall be as binding as if called for by all.

By execution of this Contract, the Contractor warrants that he has visited the site of the proposed work, and fully acquainted himself with the conditions there existing relating to construction and labor and that he fully understands the facilities, difficulties, and restrictions attending the execution of the work under contract. The Contractor further warrants that he has thoroughly examined and is familiar with the drawings, specifications and all other documents comprising the contract. The Contractor further warrants that by execution of this contract, his failure, when he was bidding on this contract, to receive or examine any form, instrument, or document or to visit the site and acquaint himself with conditions there existing, in no way relieves the Contractor

agrees that the Owner shall be justified in rejecting any claim based on facts regarding conditions for which he should have been on prior notice.

Before ordering material or performing any work, the Contractor shall verify all measurements at the work site. Any difference between dimensions on the Drawings and actual measurements shall be brought to the Architect's attention for his consideration before the work may proceed. No extra compensation will be allowed because of difference between actual measurements and dimensions indicated on the Drawings. The Contractor shall assume full responsibility for accuracy of measurements obtained at the Work Site.

Dimensions which are lacking shall be obtained from the Architect. In no case shall drawings be scaled.

3.4 LABOR AND MATERIALS

Add the following subparagraph:

- 3.4.4 Where the salvage of materials is indicated on the drawings and specifications, all such materials shall be carefully removed and stored as directed by the Owner/Architect.

3.5 WARRANTY

Add the following subparagraph:

- 3.5.2. The contractor shall also provide warranties as required by the technical specifications.

3.7 PERMITS, FEES AND NOTICES

Add the following Subparagraphs:

- 3.7.5 All branches of the work shown on the plans or specified shall be executed in strict compliance with all local or state regulations and codes, and shall be in compliance with all National Codes, when same have jurisdiction.
- 3.7.6 All Contractors must be qualified, and meet all requirements provided and/or required under any local and/or state statute, code, ordinances, or rule, governing the performance of the type of work of which he submits a bid, and be able to submit proof thereof upon request.

ARTICLE NO.4 ADMINISTRATION OF THE CONTRACT

Add to the end of Subparagraph 4.3.7.2 the following:

The reference to "adverse weather" shall be clarified to mean weather conditions which are in excess of the 20 year norm as recorded by the National Oceanographic Association.

ARTICLE NO. 5
SUBCONTRACTORS

5.3 SUBCONTRACTUAL RELATIONS

Add the following Subparagraph:

- 5.3.2 All subcontractors shall familiarize themselves with all of the conditions relating to this contract since the terms set forth in the General Conditions bind all subcontractors to the Contract.

ARTICLE NO. 7
CHANGES IN THE WORK

7.2 CHANGE ORDERS

Add the following Subparagraphs to Paragraph 7.2.1:

- 7.2.3 The Contractor's proposals for work to be covered by a change order shall contain a detailed breakdown of all costs. Separate amounts shall be shown for each material item labor and profit.

ARTICLE NO. 8
TIME OF COMPLETION

8.2 PROGRESS AND COMPLETION

Add the following subparagraphs:

- 8.2.4 **The date of substantial completion shall be July 15, 2014.**
The date of final completion shall be August 1, 2014.
- 8.2.5 Should the Contractor fail to complete the work under this Contract on or before the date stipulated for Substantial Completion or such later date as may result from extensions in the Contract time granted by the Owner, he agrees that the Owner is entitled to and shall pay the Owner as liquidated damages, the sum of Five Hundred Dollars (\$500.00) for each consecutive calendar day until such time as Substantial Completion is provided and accepted by the Owner.
- 8.2.6 Should the Contractor fail to "Final Complete" the project on or before the date stipulated for Final Completion, he agrees that the Owner is entitled to, and shall pay the Owner, as liquidated damages, the sum of Five Hundred Dollars (\$500.00) for each consecutive calendar day until such time as Final Completion is provided and accepted by the Owner."

ARTICLE NO.9
PAYMENTS AND COMPLETION

9.3 APPLICATION FOR PAYMENT

Add the following subparagraph to paragraph 9.3.1:

- 9.3.1.3 The date for each progress payment shall be established to provide sufficient time for the

architect's review and for the owner to include the application payment in the agenda of the next regularly scheduled board meeting.

Add the following Subparagraph:

- 9.3.5 The Owner and the contractor each binds himself, his partners, successors, assigns and legal representative of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract or sublet it as a whole without written consent of the other, nor shall the Contractor assign any monies due or to become due to him hereunder, without the previous written consent of the Owner.
- 9.3.6 Retainage amount as stipulated in KDE Amendment to AIA A201 – 2007, Subparagraph 9.3.4 shall be applied to Contractor's Application for Payment and shall include retainage for material invoices for direct purchased materials. Retainage shall be retained from Contractor's Pay Application and not retained on invoiced materials. Retainage for invoiced materials shall be held from Contractor's Pay Application.

9.10 FINAL COMPLETION AND FINAL PAYMENT

Add to the front of Subparagraph 9.10.1 the following:

Final completion of the work shall mean when all "punch list" items are completed, when "waiver of lien" is submitted, the manufacturers' warranties are submitted and the contractor has delivered to the Architect all required certificates of inspection. Final Completion shall include final clean-up of the building and premises.

Add the following to the end of subparagraph 9.10.2:

Retainage will not be reduced below five percent (5%) until all items have been worked off of the punch list.

ARTICLE NO.10 PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Subparagraphs:

- 10.2.8 CONSTRUCTION AND SAFETY DEVICES: The Contractor shall provide safety controls for protection of the life and health of employees. He will utilize precautionary methods for the prevention of damage to property, materials, equipment and supplies, and for avoidance of work interruptions in the performance of this contract. In order to provide such safety controls aforesaid, the Contractor shall comply with all pertinent provisions of the Kentucky Safety Standards of the Division of the Occupational Safety Standards of the Division of Occupational Safety, Department of Labor and Federal Occupational Safety and Health Construction Standards (OSHA), that are in effect at the time of this contract is entered into and during the period in which the contract is to be performed. Contractor shall also take or cause to be taken such additional measures as the Division of Occupational Safety may determine to be reasonable necessary for the purpose.

The Contractor shall maintain an accurate account of and shall report to the Division of Occupational Safety in the manner and on the forms prescribed by the Division, exposure date and all accidents resulting in death, traumatic injury, occupational disease, and/or damage to property, materials, supplies and equipment incident to work performed under this Contract.

The Division of Occupational Safety will notify the Contractor through the Owner of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately correct conditions. Such notice when delivered to the Contractor or his representative at the site of work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until unsatisfactory or corrective action has been taken. Failure or refusal to comply with the order will be grounds for stopping all payments due under the contract of the Contractor. No part of the time lost due to any such stop order shall be made the subject of claim or extension of the time or for excess cost or damages to the Contractor.

Compliance with the provisions of the foregoing sections by subcontractors will be the responsibility of the prime contractor.

Nothing in the aforesaid provisions shall prohibit the U.S. Department of occupational Safety and Health, from enforcing pertinent occupational safety and health standards as authorized under Federal or State Occupational Safety and Health Law.

In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 7 "Changes in Work".

ARTICLE NO. 11 INSURANCE AND BONDS

11.3 PROPERTY INSURANCE

Builders Risk Insurance is to be furnished by the Contractor.

11.5 PERFORMANCE BOND AND PAYMENT BOND

Add the following Subparagraphs:

- 11.5.3 "Contractor shall also furnish such other bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by the bidding documents or Supplementary Conditions and be executed by such sureties as are named in the current list of 'Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds as Acceptable Reinsuring Companies' as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act. The Surety shall be acceptable to the Owner. All Bonds shall remain in effect at least until one year after the date of final payment, except as otherwise provided by law.

The following requirements for Performance and Payment bonds shall be in addition to the bond requirements for the general contractor.

- 11.5.3.a. Specific sub-contractors as listed below shall furnish to the Prime/General contractor Performance and Payment Bonds in the full amount of the value of work they are providing, including purchase orders. Evidence of ability to meet bonding requirements shall be presented to the Owner within 48 hours of the time set for receipt of bids. Attempts to circumvent this requirement by dividing subcontractor contracts into “labor only” contracts with materials supplied by the prime contractor, or by having multiple contracts, will invalidate the bid. Bonds shall be furnished by the following subcontractors.

Masonry

Roof

Electrical

Mechanical

Any other subcontractor whose value of work, including labor, break-out items and other materials, exceeds \$500,000

- 11.5.3.b. Clarification: The specific subcontractor bonds to the Prime/General contractor shall be provided as indicated. These required Performance and Payment Bonds CANNOT be co-signed, underwritten or in any way financed by the General Contractor; these bonds are to be provided by the subcontractor noted.

- 11.5.4 If the surety on any Bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the state of the point of delivery or the surety ceases to meet the requirements stated in the above paragraph, Contractor shall within five days thereafter substitute another Bond and surety, both of which must be acceptable to Owner at no additional cost to Owner.
- 11.5.5 Performance and Payment Bond amounts are to include both contract sum and purchase order amounts as included in bid sum.

ARTICLE NO. 13

MISCELLANEOUS PROVISIONS

13.5 TESTS AND INSPECTIONS

Add the following Subparagraph:

- 13.5.7 Testing of materials and systems shall be as specified in their particular sections of the technical specifications.

Add the following:

13.8 COMPLIANCE WITH PREVAILING WAGE 9KRS 337.551)

Note: See Instructions to Bidders AIA A701-1997, and KDE Amendment article 10.2 Prevailing Wage Rates for determinations applicable to the project.

Add the following: Full compliance by the Contractor and subcontractors as to their duties prescribed by the “Act Relating to Contracts for Public Works,” KRS 337.505 to 337.550 is required in the performance of work under this contract.

Wage and Hours (KRS 337.550):

- A. The Contractor and subcontractors shall pay all laborers, workmen and mechanics performing work under this contract not less than the rate of wages set forth in the prevailing wage schedule incorporated in the contract conditions as determined by the Kentucky Department of Labor in accordance with the provisions of KRS 337.550
- B. The Contractor shall post and keep posted in a conspicuous place at the site of the work a copy or copies of prevailing wage rates and the working hours as prescribed in the contract.
- C. Any laborer, workman, or mechanic working in excess of eight (8) hours per day or forty (40) hours per week, except in cases of emergency, shall be paid not less than one and one-half (1 ½) times the basic hourly rate of pay as fixed by law for all overtime worked. The determination of when an emergency exists shall be made by the Owner as provided by law.
- D. Pursuant to acts of the legislature of the Commonwealth of Kentucky providing for the establishment of prevailing wage rates, the Contractor and each subcontractor engaged in construction on the site shall submit to the Owner one (1) signed copy of the weekly payroll within seven (7) days after closing date of payroll period.
- E. Contractor shall be responsible for filing of weekly payroll forms of the subcontractors.
- F. The copies of all weekly payrolls herein provided for shall include the names and addresses of the workmen. The address must be shown the first week on the project. Address need not be shown on subsequent payrolls unless it is changed. Payrolls must reflect workmen's trade of occupation; the number of hours worked per day; the rate of wages paid and the total amount paid and shall be prepared on Payroll Form No. E-100d provided by the Kentucky Department of Labor or upon the Contractor's own form if the proper information is contained and approval is given by the Owner.
- G. The said payrolls shall be signed by the Contractor, a proper official of the firm or company or by a duly authorized employee.

13.8.1 KENTUCKY PREVAILING WAGE DETERMINATION:

See attached wage rate scale at the end of this section.

13.9 NON-DISCRIMINATION

13.9.1 During the performance of this Contract, the Contractor agrees as follows:

The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color or national origin. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

The Contractor will, in all solicitations or advertisement for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

The Contractor will send each labor union, or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency sanctions for non-compliance.

13.10 Affidavit of assurances

13.10.1 Prior to execution of the Contract, the Owner will require of the Contractor a completed and notarized AFFIDAVIT OF ASSURANCES PURSUANT TO KRS 198B.060(10).

A copy of the affidavit for DOH-BCE-04, dated 7/90, is attached at the end of the Supplemental Conditions.

END OF SECTION 00800

DOH-BCE-04
7/90

CASE NO. _____
PROJECT NAME _____
CITY/COUNTY _____

AFFIDAVIT OF ASSURANCES
PURSUANT TO KRS 198B.060(10)

Comes the Applicant, _____ and states:
(print name)

That pursuant to KRS 198B.060(10) all contractors and sub-contractors employed or that will be employed on any activity under the above referenced project shall be in compliance with the Commonwealth of Kentucky requirements for Worker's Compensation Insurance (according to KRS Chapter 341).

THIS the _____ day of _____, 20__.

CONTRACTOR, OWNER OR OWNER'S AGENT

SUBSCRIBED AND SWORN to before me by _____, Applicant, on this the
_____ day of _____, 20__.

NOTARY PUBLIC STATE AT LARGE

MY COMMISSION EXPIRES _____

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of HVAC renovations to Meadow View Elementary School.
 - 1. Project Location: 1255 W. Vine Street, Radcliff, Kentucky.
 - 2. Owner: Hardin County Board of Education, 65 W.A. Jenkins Road, Elizabethtown, Kentucky 42701; Nannette Johnston, Superintendent
- B. Contract Documents dated _____, were prepared for the Project by Sherman Carter Barnhart Architects PSC, 100 Mallard Creek Road, Suite 151, Louisville, Kentucky, 40207, 502-721-6100; and ShROUT Tate Wilson Consulting Engineers, 628 Winchester Road, Lexington, Kentucky 40505, 859-277-8177.
- C. Briefly and without effect on the Contract Documents, the work of the Contract can be summarized as follows:
 - 1. Complete HVAC Renovation. Mechanical systems include: Fire protection, heating-ventilation systems and site utilities work.
 - 2. New secure entry vestibule.
 - 3. New suspended acoustical ceilings throughout.
 - 4. Site work consists of: Finish Grading and seeding as required by new site utilities work.
- D. Work N.I.C. (Not-In-Contract): The General Contractor shall coordinate and verify the locations of all plumbing, mechanical, and electrical service to all owner furnished equipment. The General Contractor shall be responsible for scheduling the installation of not-in-contract work.
- E. The Work will be constructed under a single prime contract.

1.3 REGULATORY REQUIREMENTS

- A. The following regulations are applicable to this project:
 - 1. Kentucky Building Code, Current Edition.
 - 2. The Americans with Disabilities Act - 1991.
- B. Other regulations may also be applicable.
- C. Obtain copies of the regulations listed above and keep at the project site for the use of all parties.
- D. Submit copies of all permits, licenses and similar permissions obtained and receipts for fees paid

to the Owner directly. Provide one copy of each to Architect's office for job closeout record.

1.4 CONTRACTOR USE OF PREMISES

- A. General: During the construction period the Contractor shall have full use of the premises for construction operations, including the site. The Contractor's use of the premises is limited only by the Owner's right to perform work or to retain other contractors on portions of the Project.
- B. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 - 1. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - 2. Storage areas will be available on site.
 - 3. Signs: Provide signs adequate to direct visitors.
 - a. Do not install, or allow to be installed, signs other than specified sign(s) and signs identifying the principal entities involved in the project.
 - 4. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to areas approved by the Owner.
 - 5. Lock automotive type vehicles, such as passenger cars, trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
 - 6. All workmen, while on the job site, shall wear identification tag.
 - 7. Materials deliveries will need to be coordinated so as not to disrupt or cause any safety problems while school is in session.
 - 8. All workmen while on job site shall wear shirts.
 - 9. No alcohol, smoking, drug use, firearms, foul language, fraternization with students or staff shall be permitted and shall result in immediate dismissal.
 - 10. Employment of workers convicted of felony sex crimes is prohibited.
 - 11. The Contractor and Subcontractors shall maintain daily, a safe and clean job site.

END OF SECTION 01010

SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Unit-cost allowances.
- C. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders for allowances.
 - 2. Division 1 Section "Unit Prices" for procedures for using unit prices.
 - 3. Divisions 2 through 16 Sections for items of Work covered by allowances.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.4 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 UNIT-COST ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner under allowance and shall include taxes, freight, and delivery to Project site.
- B. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.7 UNUSED MATERIALS

- A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Architect, deliver unused material to Owner's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Include in the base bid amount an allowance of 60 feet of steel casing for each new geothermal bore indicated on the drawings.

END OF SECTION 01210

SECTION 01230 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing Alternates.

1.3 DEFINITIONS

- A. Definition: An alternate is an amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate the Alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent Work as necessary to completely and fully integrate that Work into the Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate. Costs listed on Bid Form for each alternate shall include costs of related coordination, modification or adjustment.
- B. Notification: Immediately following the award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate whether alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other Work of this Contract.
- D. Schedule: A "Schedule of Alternates" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials necessary to achieve the Work described under each alternate.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

The Owner shall have the right to accept alternates in any order or combination. The low bidder shall be accepted on the basis of the lowest base bid plus any or all alternates accepted.

1. Alternate No. 1 – Trane Equipment/Trane Controls

Provide add or deduct cost for Trane water source heat pumps, Valent energy recovery unit per Specification Section 15012 and Trane HVAC controls per Specification Section 15014. Other manufacturers listed as equals within the specifications shall be bid as base bid, subject to compliance with specification requirements.

END OF SECTION 01230

SECTION 01250 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 1 Section "Allowances" for procedural requirements for handling and processing allowances.
 - 2. Division 1 Section "Unit Prices" for administrative requirements for using unit prices.
 - 3. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 20 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.

- d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA document G709 for change order proposal requests.

1.5 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 - 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within 21 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 21 days after such authorization.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01250

SECTION 01270 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
 - 1. Division 1 Section "Allowances" for procedures for using unit prices to adjust quantity allowances.
 - 2. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Unit price is a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable sales taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of unit prices is included in Division 0 – Bidding and Contract Provisions, entitled "Form of Proposal Attachment A."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01270

SECTION 01280 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
 - 1. Preconstruction conferences.
 - 2. Preinstallation conferences.
 - 3. Progress meetings.
- B. Related Sections: The following Sections in addition to others contain requirements that relate to this Section:
 - 1. Division 1 Section "Coordination" for procedures for coordinating project meetings with other construction activities.
 - 2. Division 1 Section "Submittals" for submitting the Contractor's Construction Schedule.

1.3 PRECONSTRUCTION CONFERENCE

- A. Schedule a preconstruction conference and organizational meeting before starting construction, at a time convenient to the Owner and the Architect, but no later than 15 days after execution of the Agreement. Hold the conference at the Project Site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Owner, Architect, and their consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress, including such topics as:
 - 1. Establish line(s) of communication.
 - 2. Tentative construction schedule.
 - 3. Critical work sequencing.
 - 4. Designation of responsible personnel.
 - 5. Procedures for processing field decisions and Change Orders.
 - 6. Procedures for processing Applications for Payment.
 - 7. Distribution of Contract Documents.
 - 8. Submittal of Shop Drawings, Product Data, and Samples
 - 9. Preparation of record documents.
 - 10. Use of the premises.
 - 11. Office, work, and storage areas.

12. Equipment deliveries and priorities.
13. Safety procedures.
14. First aid.
15. Security.
16. Housekeeping.
17. Working hours.

1.4 PREINSTALLATION CONFERENCES

- A. Conduct a preinstallation conference at the Project Site before each construction activity that requires coordination with other construction.
- B. Attendees: The Installer and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the Architect of scheduled meeting dates.
 1. Review the progress of other construction activities and preparations for the particular activity under consideration at each preinstallation conference, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Shop Drawings, Product Data, and quality-control samples.
 - g. Possible conflicts.
 - h. Compatibility problems.
 - i. Time schedules.
 - j. Weather limitations.
 - k. Manufacturer's recommendations.
 - l. Compatibility of materials.
 - m. Acceptability of substrates.
 - n. Temporary facilities.
 - o. Space and access limitations.
 - p. Governing regulations.
 - q. Safety.
 - r. Inspecting and testing requirements.
 - s. Required performance results.
 - t. Recording requirements.
 - u. Protection.
 2. Record significant discussions and agreements and disagreements of each conference, and the approved schedule. Promptly distribute the record of the meeting to everyone concerned, including the Owner and the Architect.
 3. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of Work and reconvene the conference at the earliest feasible date.

1.5 PROGRESS MEETINGS

- A. Conduct progress meetings at the Project Site at regularly scheduled intervals. Notify the Owner and the Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
- B. Attendees: In addition to representatives of the Owner and the Architect, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
 - 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
 - 2. Review the present and future needs of each entity present, including the following:
 - a. Interface requirements.
 - b. Time.
 - c. Actual and anticipated delays, their impact on the schedule and corrective actions taken of or proposed.
 - d. Sequences.
 - e. Status of submittals and impending submittals.
 - f. Deliveries.
 - g. Off-site fabrication problems and delivery schedules.
 - h. Access.
 - i. Site utilization.
 - j. Temporary facilities and services.
 - k. Hours of work.
 - l. Hazards and risks.
 - m. Housekeeping.
 - n. Actual and potential difficulties.
 - o. Quality and work standards.
 - p. Effect of proposed changes on schedule and coordination.
 - q. Change Orders.
 - r. Status of corrective work ordered by the Architect.
 - s. Documentation of information for payment requests.
 - t. Progress expected to be made during the next period.
- D. Reporting: No later than 5 days after each meeting, distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

1. **Schedule Updating:** Revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01280

SECTION 01290 - APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
 - 1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
 - 1. Schedules: The Contractor's Construction Schedule and Submittal Schedule are specified in Division 1 Section "Submittal Procedures."

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's Construction Schedule.
 - b. Application for Payment forms, including Continuation Sheets.
 - c. List of subcontractors.
 - d. Schedule of allowances.
 - e. Schedule of alternates.
 - f. List of products.
 - g. List of principal suppliers and fabricators.
 - h. Schedule of submittals.
 - 2. Submit the Schedule of Values to the Owner and the Architect at the earliest possible date but no later than 10 days before the date scheduled for submittal of the initial Applications for Payment. The initial Application for Payment will not be processed until the Schedule of Values has been approved by the Architect. Owner must give final approval before the Schedule of Values is entered into the JCPS Expedition system.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section. Provide under each Specification Section separate lines for materials and labor.
 - 1. Identification: Include the following Project identification on the Schedule of Values:

- a. Project name and location.
 - b. Name of the Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed, using "Master Format" produced by CSI and CSC:
 - a. Related Specification Section or Division.
 - b. Description of Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a material and labor breakdown of the Contract Sum for all specification sections, to facilitate continued evaluation of Applications for Payment and progress reports. Providing material and labor per division will not be accepted. Coordinate with the Project Manual table of contents. Break down principal subcontract amounts into several line items.
4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing. Materials stored off-site shall be tagged for Owner with project name and verified by Architect in written and photographed form. Cost of Architect's time shall be the responsibility of the Contractor.
6. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Unit-Cost Allowances: Show the line-item value of unit-cost allowances, as a product of the unit cost, multiplied by the measured quantity. Estimate quantities from the best indication in the Contract Documents.
8. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.

9. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.
 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: Each progress payment will be made as specified in Owner-Contractor Agreement. Contractor shall not submit more than one application for payment in any 30-day period.
- C. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders approved by Owner and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 5 signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.
- F. Waivers of Mechanics Lien: Submit with Application for Payment, waivers of mechanics liens from subcontractors, sub-subcontractors and suppliers for the construction period as follows:
 1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - a. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 4. Waiver Forms: Submit waivers of lien on the latest edition of the Affidavit form required

by the Department of Facilities Management of the Commonwealth of Kentucky and executed in a manner, acceptable to the Owner.

G. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:

1. List of subcontractors.
2. List of principal suppliers and fabricators.
3. Approved Schedule of Values.
4. Contractor's Construction Schedule (preliminary if not final).
5. Progress schedule.
6. Schedule of principal products.
7. Quality control activities schedule.
8. Schedule of unit prices.
9. Submittal Schedule (preliminary if not final).
10. List of Contractor's staff assignments.
11. List of Contractor's principal consultants.
12. Copies of building permits.
13. Copies of authorizations and licenses from governing authorities for performance of the Work.
14. Initial progress report.
15. Report of preconstruction meeting to include meeting minutes.
16. Certificates of insurance and insurance policies.
17. All submittals specified to occur prior to first application for payment or prior to first payment.
18. Performance and payment bonds.
19. Data needed to acquire the Owner's insurance.
20. Initial settlement survey and damage report, if required.

H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.

1. Administrative actions and submittals that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals including Life Safety certificates.
 - b. Warranties (guarantees) and maintenance agreements.
 - c. Test/adjust/balance records.
 - d. Maintenance instructions.
 - e. Meter readings.
 - f. Startup performance reports.
 - g. Changeover information related to Owner's occupancy, use, operation, and maintenance.
 - h. Final cleaning.
 - i. Application for reduction of retainage and consent of surety.
 - j. Advice on shifting insurance coverages.
 - k. Final progress photographs where photographs are required.
 - l. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.

I. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:

1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Ensure that unsettled claims will be settled.
4. Ensure that incomplete Work which is not accepted will be completed without undue delay.
5. Transmittal of required Project construction records to the Owner.
6. Certified property survey (if applicable).
7. Proof that taxes, fees, and similar obligations were paid.
8. Removal of temporary facilities and services.
9. Removal of surplus materials, rubbish, and similar elements.
10. Change of door locks to Owner's access.
11. Signed certificate by Owner, noting receipt of all surplus materials as indicated in the specifications.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01290

8. Asphalt: Include the approximate weight of the asphalt paving to be crushed and utilized as granulated fill from the existing paving as a component of waste material diverted from the landfill.
 9. Ferrous and non-ferrous metals (banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze)
 10. Stretch and shrink wrap
 11. Gypsum wallboard
 12. Paint containers and other clean, empty plastic containers
- H. Meetings: Provide a description of the regular meetings to be held to address waste management.
- I. Materials Handling Procedures: Provide a description of the means by which any waste materials identified will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.
- J. Transportation: Provide a description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials.
- K. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:
1. Total quantity of waste.
 2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
 3. Total cost of disposal (with no waste management).
 4. Revenue from salvaged materials.
 5. Revenue from recycled materials.
 6. Savings in hauling and tipping fees by donating materials.
 7. Savings in hauling and tipping fees that are avoided.
 8. Handling and transportation costs. Include cost of collection containers for each type of waste.
 9. Net additional cost or net savings from waste management plan.

1.8 CONSTRUCTION WASTE MANAGEMENT RESOURCES

- A. General information contacts regarding construction and demolition waste:
1. EPA Construction and demolition (C&D) debris website:
<http://www.epa.gov/epaoswer/non-hw/debris-new/bytype.htm>
 2. Directory of Wood-Framed Building Deconstruction and Reused Building Materials Companies:
http://www.fpl.fs.fed.us/documnts/fplgtr/fpl_gtr150.pdf

3. Additional resources to be developed by Contractor with assistance from Owner and Architect, as requested.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement waste management plan as approved by Architect and Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 1. Comply with Division 1 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at the Project Site full-time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project Site.
 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Designate and label specific areas on Project Site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 2. Recycling and waste bin areas are to be kept neat, and clean, and clearly marked in order to avoid contamination of materials.
 3. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.
- E. Hazardous Wastes: Hazardous wastes shall be separated, stored, and disposed of according to local regulations and should not be included in Construction Waste Management Plan's calculations of waste.
- F. Where divisions of this specification contradict requirements set forth under this Construction Waste Management, section 01524, the guidelines set forth by USGBC LEED for Schools, 2007 shall be met in all instances. Documentation and Implementation requirements are set up to allow the contractor flexibility in attaining LEED Platinum status.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Receivers and Processors: List below is provided for information only; available recycling receivers and processors include, but are not limited to, the following:
 - 1. List to be developed by Contractor.
- C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project Site to the maximum extent practical.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.3 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - 2. Polystyrene Packaging: Separate and bag materials.
 - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.
 - 1. Comply with requirements in Division 2 Section "Exterior Plants" for use of chipped organic waste as organic mulch.
- C. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into material appropriate for mulch or erosion control.
 2. Lumber Treated with Heavy-Metal Preservatives: Do not grind, chip, or incinerate; must be reused or landfilled.
- D. Gypsum Board: Stack large, clean pieces on wood pallets and store in a dry location for recycling and/or reuse on-site or off-site.
1. Moisture-damaged gypsum board with evidence of significant mold growth shall be disposed of in accordance with New York City's "Guidelines on Assessment and Remediation of Fungi in Indoor Environments":
<http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml>
 2. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.
 - a. Comply with requirements in Division 2 Section "Exterior Plants" for use of clean ground gypsum board as inorganic soil amendment.
- E. Miscellaneous: Anything called out to be ground and used on site should utilize an on-site grinder.
1. Grinder should be able to accommodate a variety of materials including masonry, asphalt shingles, wood, and drywall.

3.4 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until installation.
 4. Protect items from damage during transport and storage.
 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Owner's Use:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- C. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

3.5 RECYCLING DEMOLITION WASTE

- A. Asphaltic Concrete Paving; Grind asphalt to maximum 4-inch size.

1. Crush asphaltic concrete paving and screen to comply with requirements in Division 2 Section "Earthwork" for use as general fill.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 1. Pulverize concrete to maximum 4-inch (100-mm) size.
 2. Crush concrete and screen to comply with requirements in Division 2 Section "Earthwork" for use as satisfactory soil for fill or subbase.
- C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 1. Pulverize masonry to maximum 1-1/2-inch (38-mm) size.
 - a. Crush masonry and screen to comply with requirements in Division 2 Section "Earthwork" for use as general fill or subbase.
 2. Clean and stack undamaged, whole masonry units on wood pallets.
- D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, and panel products for reuse and/or recycling. Separate wood material treated with heavy metal preservatives for reuse or landfill disposal.
- E. Metals: Separate metals by type.
 1. Structural Steel: Stack members according to size, type of member, and length.
 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts for recycling into asphalt paving or by other recycling entities.
- G. Gypsum Board: Stack large, clean pieces on wood pallets and store in a dry location for recycling off-site. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
- H. Acoustical Ceiling Panels and Tile: Stack large, clean pieces on wood pallets and store in a dry location.
 1. Separate suspension system, trim, and other metals from panels and tile and sort with other metals.
- I. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
 1. Store clean, dry carpet and pad in a closed container or trailer provided by a carpet recycler or manufacturer-related carpet reclamation agency.
- J. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

- K. Plumbing Fixtures: Separate by type and size.
- L. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- M. Lighting Fixtures: Separate lamps by type and protect from breakage.
- N. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.
- O. Conduit: Reduce conduit to straight lengths and store by type and size.

3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Do not burn or bury waste materials on or off site. Appropriate on-site topical application of ground gypsum or wood, or use of site paving as granulated fill is considered reuse, not waste.

END OF SECTION 01524

SECTION 01600 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
 - 1. Division 1 Section "Allowances" for products selected under an allowance.
 - 2. Division 1 Section "Contract Closeout" for submitting warranties for Contract closeout.
 - 3. Divisions 2 through 16 sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service

performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.4 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 2. Form: Tabulate information for each product under the following column headings:
 - a. Specification Section number and title.
 - b. Generic name used in the Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.
 - f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
 - h. Identification of items that require early submittal approval for scheduled delivery date.
 3. Initial Submittal: Within Thirty (30) days after date of commencement of the Work, submit Three (3) copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
 4. Completed List: Within Sixty (60) days after date of commencement of the Work, submit Three (3) copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 5. Architect's Action: Architect will respond in writing to Contractor within Fifteen (15) days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

- c. Samples, where applicable or requested.
 - d. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - e. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - f. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - g. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within Fourteen (14) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within Thirty (30) days of receipt of request, or Fourteen (14) days of receipt of additional information or documentation, whichever is later.
- a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
- C. Comparable Product Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within Thirty (30) days of receipt of request, or Fourteen (14) days of receipt of additional information or documentation, whichever is later.
- a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
 - b. Use product specified if Architect cannot make a decision on use of a comparable product request within time allocated.
- D. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
- 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 - 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Store cementitious products and materials on elevated platforms.
 - 5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 7. Protect stored products from damage and liquids from freezing.
 - 8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
4. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
5. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
6. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies

- with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
7. **Product Options:** Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
 8. **Basis-of-Design Product:** Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
 9. **Visual Matching Specification:** Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 - a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.
 10. **Visual Selection Specification:** Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
 - a. **Standard Range:** Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
 - b. **Full Range:** Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

- A. **Timing:** Architect will consider requests for substitution if received 10 days before bid date. Requests received after that time cannot be considered.
- B. **Conditions:** Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 2. Requested substitution does not require extensive revisions to the Contract Documents.
 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.

4. Substitution request is fully documented and properly submitted.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.
10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.3 COMPARABLE PRODUCTS

- A. Conditions: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01600

SECTION 01610 - SUBSTITUTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Reference Standards and Definitions" specifies the applicability of industry standards to products specified.
 - 2. Division 1 Section "Submittals" specifies requirements for submitting the Contractor's Construction Schedule and the Submittal Schedule.
 - 3. Division 1 Section "Materials and Equipment" specifies requirements governing the Contractor's selection of products and product options.

1.3 DEFINITIONS

- A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
 - 1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
 - 2. Revisions to the Contract Documents requested by the Owner or Architect.
 - 3. Specified options of products and construction methods included in the Contract Documents.
 - 4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBSTITUTIONS AFTER AWARD OF THE CONTRACT

- A. Substitutions will not be considered between the bid date and the award of the contract.
- B. Substitutions will not be allowed after award of the contract except when, through no fault of the Contractor, none of the specified products is available.

1.5 SUBSTITUTION PROCEDURE

- A. Submission of request for substitution shall constitute a representation that the entity making the request:
1. Has investigated the proposed product and determined that it is equal to or better than the specified product. Absence of an explicit comparison of any characteristic of the proposed product to the specified product shall constitute a representation that the proposed product is equal to or better than the specified product with regard to that characteristic.
 2. Will provide the same warranty for the proposed product as for the specified product.
 3. Will coordinate the installation and make other changes which may be required for the work to be complete in all respects, including:
 - a. Re-design.
 - b. Additional components and capacity required by other work affected by the change.
 4. Waives all claims for additional costs and time extensions which subsequently may become apparent and which are caused by the change.
- B. Substitutions will not be considered when acceptance would require substantial revision of the contract documents or additional costs unless Contractor advises in writing that substitution is being proposed at no additional cost to Owner.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without prior separate written request.
- D. Substitution requests will not be considered when submitted directly by subcontractor and supplier.
- E. Substitution Request Procedure: Submit written request with complete data substantiating compliance of the proposed product with the requirements of the contract documents.
1. Submit request to the Architect.
 2. Submit 1 copy of each request and accompanying data.
- F. Data Required with Substitution Request: Provide at least the following data:
1. Identify product by specification section and paragraph number.
 2. Manufacturer's name and address, trade name and model number of product (if applicable).
 3. Complete product data.
 4. An itemized comparison of the proposed product to the specified product.
 5. Net amount of change to the contract sum. (Credit only).
 6. List of maintenance services and replacement materials available.
 7. Statement of the effect of the substitution on the construction schedule.
 8. Description of changes that will be required in other work or products if the substitute product is approved.
- G. The Architect will determine acceptability of the proposed substitution.

- H. When the proposed substitution is not accepted, provide the product (or one of the products listed, as the case may be) specified.
- I. Products accepted as substitutes will be issued in Architect's Supplemental Instructions (ASI).

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions: The Architect will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Architect. If the following conditions are not satisfied, the Architect will return the requests without action except to record noncompliance with these requirements.
 - 1. Extensive revisions to the Contract Documents are not required.
 - 2. Proposed changes are in keeping with the general intent of the Contract Documents.
 - 3. The request is timely, fully documented, and properly submitted.
 - 4. The specified product or method of construction cannot be provided within the Contract Time. The Architect will not consider the request if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
 - 5. The request is directly related to an "or-equal" clause or similar language in the Contract Documents.
 - 6. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner's additional responsibilities may include compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations.
 - 7. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 - 8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
 - 9. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
 - 10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
- B. The Contractor's submittal and the Architect's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01610

SECTION 01620 - FIELD ENGINEERING

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY

General: This Section specifies administrative and procedural requirements for field engineering services, including, but not necessarily limited to, the following:

- Land survey work.
- Civil engineering services.

SUBMITTALS

Certificates: Submit a certificate signed by the Land Surveyor or Professional Engineer certifying that the location and elevation of improvements comply with the Contract Documents.

Project Record Documents: Submit a record of Work performed and record survey data as required under provisions of Sections "Submittals" and "Contract Closeout".

QUALITY ASSURANCE

Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks before proceeding to layout the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

EXAMINATION

The Owner's agent will identify existing control points and property line corner stakes.

Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks before proceeding to layout the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.

Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points, or requirements to relocate reference points because of necessary changes in grades or locations.

Promptly replace lost or destroyed project control points. Base replacements on the original survey control points.

Establish and maintain a minimum of two permanent benchmarks on the site, referenced to data

established by survey control points.

Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction.

Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer and water service piping.

Any damage to public utilities and utilities of private residences will be repaired by Contractor or utility, at Contractor's expense.

PERFORMANCE

Working from lines and levels established by the property survey, establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to properly locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.

Advise entities engaged in construction activities, of marked lines and levels provided for their use.

As construction proceeds, check every major element for line, level and plumb.

Surveyor's Log: Maintain a surveyor's log of control and other survey Work. Make this log available for reference.

Record deviations from required lines and levels, and advise the Architect when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.

Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes and invert elevations by instrumentation and similar appropriate means.

Building Lines and Levels: Locate and lay out batter boards for structures, building foundations, column grids and locations, floor levels and control lines and levels required for mechanical and electrical Work.

Existing Utilities: Furnish information necessary to adjust, move or relocate existing structures, utility poles, lines, services or other appurtenances located in, or affected by construction. Coordinate with local authorities having jurisdiction.

Final Property Survey: Before Substantial Completion, prepare a final property survey showing significant features (real property) for the Project. Include on the survey a certification, signed by the Surveyor, to the effect that principal metes, bounds, lines and levels of the Project are accurately positioned as shown on the survey.

END OF SECTION 01620

SECTION 01630 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for cutting and patching.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Project Management and Coordination" for procedures for coordinating cutting and patching with other construction activities.
 - 2. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - a. Requirements of this Section apply to mechanical and electrical installations. Refer to Division 15 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

1.3 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures well in advance of the time cutting and patching will be performed if the Owner requires approval of these procedures before proceeding. Request approval to proceed. Include the following information, as applicable, in the proposal:
 - 1. Describe the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
 - 2. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
 - 3. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.
 - 4. Approval by the Architect to proceed with cutting and patching does not waive the Architect's right to later require complete removal and replacement of unsatisfactory work.

1.4 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
- B. Operational Limitations: Do not cut and patch operating elements or related components in a

manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.

- C. Visual Requirements: Do not cut and patch construction exposed on the exterior, including pavement and sidewalks, nor in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Use materials identical to materials in which cutting and patching is to be performed.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
 - 1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover

- openings when not in use.
2. To avoid marring finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
 4. Comply with requirements of applicable Division 2 Sections where cutting and patching requires excavating and backfilling.
 5. Refer to Division - 15 Mechanical and Division 16 - Electrical sections for cutting and patching requirements related to mechanical and electrical utility service respectively.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
 3. Patch, repair, or rehang ceilings as necessary to provide an even-plane surface of uniform appearance.

3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION 01630

SECTION 01700 - FINAL CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for final cleaning at Substantial Completion.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Construction Facilities and Temporary Controls" specifies general cleanup and waste-removal requirements.
 - 2. Division 1 Section "Contract Closeout" specifies general contract closeout requirements.
 - 3. Special cleaning requirements for specific construction elements are included in appropriate Sections of Divisions 2 through 16.
- C. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and antipollution regulations.
 - 1. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains.
 - 2. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final-cleaning operations. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to the condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for the entire Project or a portion of the Project.

1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and foreign substances.
2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
3. Remove petrochemical spills, stains, and other foreign deposits.
4. Remove tools, construction equipment, machinery, and surplus material from the site.
5. Remove snow and ice to provide safe access to the building.
6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
8. Broom clean concrete floors in unoccupied spaces.
9. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo, if required.
10. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
11. Remove labels that are not permanent labels.
12. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
13. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
14. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
15. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
16. Clean ducts, blowers, and coils if units were operated without filters during construction.
17. Clean food-service equipment to a sanitary condition, ready and acceptable for its intended use.
18. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs and defective and noisy starters in fluorescent and mercury vapor fixtures.
19. Leave the Project clean and ready for occupancy.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects, and other pests. Comply with regulations of local authorities.

- D. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period.
- E. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully.
 - 1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION 01700

SECTION 01720 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Operation and maintenance manual submittal.
 - 4. Submittal of warranties.
 - 5. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 16.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 - c. Contractor shall make thorough inspection and written punch list with the subcontractors of all areas of the building and site. When this punch list is completed, the contractor shall notify in writing the Owner and Architect to schedule their inspection and punch list.
 - d. The above procedure shall also be followed for above-ceiling inspections.
 - e. If more than two follow-up inspections are needed, the Contractor is to bear the additional cost of Owner's and Architect/Engineer's time. This cost will include staff labor and travel time.
 - 2. Advise the Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar

releases for all trades.

5. Submit record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra stock, and similar items.
7. Make final changeover of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
9. Complete final cleanup requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred, exposed finishes.

B. Inspection Procedures: On receipt of a written request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

1. The Architect will repeat inspection when requested and assured by the Contractor that the Work is substantially complete.
2. Results of the completed inspection will form the basis of requirements for final acceptance.

1.4 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, endorsed and dated by the Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Architect.
4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the Work.
5. Submit consent of surety to final payment.
6. Submit a final liquidated damages settlement statement.
7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
8. Submit signed receipt by Owner indicated acceptance of all extra stock items, keys and operating keys for miscellaneous items.

B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.

1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance. If the Work is still considered incomplete, the Architect will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, reinspection will be repeated only once. If additional inspections are required, the Architect and/or consultant is to be compensated for their time based on the standard billing rate for the personnel doing the work.

1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
 3. Note related change-order numbers where applicable.
 4. Organize record drawings into manageable sets, and bind with durable-paper covers; print suitable titles, dates, and other identification on the cover of each set.
 5. In the set of documents, mount all supplemental drawings issued for the project including addenda, ASI, change orders or any other clarification. Mount drawing to back of previous page showing work references. (NO EXCEPTION!)
- C. Record Specifications: Maintain one complete Project Manual, including addenda. Include with the Project Manual one copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
 1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
 2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
 3. Note related record drawing information and Product Data.
 4. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.
 5. Highlight which brands of items were used on this project, in each section of specifications.
- D. Shop Drawing: Maintain one copy of each Product Data submittal. Note related Change Orders and markup of record drawings and Specifications.

1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.
 2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
 3. Upon completion of markup, submit complete set of record Product Data to the Architect for the Owner's records.
- E. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with Architect and Owner personnel at the Project Site to determine which Samples are to be transmitted to the Owner for record purposes. Comply with Owner's instructions regarding delivery to the Owner's Sample storage area.
- F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Architect for the Owner's records.
- G. Maintenance Manuals: Total of three (3) required. Organize operation and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual, heavy-duty, 2-inch (51-mm), 3-ring, vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. In addition to operation and maintenance data include the following types of information:
1. Emergency instructions.
 2. Spare parts list and local suppliers' name, address and phone number.
 3. Copies of warranties.
 4. Wiring diagrams.
 5. Recommended "turn-around" cycles.
 6. Inspection procedures.
 7. Shop Drawings and Product Data.
 8. Fixture lamping schedule.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with Owner personnel to provide instruction in proper operation and maintenance. Review Specification divisions 2-16 for specific requirements of training. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Contractor to video tape training sessions and provide one copy to Owner as a permanent record for future reference and training of personnel. Include a detailed review of the following:
1. Maintenance manuals
 2. Record documents

3. Spare parts and materials
4. Tools
5. Lubricants
6. Fuels
7. Identification systems
8. Control sequences
9. Hazards
10. Cleaning
11. Warranties and bonds
12. Maintenance agreements and similar continuing commitments

B. As part of instruction for operating equipment, demonstrate the following procedures:

1. Startup
2. Shutdown
3. Emergency operations
4. Noise and vibration adjustments
5. Safety procedures
6. Economy and efficiency adjustments
7. Effective energy utilization

3.2 FINAL CLEANING

- A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1 Section "Construction Facilities and Temporary Controls."
- B. Cleaning: See Division 1 Section 01710 "Final Cleaning," for requirements.

END OF SECTION 01720

SECTION 01740 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers standard warranties on products and special warranties. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials. Specific requirements for warranties for the Work and products and installation that are specified to be warranted, are included in the individual sections of divisions 2 through 16.
- B. General closeout requirements are included in Section 01700 - Contract Closeout.
- C. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- D. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor. All warranties do not become effective until the Date of Substantial Completion. All mechanical and electrical equipment suppliers shall include costs as necessary to meet this warranty requirement (NO EXCEPTIONS).

1.3 WARRANTY REQUIREMENTS

- A. Contractors and material and equipment suppliers shall be responsible for providing any additional or extended warranties and associated costs, required to provide the specified warranty period beginning from the date of Substantial Completion. (No Exceptions).
- B. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- C. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- D. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work

through a portion of its anticipated useful service life.

- E. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, right and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
- F. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
- G. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.4 SUBMITTALS

- A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval prior to final execution.
- C. Refer to individual Sections of Divisions 2 through 16 for specific content requirements, and particular requirements for submittal of special warranties.
- D. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders (total of three (3) required), thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper. Provide typed index showing all items included. At Contractor's options, warranties and bonds can be included in the operations and maintenance manuals for architectural items.
- E. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
- F. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS," the Project title or name, and the name of the Contractor.
- G. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION (not applicable)

END OF SECTION 01740

SPECIAL CONDITIONS

INDEX TO SPECIAL CONDITIONS:

1. DEFINITIONS
2. GENERAL
3. ARCHITECT'S WORK PRODUCT
4. ADMINISTRATION OF THE CONTRACT
5. CONFLICTS
6. WORKMANSHIP
7. DRAWINGS AND SPECIFICATIONS
8. DIVISION OF SPECIFICATIONS
9. ALLOCATION OF WORK
10. NOTICE AND SERVICE THEREOF
11. CODES AND ORDINANCES
12. SUBSTANTIAL COMPLETION, FINAL COMPLETION & SUBSEQUENT REVIEWS
13. STORAGE OF MATERIALS
14. LAYOUT OF BUILDING
15. DAMAGED FACILITIES
16. UNIT PRICES
17. RULES OF MEASUREMENT
18. INTERRUPTION OF UTILITIES
19. CONTRACTOR COORDINATION

1. DEFINITIONS:

1a. The term "OWNER" as used throughout these documents means: Hardin County Schools Board of Education, 65 W.A. Jenkins Road, Elizabethtown, Kentucky 42701.

1b. The term "ARCHITECT" as used throughout these documents means Sherman Carter Barnhart Architects PSC, 100 Mallard Creek Road, Suite 151, Louisville, Kentucky 40207.

1c. The term "ENGINEER" as used throughout these documents means ShROUT Tate Wilson Consulting Engineers, 628 Winchester Road, Lexington, Kentucky 40505 (mechanical and electrical); or Sherman Carter Barnhart Architects PSC, 100 Mallard Creek Road, Suite 151, Louisville, Kentucky 40207 (structural).

1d. The terms "PLANS" and "DRAWINGS" are used interchangeably and are construed to have the same meaning.

2. GENERAL:

2a. The specifications and drawings accompanying them describe the work to be done and the materials to be furnished for HVAC Renovations to Meadow View Elementary School.

2b. Should any error or inconsistency appear in the Drawings or Specifications, the Contractor, before proceeding with the work, must make mention of the same to the Architect for proper adjustment and in no case proceed with the work in uncertainty or with insufficient drawings.

2c. The work under this contract does not include any items marked N.I.C. on the drawings (not in contract).

2d. Contractors shall follow sizes in specifications or figures on drawings, in preference to scale measurements and follow detail drawings in preference to general drawings.

2e. Where it is obvious that a drawing illustrates only a part of a given work or of a number of items, the remainder shall be deemed repetitious and so constructed.

3. ARCHITECT'S WORK PRODUCT:

3a. The Architect's work product is prepared and produced for the sole and exclusive benefit of the Owner. Any real or inferred benefits to third parties are hereby expressly disclaimed.

4. ADMINISTRATION OF THE CONTRACT:

4a. The Architect will perform certain administrative functions of the construction contract. Nothing contained in these contract documents, not any other oral or written agreements, memoranda, or communications shall create any express or implied contractual relationship between the Architect and the Contractor.

4b. The Architect may make periodic visits to the work site in accordance with the conditions of his contract with the Owner. The purpose of these visits and observations is to endeavor to guard against defects and deficiencies, not to supervise the Contractor's work.

4c. The Architect makes no express or implied representations of guaranteeing the Contractor's work.

4d. The Architect is not a specialist in construction methods, techniques, sequences or procedures and therefore assumes no responsibility for the construction operations and safety program.

5. CONFLICTS:

5a. If there is any conflict in the General Conditions with the Special Conditions, the Special Conditions shall govern.

6. WORKMANSHIP:

6a. The Workmanship shall be of the highest quality, in every respect, as usually recognized in the building industry. Poor or inferior workmanship (as determined by the Architect, Engineers, or inspecting authorities) is to be removed and replaced to conform to the highest quality standards of the trades concerned, or otherwise corrected.

7. DRAWINGS AND SPECIFICATIONS:

7a. The drawing dimensions shall have precedence over scaled measurements and details over general drawings. In case of conflicts between Drawings and Specifications, the more stringent shall apply.

7b. Figured dimensions on the drawings are reasonably accurate and should govern in setting out the work. However, should the Contractor discover discrepancies or inaccuracies, it shall be the Contractor's responsibility to bring them to the attention of the Architect before making any changes. Changes shall be made only with the approval of the Architect.

8. DIVISION OF SPECIFICATIONS:

8a. Division of Specifications into sections is done for convenience of reference and is not intended to control contractors in dividing work among subcontractors or to limit scope of work performed by any trade under any given section.

9. ALLOCATION OF WORK:

9a. Where certain materials are specified to be installed under various headings, it shall be the responsibility of the General Contractor to re-allocate such work under the proper subcontractor if the specification is in conflict with local jurisdiction.

10. NOTICE AND SERVICE THEREOF:

10a. Any notice to any Contractor from the Owner relative to any part of this contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by registered mail, to the said Contractor at his last address, or delivered in person to said Contractor or his authorized representative on the work.

11. CODES AND ORDINANCES:

11a. All branches of the work shown on the plans or specified, whether specifically mentioned or not, shall be executed in strict compliance with all local or state regulations and codes, and shall be in

compliance with all National Codes, when same have jurisdiction.

12. SUBSTANTIAL COMPLETION, FINAL COMPLETION & SUBSEQUENT REVIEWS:

12a. In as much as all parties with and intend to prosecute the work in a diligent and good faith manner, and to complete the work in a timely fashion, the Contractor shall notify the Architect when the Contractor believes he has attained Substantial Completion. Notification shall be made at least five (5) calendar days prior to the date set to the Substantial Completion review. The Contractor shall comply with the prerequisite requirements for Substantial Completion as set forth in Section 01700 - Contract Closeout.

12b. Review Procedures. Upon receipt of the Contractor's request, the Architect will either proceed with review or advise Contractor of prerequisites not fulfilled. Following initial review, the Architect will either prepare a certificate of substantial completion, or advise the Contractor of work which must be performed prior to issuance of the certificate of substantial completion.

The Architect will repeat the review when requested and assured by the Contractor, in writing, that the Work has been substantially completed. Results of the completed review will form the initial "punch list" for final acceptance.

12c. The Architect will review the work upon the receipt of the Contractor's notice that he believes in good faith that, except for those items whose completion has been delayed due to circumstances that are acceptable to the Architect, the work has been completed, including punch list items from earlier reviews. Upon completion of review, the Architect will either recommend final acceptance and final payment, or will advise the Contractor of work not completed or obligations not fulfilled as required for final acceptance by issuance of another punch list.

12d. The Contractor, upon completion of all outstanding items set forth on the punch list, shall notify the Architect of the completion of the work. The Architect shall verify completion of the work by an on-site review.

12e. In the event that the work should still require further reviews after initial post final review, unless through no fault of the Contractor, the Contractor shall authorize the Owner to deduct from the remaining available construction funds those monies which represent the Architect's normal hourly compensation rates and normal expenses for any additional time and expense expended on this project by the Architect. Hourly rates and expense reimbursement rates will be governed by those rates stipulated in the agreement between the Owner and the Architect. The disbursement of available construction funds by the Owner to the Architect in the foregoing situation, described herein, shall represent only actual charges associated with the expenditure of the Architect's time and expense and in no way represent a penalty assessed to the Contractor.

13. STORAGE OF MATERIALS:

13a. Each Contractor providing materials and equipment shall be responsible for the proper and adequate storage of his materials and equipment, and for the removal of same upon completion of his work. Storage of materials at the site shall be confined to areas within the Contract Limits, and the Contractor's designated parking area if necessary, where designated by the Architect.

14. LAYOUT:

14a. The General Contractor shall lay out the work and be responsible for all lines, levels and

measurements of all work executed under this Contract; he shall verify the figures before laying out the work and will be held responsible for any error resulting from his failure to do so.

14b. The General Contractor shall be prepared to guarantee each of his subcontractors the dimensions which they may require for the layout and fitting of their work to the surrounding work.

15. DAMAGED FACILITIES:

15a. The General Contractor shall repair and/or replace, at no expense to the Owner, any sections of existing roads, drives, streets, sidewalks, curbs, utilities, buildings and other structures damaged by reason of work performed under this Contract or incidental thereto, whether by his own forces or by his subcontractors or by his material suppliers.

16. UNIT PRICES:

16a. The Unit Price for each of the items set forth in the Form of Proposal shall become a part of the Contract.

16b. All Unit Prices are subject to review by the Owner and Architect prior to being accepted for contract purposes.

16c. All subcontractors shall be bound by the Unit Prices of the General Contractor.

16d. It is mutually understood and agreed that such Unit Prices include all items of cost, overhead and profit for the Contractor and any subcontractor(s) involved, and that they shall be used uniformly without modification for either additions or deductions.

16e. The Rules of Measurement, as specified in Paragraph 17 of this Section, shall apply in the use of Unit Prices.

16e1. Each Unit Price involving earthwork shall cover, among other things, engineering (surveying) costs and all costs of keeping excavations dry.

17. RULES OF MEASUREMENT:

17a. The following Rules of Measurement shall apply in the use of Unit Prices:

17a1. Except as provision is made hereinafter for arbitrary measurements, the quantity of excavation shall be its in-place volume before removal.

17a2. No allowance will be made for excavating additional material of any nature taken out for the convenience of the Contractor, beyond the quantity computed under these Rules of Measurement.

17a3. The quantities of excavation shall be computed from instrument readings in vertical cross sections located at such intervals as will assure accuracy.

17a4. General excavation for buildings and sections of buildings, bases for equipment, sump pits, etc., involving an area of 200 square feet or more, shall be classified as "Mass Excavation".

17a5. Excavation for pipes, wall footings, grade beams, column footings, and sections of buildings such as

bases for equipment, sump pits, etc., involving an area less than 200 square feet, shall be classified as "Trench Excavation".

17a6. "Mass Excavation" shall arbitrarily be assumed to extend to vertical planes two (2) feet outside wall lines, and to the elevation of plan subgrade.

17a7. "Trench Excavation" for walls, grade beams, and sections of building, such as bases for equipment, sump pits, etc., involving an area less than 200 square feet shall be arbitrarily assumed to extend 2 feet wider than wall and grade beam thicknesses and outside walls of sections of buildings such as bases for equipment, sump pit, etc., but in no case less than three (3) feet wide sides vertical.

17a8. "Trench Excavation" for pipes shall arbitrarily be assumed to be two (2) feet wider than the outside diameter of the pipe barrel and with sides vertical.

17a9. "Trench Excavation" for wall footings and column footings shall be computed as vertical shafts, each with a horizontal cross section identical in shape and size with the plan of the footing.

17a10. The quantities of form work will be the area of forms in contact with concrete.

17a11. Concrete quantities shall be computed from plan size or if there are no drawings, from actual measurement of the work ordered and placed, waste excluded.

18. INTERRUPTION OF UTILITIES:

18a. Utility services to existing facilities shall not be interrupted unless absolutely necessary. Interruptions shall be of minimum duration and shall be scheduled to cause the least possible inconvenience. In all cases, the Owner shall be notified well in advance of an anticipated interruption of utilities.

19. CONTRACTOR COORDINATION:

19a. The General Contractor and all subcontractors and other on-site contractors shall cooperate and coordinate their work to expedite the progress of the project. All subcontractors shall review and refer to the drawings and specifications of other trades involved with their particular work before proceeding. Any work installed which conflicts with another trade and had not been brought to the attention of the Architect prior to installation shall be removed at no additional expense to the Owner.

END OF SPECIAL CONDITIONS

KENTUCKY DEPARTMENT OF EDUCATION
DIVISION OF FACILITIES MANAGEMENT

CERTIFICATE OF PRODUCT COMPLIANCE
FOR PROPOSED SUBSTITUTED PROJECTS

702 KAR 4:160

MAY 1993

TO: _____

I, _____, being a duly authorized representative of
(name)

_____ the manufacturer, and/or
(company name)

distributor and/or sales representative of _____
(product name)

do hereby certify that the above named product complies in strict accordance with the Contract Documents for the

construction of _____ located in
(project name)

_____, and that the product is compatible
(project address)

and fit for the intended use and incorporation into this project.

Further, I understand that the Architect and Owner may rely on this certification.

(Signed)

(Date)

Attached is supporting information.

FORM OF PROPOSAL ATTACHMENT: UNIT PRICES

The unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if the estimated quantities of Work required by the Contract Documents are increased or decreased.

Unit prices represent work-in-place costs and include all necessary material, cost for delivery, installation, insurance, overhead, profit, and applicable taxes.

The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices, and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

SITE

- | | | |
|----|---|----------------|
| 1. | Excavation | |
| | A. Mass excavation | \$ _____ /c.y. |
| | B. Trench earth | \$ _____ /c.y. |
| | C. Borrow fill (import and compact) | \$ _____ /c.y. |
| | D. Borrow fill (from onsite and compact) | \$ _____ /c.y. |
| | E. Remove and replace unsuitable soils with
suitable compacted fill including haul off | \$ _____ /c.y. |
| | F. Trench rock | \$ _____ /c.y. |
| | G. Rock excavation (no blasting) | \$ _____ /c.y. |
| | H. Topsoil Import and place | \$ _____ /c.y. |
| | I. Waste off site | \$ _____ /c.y. |
| 2. | Asphalt | |
| | A. Asphalt paving | \$ _____ /ton |
| | B. DGA | \$ _____ /ton |
| | C. Stone aggregate | \$ _____ /ton |
| 3. | Concrete | |
| | A. Concrete walk | \$ _____ /s.f. |
| | B. Concrete curb and gutter | \$ _____ /l.f. |
| | C. Concrete Flush Curb | \$ _____ /l.f. |
| | D. Concrete pavement | \$ _____ /s.y. |

ARCHITECTURAL

- | | | |
|----|---|----------------|
| 1. | Miscellaneous structural steel (angles, channels) | \$ _____ /lb. |
| 2. | Roofing system | \$ _____ /s.f. |
| 3. | Suspended acoustical ceiling | |
| | A. Type "A" | \$ _____ /s.f. |
| | B. Type "B" | \$ _____ /s.f. |

4. Painting
 - A. Latex-based enamel \$ _____/s.f.
 - B. Epoxy enamel \$ _____/s.f.

MECHANICAL/ELECTRICAL/PLUMBING

1. 4" Buried Sanitary Sewer Drain Pipe \$ _____/l.f.
2. 6" Buried Sanitary Sewer Drain Pipe \$ _____/l.f.
3. 200' deep geothermal well. Well to be complete and shall include bore, 80' of casing, grouting, installation of 1 1/4" piping in well and out to horizontal HDPE header and 20' extension of horizontal header pipes (header pipe extension will require two (2) 20' runs of 4" HDPE piping and one (1) 20' run of 2" HDPE piping) \$ _____/ea.
4. Steel casing for geothermal borehole, permanent casing left in place, \$17 per linear foot maximum. \$ _____/l.f.
5. Steel casing for geothermal borehole, pushed in then pulled out, \$10 per linear foot maximum. \$ _____/l.f.
6. 3" Buried Water Supply Pipe \$ _____/l.f.
7. 1" Installed Interior Water Pipe \$ _____/l.f.
8. 2" Installed DWV Pipe with Misc. Fittings \$ _____/l.f.
9. 4" Installed DWV Pipe with Misc. Fittings \$ _____/l.f.
10. 1 1/2" Installed Interior Geotherm. Piping with Misc. Fittings \$ _____/l.f.
11. 2" Installed Interior Geotherm Piping with Misc. Fittings \$ _____/l.f.
12. 2" Installed Interior HDPE Piping with Misc. Fittings \$ _____/l.f.
13. Duct Insulation, Installed \$ _____/s.f.
14. 120V, 20A Duplex Outlet, Installed \$ _____/outlet
15. 120V, 20A Ground Fault Duplex Outlet, Installed \$ _____/outlet
16. 120V, 20A Quadplex Outlet, Installed \$ _____/outlet
17. Low Voltage Light Switch, Installed \$ _____/switch
18. Single Pole Light Switch, Installed \$ _____/switch
19. Wall mounted occupancy Sensor, Installed \$ _____/ea.

20.	Single Gang Box Metal, Installed	\$_____/device
21.	EMT Conduit (1/2"), Installed	\$_____/l.f.
22.	EMT Conduit (3/4"), Installed	\$_____/l.f.
23.	EMT Conduit (1"), Installed	\$_____/l.f.
24.	EMT Conduit (4"), Installed	\$_____/l.f.
25.	2, #12 Type THWN Conductor, Installed	\$_____/l.f.
26.	3, #12 Type THWN Conductor, Installed	\$_____/l.f.
27.	2, #10 Type THWN Conductor, Installed	\$_____/l.f.
28.	3 #10 Type THWN Conductor, Installed	\$_____/l.f.
29.	4, #500MCM Type THWN, Installed	\$_____/l.f.
30.	Type X1 Exit Sign, Installed	\$_____/exit sign
31.	Type ST1 Tubular Daylighting Device, Installed	\$_____/ea.
32.	20 Amp 1 Pole Breaker, Installed	\$_____/ea.
33.	3 Pole Circuit Breaker 100A Frame Size 600V, Installed	\$_____/ea.
34.	3 Pole Circuit Breaker 400A Frame Size 600V, Installed	\$_____/ea.
35.	A/V Fire Alarm Device, Installed	\$_____/device
36.	Fire Alarm Door Holder, Installed	\$_____/device
37.	Smoke Detector, Installed	\$_____/detector
38.	Heat Detector, Installed	\$_____/detector
39.	Duct Detector, Installed	\$_____/detector
40.	Fire Alarm Cable, Installed	\$_____/l.f.
41.	Fire Alarm Supervisory Switch	\$_____/device
42.	Ceiling Speaker, Installed	\$_____/device
43.	Speaker Cable, Installed	\$_____/l.f.
44.	Category 6 Data Cable, Installed	\$_____/l.f.
45.	Data Outlet with Jack, Installed	\$_____/ea.

46. Voice Outlet with Jack, Installed \$ /ea.

FORM OF PROPOSAL ATTACHMENT: LIST OF MATERIALS AND EQUIPMENT

Bidders are hereby advised that this list shall be completed in its entirety by the apparent low bidder within one (1) hour from the close of the official reading of the bids. This requirement does not preclude any bidder from submitting this list, fully executed, at the time the bids are submitted. Failure to submit a proper list may result in rejection of the bidder's proposal.

Each item listed under the different phases of construction must be clearly identified. A manufacturer's/dealer's name only, or the statement "as per plans and specifications," will not be considered sufficient identification. Where more than one "make" or "brand" is listed for any one item, the Owner will make the final selection.

GENERAL:

Manufacturer Model/Type

Roofing

Aluminum Storefront

Finish Hardware:

Exit Devices

Closers

Locksets

Acoustical Ceilings

MECHANICAL/ELECTRICAL/PLUMBING

Manufacturer Model/Type

Water Heaters

Roof Drains, Floor Drains, and Cleanouts

Faucets

Stainless Steel Sinks

Vitreous China Fixtures

Mop Sinks

Freeze-proof Wall Hydrants

Outside Air Units/Energy Recovery Unit

Geothermal Vault

Temperature Controls

Pumps and Hydronic Specialties

Water Source Heat Pumps

Drinking Fountains

Ventilation Fans

Grilles, Registers, and Diffusers

Lighting

Electrical Distribution Equipment
(switchboards, panelboards, transformers, etc.)

Fire Alarm System

Intercom System

Voice/ Data System

Sound System

FORM OF PROPOSAL ATTACHMENT: LIST OF SUBCONTRACTORS

Bidders are hereby advised that this list shall be filled out completely by the apparent low bidder within one (1) hour from the close of the official reading of the bids. This requirement does not preclude any bidder from submitting this list, fully executed, at the time the bids are submitted.

Earthwork	
Asphalt	
Landscape	
Roofing	
Sheet Metal	
Aluminum Storefronts	
Hardware	
Interior Finishes	
Mechanical	
Plumbing	
Temperature Controls	
Geothermal Well Field Driller	
Geothermal Heat Exchange Installer	
Fire Protection	
Electrical	
Fire Alarm	
Sound	
Telephone/Data	

Date: _____ To: (Owner) _____

Project Title: _____

City, County: _____

Name of Contractor/Supplier: _____

Mailing Address: _____

Business Address: _____ Telephone: _____

Having carefully examined the Instructions to Bidders, Contract Agreement, General Conditions, Supplemental Conditions, Specifications, and Drawings, on the above referenced project, the undersigned bidder proposes to furnish all labor, materials, equipment, tools, supplies, and temporary devices required to complete the work in accordance with the contract documents and any addenda listed below for the price stated herein.

Addendum _____ (Insert the addendum numbers received or the word "none" if no addendum received.)

BASE BID

For the construction required to complete the work, in accordance with the contract documents, I/We submit the following lump sum price of:

_____ Dollars & _____ Cents
Use Figures Use Words

ALTERNATE BIDS (If applicable and denoted in the Supplemental Conditions)

For omission from or addition to those items, services, or construction specified in the Supplemental Conditions by alternate number, the following lump sum price will be added or deducted from the base bid:

Alternate Bid No. 1	(Add/Deduct)	\$ _____
Alternate Bid No. 2	(Add/Deduct)	\$ _____
Alternate Bid No. 3	(Add/Deduct)	\$ _____
Alternate Bid No. 4	(Add/Deduct)	\$ _____

UNIT PRICES

Indicate on the lines below those unit prices to determine any adjustment to the contract price due to changes in work or extra work performed under this contract. The unit prices shall include the furnishing of all labor and materials, cost of all items, and overhead and profit for the Contractor, as well as any subcontractor involved. These unit prices shall be listed in units of work.

WORK	PRICE	UNIT
1. _____	\$ _____	/ _____
2. _____	\$ _____	/ _____
3. _____	\$ _____	/ _____
4. _____	\$ _____	/ _____
5. _____	\$ _____	/ _____
6. _____	\$ _____	/ _____
7. _____	\$ _____	/ _____
8. _____	\$ _____	/ _____
9. _____	\$ _____	/ _____
10. _____	\$ _____	/ _____

(Provide attachment for additional unit prices)

NOTE: The bidder shall submit the above list of unit prices with the bid.

LIST OF PROPOSED SUBCONTRACTORS

List on the lines below each major branch of work and major material category for this project and the subcontractor or supplier involved with that portion of work. If the branch of work is to be done by the Contractor, so indicate.

The listing of more than one subcontractor in a work category shall invalidate the bid.

The listing of the bidder as the subcontractor for a work category certifies that the bidder has in current employment, skilled staff and necessary equipment to complete that category. The architect/engineer will evaluate the ability of all listed subcontractors to complete the work and notify the owner. Listing of the bidder as the subcontractor may invalidate the bid should the architect's review indicate bidder does not have skilled staff and equipment to complete the work category at the time the bid was submitted.

BRANCH OF WORK/MATERIAL CATEGORY	SUBCONTRACTOR/SUPPLIER
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

(Provide attachment for additional work/material - subcontractor/supplier)

NOTE: The bidder shall submit the above list of subcontractors with the bid.

LIST OF MATERIALS/MANUFACTURERS

MATERIAL DESCRIPTION BY SPECIFICATION DIVISION AND CATEGORY		MANUFACTURER
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

(Provide attachment for additional material/manufacturers.)

NOTE: The bidder shall submit the above list of materials with the bid.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

In the event that a bidder's proposal is accepted by the Owner and such bidder should fail to execute the contract within ten (10) consecutive days from the date of notification of the awarding of the contract, the Owner, at his option, may determine that the awardee has abandoned the contract. The bidder's proposal shall then become null and void, and the bid bond or certified check which accompanied it shall be forfeited to and become the property of the Owner as liquidated damages for failure to execute the contract.

The bidder hereby agrees that failure to submit herein above all required information and/or prices can cause disqualification of this proposal.

Submitted by:

NAME OF CONTRACTOR: _____

AUTHORIZED REPRESENTATIVE: _____

Signature

NAME (typed): _____

TITLE: _____

NOTICE: A bid bond or certified check or cash must accompany this proposal.

This form shall not be modified. Attach supplemental form of proposal information pages for project specific requirements as needed.

SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections include the following:
 - 1. Division 1 Section "Submittal Procedures" for preparing and submitting Contractor's Construction Schedule.
 - 2. Division 1 Section "Quality Control" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 1 Section "Contract Closeout" for coordinating Contract closeout.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.

4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
 9. Project closeout activities.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate required installation sequences.
 - c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of

such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

2. Sheet Size: At least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
3. Number of Copies: Submit Five (5) opaque copies of each submittal. Architect will return Three (3) copies.

- a. Submit Five (5) copies where Coordination Drawings are required for operation and maintenance manuals. Architect will retain Two (2) copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.

4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

- B. Key Personnel Names: Within Fifteen (15) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1. Include special personnel required for coordination of operations with other contractors.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within Three (3) days of the meeting.

- B. Pre-construction Conference: Schedule a pre-construction conference before starting construction, at a time convenient to Owner and Architect, but no later than Fifteen (15) days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for requests for interpretations (RFIs).
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Preparation of Record Documents.
 - l. Use of the premises.
 - m. Work restrictions.
 - n. Owner's occupancy requirements.
 - o. Responsibility for temporary facilities and controls.
 - p. Construction waste management and recycling.
 - q. Parking availability.
 - r. Office, work, and storage areas.
 - s. Equipment deliveries and priorities.
 - t. First aid.
 - u. Security.
 - v. Progress cleaning.
 - w. Working hours.

3. Minutes: Architect will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. The Contract Documents.
 - b. Options.
 - c. Related requests for interpretations (RFIs).
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.

- i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at monthly intervals. Coordinate dates of meetings with preparation of payment requests.
- 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.

- 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) Requests for interpretations (RFIs).
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
3. Minutes: Architect will record and distribute to Contractor the meeting minutes.
 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

SECTION 01330 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Daily construction reports.
 - 4. Shop Drawings.
 - 5. Product Data.
 - 6. Samples.
 - 7. Agency submittals.
 - 8. Seismic testing.
- B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
 - 1. Permits.
 - 2. Applications for Payment.
 - 3. Performance and payment bonds.
 - 4. Insurance certificates.
 - 5. List of subcontractors.
- C. Related Sections: The following Sections contain requirements relating to this Section:
 - 1. Division 1 Section "Applications for Payment" specifies requirements for submittal of the Schedule of Values.
 - 2. Division 1 Section "Project Management and Coordination" specifies requirements governing preparation and submittal of required Coordination Drawings.
 - 3. Division 1 Section "Project Management and Coordination" specifies requirements for submittal and distribution of meeting and conference minutes.
 - 4. Division 1 Section "Contract Closeout" specifies requirements for submittal of Project Record Documents and warranties at project closeout.

1.3 DEFINITIONS

- A. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
 - 1. Preparation of Coordination Drawings is specified in Division 1 Section "Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
- B. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.
- C. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.

1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay. Submit a minimum of five (5) copies for Architect/engineer and Owner for review, plus additional copies required by contractors and suppliers. Owner requires two (2) copies of pre-reviewed submittals, for a total of seven (7) copies.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity. Use applicable section numbers as identified in specification manual.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination. Submit each section on separate submittals, and do not combine submittals on transmittal.
 - a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
 - 3. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.
 - a. Allow 2 weeks for initial review. Allow additional time if the Architect must delay processing to permit coordination with subsequent submittals.
 - b. If an intermediate submittal is necessary, process the same as the initial submittal.

- c. Allow 2 weeks for reprocessing each submittal.
 - d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
 - 1. Provide a space approximately 4 by 5 inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 - 2. Include the following information on the label for processing and recording action taken.
 - a. Project name
 - b. Date
 - c. Name and address of the Architect
 - d. Name and address of the Contractor
 - e. Name and address of the subcontractor
 - f. Name and address of the supplier
 - g. Name of the manufacturer
 - h. Number and title of appropriate Specification Section
 - i. Drawing number and detail references, as appropriate
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Architect using a transmittal form, indicate on the transmittal the corresponding specification section number and a brief description of the submittal enclosed. The Architect will not accept submittals received from sources other than the Contractor.
 - 1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.
 - 2. Transmittal Form: Use Contractor's standard transmittal form.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart-type, contractor's construction schedule. Submit within 10 days after the date established for "Commencement of the Work."
 - 1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the

- same breakdown of units of the Work as indicated in the "Schedule of Values."
2. Within each time bar, indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 3. Prepare schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.
 5. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other schedules.
 6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.
- B. Work Stages: Indicate important stages of construction for each major portion of the Work, including submittal review, testing, and installation.
- C. Area Separations: Provide a separate time bar to identify each major construction area for each major portion of the Work. Indicate where each element in an area must be sequenced or integrated with other activities.
- D. Cost Correlation: At the head of the schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of Work performed as of the dates used for preparation of payment requests.
1. Refer to Division 1 Section "Applications for Payment" for cost reporting and payment procedures.
- E. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- F. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

1.6 SUBMITTAL SCHEDULE

- A. After development and acceptance of the Contractor's Construction Schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for submittal of the Contractor's Construction Schedule.
 - 1. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the Contractor's Construction Schedule.
 - 2. Prepare the schedule in chronological order. Provide the following information:
 - a. Scheduled date for the first submittal.
 - b. Related Section number.
 - c. Submittal category (Shop Drawings, Product Data, or Samples).
 - d. Name of the subcontractor.
 - e. Description of the part of the Work covered.
 - f. Scheduled date for resubmittal.
 - g. Scheduled date for the Architect's final release or approval.
- B. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
 - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- C. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.
- D. All submittals must be received no later than four months after Notice To Proceed.

1.7 DAILY CONSTRUCTION REPORTS

- A. Prepare a daily construction report recording the following information concerning events at the site, and submit duplicate copies to the Architect at weekly intervals if requested. A copy shall remain at the job site throughout the project, and be available to Owner upon request.
 - 1. List of subcontractors at the site.
 - 2. Specific work, and areas, performed by trades.
 - 3. Approximate count of personnel at the site, and number of workers by trade.
 - 4. High and low temperatures, general weather conditions.
 - 5. Accidents and unusual events.
 - 6. Meetings and significant decisions.

7. Stoppages, delays, shortages, and losses.
8. Meter readings and similar recordings.
9. Emergency procedures.
10. Orders and requests of governing authorities.
11. Change Orders received, implemented.
12. Services connected, disconnected.
13. Equipment or system tests and startups.
14. Partial Completions, occupancies.
15. Substantial Completions authorized.

1.8 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
- B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:
 1. Dimensions.
 2. Identification of products and materials included by sheet and detail number.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
 6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 42 inches (742 by 1068 mm).
 7. Initial Submittal: Submit blue- or black-line prints for the Architect's review. The Architect will return the reproducible print.
 8. Do not use Shop Drawings without an appropriate final stamp indicating action taken.
- C. Submit a minimum of six copies of each shop drawing, except mechanical, electrical and plumbing which require a minimum of seven copies. Provide additional copies as required by other parties. Total number of shop drawings required to be determined at the pre-construction meeting.

1.9 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.

1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
3. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.
4. Submittals: Submit 6 copies of each required submittal; submit 8 copies where required for maintenance manuals. The Architect will retain one and will return the other marked with action taken and corrections or modifications required.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
5. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 - b. Do not permit use of unmarked copies of Product Data in connection with construction.

1.10 SEISMIC TESTING SUBMITTAL

- A. Refer to specific specification for seismic submittal requirements.

1.11 WARRANTIES

- A. Submit copies of all required warranties with shop drawing submittals. Warranties that do not comply with specifications may be rejected.

1.12 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets,

and swatches showing color, texture, and pattern.

1. Mount or display Samples in the manner to facilitate review of qualities indicated. Prepare Samples to match the Architect's sample. Include the following:
 - a. Specification Section number and reference.
 - b. Generic description of the Sample.
 - c. Sample source.
 - d. Product name or name of the manufacturer.
 - e. Compliance with recognized standards.
 - f. Availability and delivery time.
2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least 3 multiple units that show approximate limits of the variations.
 - b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
 - c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
3. Preliminary Submittals: Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from a range of standard choices.
 - a. The Architect will review and return preliminary submittals with the Architect's notation, indicating selection and other action.
4. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets. The Architect will return one set marked with the action taken.
5. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.

- B. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.
 - 1. Field samples are full-size examples erected on-site to illustrate finishes, coatings, or finish materials and to establish the Project standard.
 - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.13 ARCHITECT'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the Architect will review each submittal, mark to indicate action taken, and return promptly.
 - 1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The Architect will stamp each submittal with a uniform, action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:
 - 1. Final Unrestricted Release: When the Architect marks a submittal "NO EXCEPTIONS TAKEN", "Accepted", "Approved," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 - 2. Final-But-Restricted Release: When the Architect marks a submittal "NOTE MARKINGS", "Accepted as Noted", "Approved as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
 - 3. Returned for Resubmittal: When the Architect marks a submittal "REJECTED", "Not Accepted, Resubmit", "Not Approved, Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
 - a. Do not use, or allow others to use, submittals marked "REJECTED", "Not Accepted, Resubmit", "Not Approved, Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
 - 4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Architect will return the submittal marked "NO EXCEPTIONS TAKEN" or "Action Not Required."

- C. Unsolicited Submittals: The Architect will return unsolicited submittals to the sender without action.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01330

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality-control services.
- B. Quality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
 - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- E. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.
 - 2. Division 1 Section "Submittal Procedures" specifies requirements for development of a schedule of required tests and inspections.

1.3 RESPONSIBILITIES

- A. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, Contractor shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. Costs for these services are included in the Contract Sum.
 - 1. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Sum.

2. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.
 - a. Where the Owner has engaged a testing agency for testing and inspecting part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless agreed to in writing by the Owner.
- B. The Owner shall employ a qualified testing agency (to be approved by the Architect) to perform special inspections of the seismic resisting portions of the structure in accordance with Chapter 17 of the 2002 Kentucky Building Code. Refer to the contract drawings, Sheet C100, for a list of the required special inspections as defined and required in Chapter 17 of the code. The testing agency is to observe and verify that the items stated above have been constructed in compliance with the plans, specifications and applicable portions of the 2002 Kentucky Building Code.
- C. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.
 1. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.
- D. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
 1. Provide access to the Work.
 2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
 3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
 4. Provide facilities for storage and curing of test samples.
 5. Deliver samples to testing laboratories.
 6. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 7. Provide security and protection of samples and test equipment at the Project Site.
- E. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Architect and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
 1. The agency shall notify the Architect and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
 3. The agency shall not perform any duties of the Contractor.

- F. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

1.4 SUBMITTALS

- A. The Contractor shall submit a plan, in writing, from the testing agency, stating how they intend to perform these services of special inspections stated above and submit to the Building Inspectors office as required by 1705.0 of the 1997 K.B.C. The testing agency shall submit reports to the Architect for approval during construction.
- B. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Architect and Owner. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
 2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
 - a. Date of issue.
 - b. Project title and number.
 - c. Name, address, and telephone number of testing agency.
 - d. Dates and locations of samples and tests or inspections.
 - e. Names of individuals making the inspection or test.
 - f. Designation of the Work and test method.
 - g. Identification of product and Specification Section.
 - h. Complete inspection or test data.
 - i. Test results and an interpretation of test results.
 - j. Ambient conditions at the time of sample taking and testing.
 - k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
 - l. Name and signature of laboratory inspector.
 - m. Recommendations on retesting.
 - n. Follow-up reports on retesting completion.

1.5 QUALITY ASSURANCE

- A. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

2. Service agencies shall be approved by Owner and Architect.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

END OF SECTION 01400

SECTION 01421 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.
- D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the organizations responsible for the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

PRIVATE tbl1

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from Access Board www.access-board.gov	(800) 8722253 (202) 272-0080
CFR	Code of Federal Regulations Available from Government Printing Office www.gpoaccess.gov/cfr/index.html	(866) 512-1800 (202) 512-1800
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-6257
DSCC	Defense Supply Center Columbus (See FS)	
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil Available from Defense Standardization Program www.dps.dla.mil Available from General Services Administration www.gsa.gov Available from National Institute of Building Sciences www.nibs.org	(215) 697-6257 (202) 619-8925 (202) 289-7800
FTMS	Federal Test Method Standard (See FS)	

MIL	(See MILSPEC)	
MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-6257
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080
USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

PRIVATE tbl2

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888

ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	ACI International (American Concrete Institute) www.aci-int.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHA	American Hardboard Association (Now part of CPA)	
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)	
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150

ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(505) 522-1437
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWCI	AWCI International (Association of the Wall and Ceiling Industry International) www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (Now WCSC)	
AWI	Architectural Woodwork Institute www.awinet.org	(800) 449-8811 (703) 733-0600
AWPA	American Wood-Preservers' Association	(334) 874-9800

www.awpa.com

AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
CCC	Carpet Cushion Council www.carpetcushion.org	(203) 637-1312
CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583

CPA	Composite Panel Association www.pbmdf.com	(301) 670-0604
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Cast Stone Institute www.caststone.org	(770) 972-3011
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee www.ejdc.org	(703) 295-5000
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association www.esda.org	(315) 339-6937
FIBA	Federation Internationale de Basketball Amateur (The International Basketball Federation) www.fiba.com	41 22 545 00 00

FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.ch	41 21 345 35 35
FMG	FM Global (Formerly: FM - Factory Mutual System) www.fmgglobal.com	(401) 275-3000
FMRC	Factory Mutual Research (Now FMG)	
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridarooft.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Now GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	

IBF	International Badminton Federation www.intbadfed.org	(6-03) 9283-7155
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IENT	Institute of Environmental Sciences and Technology www.ient.org	(847) 255-1561
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
	Available from ANSI www.ansi.org	(202) 293-8020
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (702) 567-8150
ITS	Intertek www.intertek.com	(800) 345-3851 (713) 407-3500
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LEED	Leadership in Energy and Environmental Design www.usgbc.org	(800) 795-1747

LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864 (804) 314-8955
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(847) 480-9138
MFMA	Metal Framing Manufacturers Association www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(312) 332-0405
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6623 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport www.aahperd.org/nagws/	(800) 213-7193, ext. 453
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848

NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-3550
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (303) 697-8441
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association) www.nofma.org	(901) 526-5016

NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWWDA	National Wood Window and Door Association (Now WDMA)	
OPL	Omega Point Laboratories, Inc. (Acquired by ITS - Intertek) www.opl.com	(800) 966-5253 (210) 635-8100
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute http://pgi-tp.ce.uiuc.edu	(217) 333-3929
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America) www.landcarenetwork.org	(800) 395-2522 (703) 736-9666
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	(800) 644-2400 (312) 670-2400
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.calredwood.org	(888) 225-7339 (415) 382-0662

RTI	(Formerly: NTRMA - National Tile Roofing Manufacturers Association) (Now TRI)	
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(516) 294-5424
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(703) 683-2075
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)	
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smacentral.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630

SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrasssod.org	(847) 649-5555
TRI	Tile Roofing Institute (Formerly: RTI - Roof Tile Institute) www.tileroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(202) 828-7422
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700

WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association (Now WCSC)	
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association) www.windowcoverings.org	(800) 506-4636 (212) 297-2109
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (847) 299-5200
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WIC	Woodwork Institute of California (Now WI)	
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

PRIVATE tbl3

BOCA	BOCA International, Inc. (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICBO	International Conference of Building Officials (See ICC)	
ICBO ES	ICBO Evaluation Service, Inc. (See ICC-ES)	
ICC	International Code Council www.iccsafe.org	(888) 422-7233 (703) 931-4533

SBCCI Southern Building Code Congress International, Inc.
(See ICC)

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE Army Corps of Engineers
www.usace.army.mil

DOC Department of Commerce (202) 482-2000
www.commerce.gov

DOE Department of Energy (202) 586-9220
www.energy.gov

FAA Federal Aviation Administration (866) 835-5322
www.faa.gov

FDA Food and Drug Administration (888) 463-6332
www.fda.gov

HUD Department of Housing and Urban Development (202) 708-1112
www.hud.gov

NCHRP National Cooperative Highway Research Program
(See TRB)

NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Building Service (See GSA)	
PHS	Office of Public Health and Science www.osophs.dhhs.gov/ophs	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	State Department www.state.gov	(202) 647-4000
TRB	Transportation Research Board www.nas.edu/trb	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USPS	Postal Service www.usps.com	(202) 268-2000

- E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

PRIVATE tbl5

CBHF	State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation www.dca.ca.gov/bhfti	(800) 952-5210 (916) 574-2041
CPUC	California Public Utilities Commission www.cpuc.ca.gov	(415) 703-2782
TFS	Texas Forest Service Forest Resource Development http://txforestsERVICE.tamu.edu	(936) 639-8180

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01421

SECTION 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Water service and distribution.
 - 2. Temporary electric power and light.
 - 3. Temporary heat.
 - 4. Ventilation.
 - 5. Telephone service.
 - 6. Sanitary facilities, including drinking water.
 - 7. Storm and sanitary sewer.
- C. Support facilities include, but are not limited to, the following:
 - 1. Field offices and storage sheds.
 - 2. Temporary roads, paving and walkpaths.
 - 3. Dewatering facilities and drains.
 - 4. Temporary enclosures.
 - 5. Hoists and temporary elevator use.
 - 6. Temporary project identification signs and bulletin boards.
 - 7. Waste disposal services.
 - 8. Rodent and pest control.
 - 9. Construction aids and miscellaneous services and facilities.
 - 10. Job sign.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Temporary fire protection.
 - 2. Barricades, warning signs, and lights.
 - 3. Environmental protection.
 - 4. Temporary chain-link safety fencing.

1.3 SUBMITTALS

- A. Temporary Utilities: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.

- B. Implementation and Termination Schedule: Within 15 days of the date established for commencement of the Work, submit a schedule indicating implementation and termination of each temporary utility.

1.4 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
 - 1. Building code requirements including local requirements for permits, testing and inspection.
 - 2. Health and safety regulations.
 - 3. Utility company regulations and recommendations.
 - 4. Police, fire department, and rescue squad rules.
 - 5. Environmental protection regulations governing use of water and energy and the control of fumes, dust noise and other nuisances.
- B. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
 - 1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials. If acceptable to the Architect, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry."

1. For job-built temporary offices, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thicknesses indicated.
 3. For fences and vision barriers, provide minimum 3/8-inch- (9.5-mm-) thick exterior plywood.
 4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- (16-mm-) thick exterior plywood.
- C. Open-Mesh Fencing: Provide 0.120-inch- (3-mm-) thick, galvanized 2-inch (50-mm) chainlink fabric fencing 6 feet (2 m) high with galvanized barbed-wire top strand and galvanized steel pipe posts, 1-1/2 inches (38 mm) I.D. for line posts and 2-1/2 inches (64 mm) I.D. for corner posts.

2.2 EQUIPMENT

- A. General: Provide new equipment. If acceptable to the Architect, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
- B. Water Hoses: Provide 3/4-inch (19-mm), heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet (30 m) long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
- D. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
- G. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows, and serviceable finishes, and properly sized to hold progress meetings. Provide heated and air-conditioned units on foundations adequate for normal loading.
- H. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. Do not locate units near residential or public areas where odor may be offensive.

- I. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
 1. Arrange with company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
 4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect. Neither the Owner nor Architect will accept cost or use charges as a basis of claims for Change Orders.
- B. Water Service: Contractor must pay for all water, gas and electric utility charges until substantial completion of the building. Contractor shall be responsible for water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
 1. Sterilization: Sterilize temporary water piping prior to use.
- C. Temporary Electric Power Service: Contractor must pay for all water, gas and electric utility charges until the substantial completion date of the building; this includes charges for both temporary and permanent utilities. The Contractor shall be responsible for the following as required. Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnects, automatic ground-fault interrupters, and main distribution switchgear.

1. Install electric power service underground, except where overhead service must be used.
 2. Power Distribution System: Install wiring overhead and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, ac 20 Ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
 3. DO NOT wire temporary lighting with plain exposed (insulated) connectors. Provide metal enclosures or boxes for wiring. Wire temporary lighting as required by local authorities having jurisdiction.
- D. Temporary Lighting: When overhead floor or roof deck has been installed, provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements without operating the entire system. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions as determined by Architect. Provide a minimum of 30 f.c. when finishes are being applied for painting, staining, floor tile installation, etc.
- E. Temporary Heat: Provide temporary heat required by construction activities for curing or drying of completed installations or for protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
- F. Heating Facilities: Except where the Owner authorizes use of the permanent system, provide vented, self-contained, LP-gas or fuel-oil heaters with individual space thermostatic control.
1. Use of gasoline-burning space heaters, open flame, or salamander heating units is prohibited.
- G. Temporary Telephones: Provide temporary telephone service throughout the construction period for all personnel engaged in construction activities. Install telephone on a separate line for each temporary office and first-aid station.
- a. Provide a dedicated telephone line for a fax machine in the field office (Contractor's option).
 - b. Where an office has more than 2 occupants, install a telephone appropriate to the number of occupants.
1. At each telephone, post a list of important telephone numbers including the following:
 - a. Local police and fire department.
 - b. Doctor.
 - c. Ambulance.
 - d. Contractor's temporary and home office.
 - e. Architect's office.
 - f. Engineer's office.
 - g. Owner's office.
 - h. Major subcontractor's temporary and home office.

- H. Sanitary facilities include temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
 - 1. Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Provide covered waste containers for used material.
- I. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
 - 1. Provide separate facilities for male and female personnel.
- J. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.
 - 1. Provide safety showers, eyewash fountains, and similar facilities for safety, and sanitation of personnel as required by authorities having jurisdiction.
- K. Drinking-Water Facilities: Provide containerized, tap-dispenser, bottled-water drinking-water units, including paper supply.
 - 1. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg F (7 to 13 deg C).
- L. Provide containers to remove and dispose of effluent off-site in a legal manner.
- M. Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of storm water from heavy rains.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.
 - 1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Provide incombustible construction for offices, shops, and sheds located within the construction area or within 30 feet (9 m) of building lines. Comply with requirements of NFPA 241.
- C. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate required office personnel at the Project Site. Keep the office clean and orderly for use for small progress meetings.
- D. Storage and Fabrication Sheds: Install storage and fabrication sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service.

Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on-site.

- E. Temporary Paving: Construct and maintain temporary roads and paving to support the indicated loading adequately and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas, and parking where the same permanent facilities will be located. Review proposed modifications to permanent paving with the Architect.
1. Paving: Comply with Division 2 Section "Hot-Mixed Asphalt Paving" for construction and maintenance of temporary paving.
 2. Coordinate temporary paving development with subgrade grading, compaction, installation and stabilization of subbase, and installation of base and finish courses of permanent paving.
 3. Install temporary paving to minimize the need to rework the installations and to result in permanent roads and paved areas without damage or deterioration when occupied by the Owner.
 4. Delay installation of the final course of permanent asphalt concrete paving until immediately before Substantial Completion. Coordinate with weather conditions to avoid unsatisfactory results.
 5. Extend temporary paving in and around the construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration, and supervision.
 6. Damage to streets and alleys from Contractor traffic shall be repaired by Contractor at no additional contract cost to the Owner.
- F. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division 2 Sections. Where feasible, utilize the same facilities. Maintain the site, excavations, and construction free of water.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 sq. ft. (2.3 sq. m) or less with plywood or similar materials.
 3. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
- H. Project Identification and Temporary Signs: Prepare project identification and other signs of size indicated. Install signs where directed to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative-treated wood or steel. Do not permit installation of unauthorized signs.
1. Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details indicated on drawing included at end of this section.
 2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors and for delivery vehicles.

3. Job Sign: Install job sign at location chosen by Owner. Drawing of required sign is at the end of this section.

- I. Temporary Exterior Lighting: Install exterior yard and sign lights so signs are visible when Work is being performed.
- J. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.
- K. Rodent and Pest Control: Before deep foundation work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- L. Stairs: Provide temporary stairs where ladders are not adequate.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Architect.
- B. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
 - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
 - 2. Store combustible materials in containers in fire-safe locations.
 - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
 - 4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
- C. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where

appropriate and needed, provide lighting, including flashing red or amber lights.

- E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
 - 1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
 - 2. Off-site storage of materials for temporary storage purposes shall be contained within fully bonded warehouse facilities and be fully insured.
- F. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.
- G. Contractor to provide temporary chainlink fence around active construction building site. Temporary fencing shall consist of 6' high chainlink fencing with support poles at 10' on center set in gravel filled post holes. Contractor to install gates with locks as required at locations to be determined by Contractor. The Contractor may utilize used fencing materials for this temporary safety fence. Unless the Architect requests that fencing be maintained longer, the Contractor shall remove temporary fencing when the need has ended, when replaced by authorized use of permanent facility, or no later than substantial completion. Materials that constitute temporary fencing are the Contractor's property and shall remain the Contractor's property after removal of such fencing.
- H. Post warning signs that trespassing is not permitted, that area is a construction area and is hazardous.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary

facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are the Contractor's property. The Owner will take possession of project identification signs; after project is complete, Contractor is to remove signs and deliver to Nichols Bus Compound.
2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
3. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
 - a. Replace air filters and clean inside of ductwork and housings.
 - b. Replace significantly worn parts and parts subject to unusual operating conditions.
 - c. Replace lamps burned out or noticeably dimmed by hours of use.
 - d. Clean all exposed structure where no ceiling occurs.
 - e. Repair/Replace damaged or discolored sidewalk and pavement, including public streets.

- D. Job Signs: Provide and install at locations chosen by Architect. Refer to drawing on the following page. Contractor name to be provided after bidding.

END OF SECTION 01500

SECTION 01524 - CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:

- 1. Salvaging non-hazardous demolition and construction waste
- 2. Recycling non-hazardous demolition and construction waste
- 3. Disposing of non-hazardous demolition and construction waste

- B. Related Sections include the following:

- 1. Division 1 Section "Summary of Multiple Contracts" for coordination of responsibilities for waste management.
- 2. Division 2 Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements, and for disposition of hazardous waste.
- 3. Division 2 Section "Building Demolition" for disposition of waste resulting from demolition of buildings, structures, and site improvements, and for disposition of hazardous waste.
- 4. Division 2 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.
- 5. Division 4 Section "Unit Masonry Assemblies" for disposal requirements for masonry waste.
- 6. Section 01040 "Coordination" for coordination of responsibilities for waste management.
- 7. Section 01352 "LEED Requirements."
- 8. Section 01500 "Construction Facilities and Temporary Controls" for environmental-protection measures during construction, and location of waste containers at project site.
- 9. Section 01800 "Sustainable Design Requirements."
- 10. Section 02230 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, paint, or the like.
- B. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

- C. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- D. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- E. Diversion: Avoidance of demolition and construction waste sent to landfill or incineration. Diversion does not include using materials for landfill, alternate daily cover on landfills, or materials used as fuel in waste-to-energy processes
- F. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity
- G. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse
- 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. Salvage: Recovery of demolition or construction waste and subsequent reuse or sale in another facility
- J. Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work
- K. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste
- L. Toxic: Poisonous to humans either immediately or after a long period of exposure
- M. Trash: Any product or material unable to be reused, returned, recycled, or salvaged
- N. 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.

1.4 PERFORMANCE REQUIREMENTS

- A. The Owner has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
- B. Of the waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills or incinerators shall be minimized, thereby reducing disposal costs.
- C. Develop and implement a construction waste management plan that results in end-of-project rates for salvage/recycling of 95% (by weight) of construction and demolition waste.

D. Salvage/Recycle Requirements: Salvage and recycle as much non-hazardous demolition and construction waste as possible, including the following materials:

1. Demolition waste:

- a. Asphaltic concrete paving
- b. Concrete
- c. Concrete reinforcing steel
- d. Brick
- e. Concrete masonry units
- f. Wood studs
- g. Wood joists
- h. Plywood and oriented strand board
- i. Wood paneling
- j. Wood trim
- k. Structural and miscellaneous steel
- l. Rough hardware
- m. Roofing
- n. Insulation
- o. Doors and frames
- p. Door hardware
- q. Windows
- r. Glazing
- s. Metal studs
- t. Gypsum board
- u. Acoustical tile and panels
- v. Carpet
- w. Carpet pad
- x. Demountable partitions
- y. Equipment
- z. Cabinets
- aa. Plumbing fixtures
- bb. Piping
- cc. Supports and hangers
- dd. Valves
- ee. Sprinklers
- ff. Mechanical equipment
- gg. Refrigerants
- hh. Electrical conduit
- ii. Copper wiring
- jj. Lighting fixtures
- kk. Lamps
- ll. Ballasts
- mm. Electrical devices
- nn. Switchgear and panelboards
- oo. Transformers

2. Construction waste:

- a. Masonry and CMU
- b. Site-clearing waste

- c. Lumber
- d. Wood sheet materials
- e. Wood trim
- f. Metals
- g. Roofing
- h. Insulation
- i. Carpet and pad
- j. Gypsum board
- k. Unused (leftover) paint
- l. Piping
- m. Electrical conduit
- n. Packaging: Regardless of salvage/recycle requirement indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
 - 1) Paper
 - 2) Cardboard
 - 3) Boxes
 - 4) Plastic sheet and film
 - 5) Polystyrene packaging
 - 6) Wood crates
 - 7) Plastic pails
- o. Beverage and packaged food containers

1.5 SUBMITTALS

- A. Construction Waste Management Plan (CWMP): It is the intent of this specification to maximize the diversion of demolition and construction waste from landfill disposal. Accordingly, within 60 days of receipt of Notice to Proceed and prior to the generation of any waste, prepare and submit a draft Construction Waste Management Plan in accordance with this section including, but not limited to, the following:
 - 1. Procedures for Recycling/Reuse Program to divert a minimum of 95% (by weight) of construction and demolition waste from landfill disposal, including waste resulting from demolition of any existing building and site paving scheduled for demolition; any site paving is required to be ground on site and reused as granulated fill on site.
 - 2. Approval of the Contractor's CWMP shall not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.
- B. Submits a 3-ring binder with calculations on end-of-project recycling rates, salvage rates, and landfill rates itemized by waste material, demonstrating that a minimum of 95% of construction wastes were recycled or salvaged and diverted from landfill. Include documentation of recovery rate (if commingled), waste hauling certificates or receipts, and a brief narrative explaining how and to where each waste type has been diverted.
- C. Construction Waste Management Plan: Submit four copies of plan within 45 days of date established for the Notice to Proceed.

- G. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax-exempt.
- H. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- I. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills (or transfer stations) and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- J. LEED Submittal: LEED template form for Credit MR 2.1, 2.2 and corresponding ID credit signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.
- K. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6 QUALIFICATION DATA: FOR WASTE MANAGEMENT COORDINATOR

- A. Regulatory Requirements: Comply with all applicable local ordinances and regulations.
- B. Waste Management Meetings: Conduct an initial conference at Project Site to comply with requirements in Division 1 Section "Coordination." Contractor shall include discussions on construction waste management requirements in the preconstruction meeting. Contractor shall include discussions on construction waste management requirements in the regular job meetings conducted during the course of the Project; at these meetings, review methods and procedures related to waste management including, but not limited to, the following:
 - 1. Review and discuss waste management plan including responsibilities of the Waste Management Coordinator.
 - 2. Review requirements for documenting quantities of each type of waste and its disposition.
 - 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 - 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 - 5. Review waste management requirements for each trade.

1.7 CONSTRUCTION WASTE MANAGEMENT PLAN

- A. General: Develop and implement a CWMP consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Include separate sections in plan for demolition and construction waste. Indicate quantities by weight or volume, but use the same units of measure throughout the CWMP.

- B. Draft Construction Waste Management Plan: Within 30 days after receipt of Notice to Proceed, or prior to any waste removal, whichever occurs sooner, the Contractor shall submit to the Owner and Architect a Draft Waste Management Plan.
- C. Final Construction Waste Management Plan: Once the Owner has determined which of the recycling options addressed in the draft Waste Management Plan are acceptable, the Contractor shall submit, within 10 calendar days, a Final Waste Management Plan.
- D. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- E. Landfill Options: Indicate the name of the landfill(s) and/or transfer station(s) and/or incinerator(s) where trash will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all Project waste in the landfill(s).
- F. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, re-used, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 - 6. Handling and Transportation Procedures: Describe method that will be used for separating recyclable waste, including sizes of containers, container labeling, and designated location on Project Site where materials separation will be located.
- G. Materials: The following list of required materials, at a minimum, must be included for salvaging/recycling:
 - 1. Cardboard
 - 2. Clean dimensional wood
 - 3. Beverage and food containers
 - 4. Paper
 - 5. Concrete
 - 6. Concrete Masonry Units (CMUs)
 - 7. Brick