Grusin Hall
IMIG Music Building
University of Colorado
Boulder, CO 80309

Project Name: MUS – Room C112 – Lower Grusin Stage
Project No: PR 005283

PROJECT MANUAL
TABLE OF CONTENTS
SPECIFICATIONS

PROCEDURAL DOCUMENTS AND CONTRACT FORMS

1. Advertisement for Bids
2. Information for Bidders
3. Contractors Working on Government Projects (City of Boulder Sales & Use Tax Form)
4. Location Map
5. Contractors Experience Statement
6. Bid Form
7. Bid Alternates Form
9. Bid Bond
10. Notice of Award
11. Contractor’s Agreement
12. Performance Bond
13. Labor and Material Payment Bond
14. General Conditions of the Contract
15. Supplemental General Conditions
16. Change Order Bulletin
17. Change Order Proposal
18. Change Order
19. Request for Information
20. Environmental Site Assessment Form
21. Notice to Proceed
22. Certification and Affidavit Regarding Unauthorized Immigrants
23. Notice of Partial Substantial Completion
24. Notice of Substantial Completion
25. Notice of Pre-Acceptance Punch List
26. Partial Final Acceptance
27. Notice of Final Acceptance
28. Notice of Partial Contractor’s Settlement
29. Notice of Contractor’s Settlement
30. Notice of Approval of Occupancy/Use
31. Pre-Acceptance Checklist
32. Closing-out Checklist
33. Contract Close-out Final Punch List
34. Post Construction Warranty Report
35. Notice to Contractors: Environmental Responsibilities Environmental & Safety Reminders
36. Pre-Acceptance PunchList
37. Certificate for Contractor’s Payment
38. Submittal Log

DIVISION 01 - GENERAL REQUIREMENTS
010000 General
011000 Summary of Work
011010 Special Project Procedures
011020 Administration and Supervision
011021 Hazardous Material Procedures
011060 Regulatory Requirements
011075 Specification System
012100 Allowances
012300 Alternates
013100 Project Coordination
013110 Mechanical and Electrical Coordination
013120 Project Meetings
013300 Submittals, Shop Drawings, Product Data, and Samples
014000 Quality Control
015000 Temporary Facilities
015080 Project Identification Sign (Not Applicable)
016000 Material and Equipment
017310 Cutting and Patching
017700 Contract Close-Out
017710 Cleaning
017823 Operating And Maintenance
017839 Project Record Document
019113 Commissioning Requirements

DIVISION 02 - EXISTING CONDITIONS
024119 Selective Structure Demolition

DIVISION 03 - CONCRETE
033000 Cast-In-Place Concrete
036000 Grouting

DIVISION 04 - MASONRY
Not Applicable

DIVISION 05 - METALS
055213 Pipe and Tube Railings

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES
061000 Rough Carpentry
061500 Wood Decking
064023 Interior Architectural Woodwork

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
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<table>
<thead>
<tr>
<th>DIVISION 08 - OPENINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>081113 Hollow Metal Doors and Frames</td>
</tr>
<tr>
<td>081416 Flush Wood Doors</td>
</tr>
<tr>
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<table>
<thead>
<tr>
<th>DIVISION 09 - FINISHES</th>
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<tbody>
<tr>
<td>092216 Non-Structural Metal Framing</td>
</tr>
<tr>
<td>092613 Gypsum Veneer Plastering</td>
</tr>
<tr>
<td>092900 Gypsum Board</td>
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<tr>
<td>096400 Wood Flooring</td>
</tr>
<tr>
<td>099123 Interior Painting</td>
</tr>
<tr>
<td>099300 Staining and Transparent Finishing</td>
</tr>
<tr>
<td>099646 Intumescent Painting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION 10 - SPECIALTIES</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION 11 - EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>116143 Stage Curtains</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION 12 - FURNISHINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION 13 - SPECIAL CONSTRUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION 14 - CONVEYING EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>144300 Piano Lifts</td>
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</table>

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<tr>
<th>DIVISION 21 - FIRE SUPPRESSION</th>
</tr>
</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>DIVISION 22 - PLUMBING</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION 26 - ELECTRICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>260500 Electrical General Provisions</td>
</tr>
<tr>
<td>260519 Conductors</td>
</tr>
<tr>
<td>260526 Grounding</td>
</tr>
<tr>
<td>260533 Raceways</td>
</tr>
<tr>
<td>260535 Boxes and Fittings</td>
</tr>
<tr>
<td>262726 Wiring Devices and Plates</td>
</tr>
<tr>
<td>265100 Lighting Fixtures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION 27 - COMMUNICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>271800 Interior Telecommunications Pathways</td>
</tr>
</tbody>
</table>
DIVISION 28 - ELECTRONIC SAFETY AND SECURITY
Not Applicable

DIVISION 31 - EARTHWORK
310100 Basic Site Materials & Methods

DIVISION 32 - EXTERIOR IMPROVEMENTS
Not Applicable

DIVISION 33 - UTILITIES
Not Applicable

END OF TABLE OF CONTENTS
ADVERTISEMENT FOR BIDS
State of Colorado
University of Colorado
Notice Number: 10-06

Project No: PR 005283
Project Title: MUS – RM C112 – Lower Grusin Stage
Estimated Construction Cost: $488,591.00

Project Description
The project is a renovation inside Grusin Hall, the main performance space in the Imig Music Building. There are several issues that this renovation seeks to solve. Primary goals are the mitigation of noise issues from a variety of sources, reconstruction of the stage to improve the room acoustics of the hall, and improvement of the lighting over the stage. Secondary goals are the improvement of lighting over the seating areas, the addition of adjustable acoustical absorption in the form of retractable theater curtains, and making the side walls of the seating area similar to the side walls of the stage. Thus this document package is organized as a base bid package addressing the primary goals of the project, and additive alternates addressing the secondary goals of the project.

Project Information
1. The Principal Representative has determined that the entire project shall be substantially complete within 90 calendar days, from the date of the Notice to Proceed, and the project shall be finally complete, including the delivery of any or all guarantees and warranties, the submittal of sales and use tax payment forms, the completion of the final punch list and the calling for final inspection, within 30 calendar days, if applicable, from the date of substantial completion. In accordance with Article 46 of the General Conditions of the Contract, Time of Completion and Liquidated Damages, failure to complete the work within the agreed number of calendar days shall be considered breach of contract and subject the bidder to liquidated damages to the extent specified in Article 54D of the General Conditions of the Contract.

2. The right is reserved to waive informalities or irregularities and to reject any and all Bids.

3. Bidders may procure Bidding Documents at the mandatory prebid meeting February 26, 2010 at 9:00 AM. in Imig Music Building, Grusin Hall, Room C112, Boulder, CO 80309

4. A $50.00 is required for each complete set of Contract Documents. Make check payable to Studio H&T, Inc. This deposit shall be a guaranty that the documents will be returned in good condition. Such deposits will be returned to (1) Actual Bidders who return the documents before the termination of five (5) business days after the opening of the Bids, (2) Other interested parties who return the documents within five (5) business days after checking them out. Additional copies of any documents, drawings, or specifications will be supplied at the actual cost of reproduction. Bidders desiring the Architect/Engineer to mail bid documents will be required to pay the full cost of mailing. Such expenses will be non-refundable.

5. Each Bid shall be submitted on the required Bid Form and must be accompanied by a Bid Bond on State Buildings Programs Bid Bond Form Sc-6.14 in an amount not less than 5% of the total Bid. The Bid Bond may also be (1) a cashier's check or (2) a certified check made payable to the Treasurer of the State of Colorado in an amount not less than 5% of the total Bid. The Bid Bond is submitted as a guaranty that the Bid will be maintained in full force and effect for a period of thirty (30) days after the opening of the Bids for the project.
6. The Bidder promises, in submitting his Bid, that if issued a Notice of Award, he will, within the prescribed time, execute the required Agreement, furnish the required Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance, or forfeit his Bid Guaranty as Liquidated Damages.

7. Preference shall be given to Colorado resident bidders and for Colorado labor, as provided by law.

Pre-Bid Meeting

A mandatory Pre-Bid Meeting will be held on February 26, 2010 at 9:00 AM. at IMIG Music Building, Grusin Hall, Room C112, Boulder, CO 80309.

Comments: N/A

Sealed Bids will be received from qualified contractors until this date and time at this location:
Date & Time: March 12, 2010 2:00 PM.

Address: Department of Facilities Management, Research Laboratory No. 2, 1540 30th Street, Room 321, Boulder, CO 80309

Point of Contact
Name: M.S. Leon Palmer, Project Manager
Agency: University of Colorado at Boulder
Phone: 303-944-8394
Fax: 303-492-4082
Email: Leon.palmer@colorado.edu

This Notice is also available on the web at www.colorado.gov/dpa/dfp/sbrep

Media of Publication(s): The Daily Journal
Publication Dates: 02/18/10
Note to Editor: Transmit one copy of the Affidavit of Publication, and invoice to:

University of Colorado at Boulder
Department of Facilities Management
Campus Box 453 UCB
Boulder, CO 80309-0453
1. **BID FORM:** Bidders are required to use the Bid form attached to the bidding documents. Each bidder is required to bid on all alternates and indicate the time to substantial completion in calendar days, and if applicable because designated in the Advertisement For Bids, the bidder is required to indicate the period of time agreed to finally complete the project after the date of substantial completion, also in calendar days. Bids indicating times for substantial completion or final acceptance in excess of the number of days indicated in the Advertisement for Bids may be found non-responsive and may be rejected. The bid shall not be modified or conditioned in any manner. Bids shall be submitted in sealed envelopes bearing the address and information shown below. If a bid is submitted by mail, this aforementioned sealed envelope should be enclosed in an outer envelope and sent to the following addressee:

**INSERT NAME OF AGENCY AND ADDRESS WHERE BID SHOULD BE DELIVERED**

The outside of the sealed inner envelope should bear the following information:

- **Project #** PR 005283
- **Project Name** MUS – Room C112 – Lower Grusin Stage
- **Name and Address of Bidder** __________________________________________________
- **Date of Opening** 03/12/10
- **Time of Opening** 2:00 PM

A bid with missing or inconsistent information may be considered non-responsive and may not be evaluated. The University will be the sole judge in determining the acceptability of an offer. The University also reserves the right to reject any or all bids in part or in whole and to waive technicalities. Any decision shall be considered final.

2. **INCONSISTENCIES AND OMISSIONS:** Bidders may request clarification of any seeming inconsistencies, or matters seeming to require explanation, in the bidding documents at least three (3) business days prior to the time set for the opening of Bids. Decisions of major importance on such matters will be issued in the form of addendum.

3. **APPLICABLE LAWS AND REGULATIONS:** The bidder’s attention is called to the fact that all work under this Contract shall comply with the provisions of all state and local laws, approved state building codes, ordinances and regulations which might in any manner affect the work to be done or those to be employed in or about the work. Attention is also called to the fact that the use of labor for work shall be governed by the provisions of Colorado law which are hereinafter set forth in Articles 27 and 52E of the GENERAL CONDITIONS.

4. Note that the Special Provisions of the General Conditions of the Contract includes the following language: **UNAUTHORIZED IMMIGRANTS – PUBLIC CONTRACTS FOR SERVICES - CRS 8-17.5-101 and 24-76.5-101.** The Contractor certifies that the Contractor shall comply with the provisions of CRS 8-17.5-101 et seq. The Contractor shall not knowingly employ or contract with an illegal alien to perform work under this contract or enter into a contract with a subcontractor that fails to certify to the Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract. The Contractor represents, warrants, and agrees that it (i) has verified that it does not employ any illegal aliens, through participation in the Basic Pilot Employment Verification Program administered by the Social Security Administration and Department of Homeland Security, and (ii) otherwise will comply with
the requirements of CRS 8-17.5-102(2)(b). The Contractor shall comply with all reasonable requests made in the course of an investigation under CRS 8-17.5-102 by the Colorado Department of Labor and Employment. If the Contractor fails to comply with any requirement of this provision or CRS 8-17.5-101 et seq., the State may terminate this contract for breach and the Contractor shall be liable for actual and consequential damages to the State.

A Contractor that operates as a sole proprietor hereby swears or affirms under penalty of perjury that the Contractor (i) is a citizen of the United States or otherwise lawfully present in the United States pursuant to federal law, (ii) shall comply with the provisions of CRS 24-76.5-101 et seq, and (iii) shall produce one of the forms of identification required by CRS 24-76.5-103 prior to the effective date of this Contract. Except where exempted by federal law and except as provided in CRS 24-76.5-103(3), a Contractor that receives federal or state funds under this contract must confirm that any individual natural person eighteen years of age or older is lawfully present in the United States pursuant to CRS 24-76.5-103(4) if such individual applies for public benefits provided under this contract.

5. **TAXES:** The bidder’s attention is called to the fact that the Bid submitted shall exclude all applicable federal excise or manufacturers’ taxes and all state sales and use taxes as hereinafter set forth in Article 9C of the GENERAL CONDITIONS.

6. **OR EQUAL:** The words “OR EQUAL” are applicable to all specifications and drawings relating to materials or equipment specified. Any material or equipment that will fully perform the duties specified, will be considered “equal”, provided the bid submits proof that such material or equipment is of equivalent substance and function and is approved, in writing. Requests for the approval of “or equal” shall be made in writing at least five (5) business days prior to bid opening. During the bidding period, all approvals shall be issued by the Architect/Engineer in the form of addenda at least two (2) business days prior to the bid opening date.

7. **ADDENDA:** Owner/architect initiated addenda shall not be issued later than two (2) business days prior to bid opening date. All addenda shall become part of the Contract Documents and receipt must be acknowledged on the Bid form.

8. **METHOD OF AWARD - LOWEST RESPONSIBLE BIDDER:** If the bidding documents for this project require alternate prices, additive and/or deductible alternates shall be listed on the alternates bid form provided by the Principal Representative. Bidders should note the Method of Award is applicable to this Bid as stated below.

   A. **DEDUCTIBLE ALTERNATES:** The lowest responsible Bid, taking into account the Colorado resident bidder preference provision of Colorado law, will be determined by and the contract will be awarded on the base bid combined with deductible alternates, deducted in numerical order in which they are listed in the alternates bid form provided by the Principal Representative. The subtraction of alternates shall result in a sum total within available funds. If this bid exceeds such amount, the right is reserved to reject all bids. An equal number of alternates shall be subtracted from the base bid of each bidder within funds available for purposes of determining the lowest responsible bidder.

   B. **ADDITIVE ALTERNATES:** The lowest responsible Bid, taking into account the Colorado resident bidder preference provision of Colorado law, will be determined by and the contract will be awarded on the base bid plus all additive alternates added in the numerical order in which they are listed in the alternates bid form provided by the Principal Representative. The addition of alternates shall result in a sum total within available funds. If this bid exceeds such amount, the right is reserved to reject all bids. An equal number of alternates shall be added to the base bid of each bidder within funds available for purposes of determining the lowest responsible bidder.

   C. **DEDUCTIBLE AND ADDITIVE ALTERNATES:** Additive alternates will not be used if deductible alternates are used and deductible alternates will not be used if additive alternates are used.

The Advertisement for Bids can be located at the web site: [www.colorado.gov/dpa/dfp/sbrep/constructdesign.htm](http://www.colorado.gov/dpa/dfp/sbrep/constructdesign.htm) (Click on the link below the second paragraph Colorado Construction and Design Notices)
9. **CONTRACTOR QUALIFICATIONS:**

A. Prime Contractors:

   a. Prime Contractors bidding this project must complete “University of Colorado (UCB) Contractor Statement of Experience,” and submit it with their Bid.

   b. The Prime Contractor must meet the following minimum requirements and provide written information substantiating their qualifications for evaluation. A Bidder may be found to be non-responsive and their bid rejected if the minimum requirements are not met.

   1. The Prime Contractor must have successfully completed three (3) projects of $490,000.00 (or larger) in the last five (5) years which were similar in complexity and type to this project. For each project list:

      Name and location of project, along with a brief description of the project (include size & function).
      Name, address and phone number of client/owner and their representative.
      Contract value and type of contract (prime or subcontract).
      Year in which work was completed.

   2. The Contractor must have successfully completed an aggregate of $1,147,000.00 of projects in the last five (5) years which were similar in complexity and type on which he acted as the prime contractor (may be the same projects listed in item (1), if applicable).

   3. The firm must have been in business as a Contractor for the last five (5) years.

B. Subcontractors

   a. The Prime Contractor is required to provide subcontractors which meet minimum qualifications for the trades listed below.

      The right is reserved to reject subcontractors that do not meet the minimum requirements. The Prime Contractor will be required to replace rejected subcontractor(s) with one(s) that meet the minimum requirements with no increase in the Bid Amount prior to the Award of Contract.

      Prime Contractor and Subcontractor(s) are advised that there are conditions within the Contract Documents requiring special knowledge and experience to properly execute. The University will require verification of experience to adequately provide materials and perform labor required for the following:
      - Electrical
      - Mechanical

   b. For the trades listed (subcontractors) above, the apparent low bidder must submit, within 72 hours of receipt of bids except for holidays and weekends, the “University of Colorado Contractor’s Statement of Experience.

   c. In addition to the information requested in Item (1), the Subcontractor must meet the following minimum requirements and provide written information substantiating their qualifications for evaluation. A Bidder may be found to be non-responsive and their bid rejected if the minimum requirements are not met.

      1. The firm must have been in business for the last five (5) years as trade proposed for this work.

      2. The firm must have successfully completed at least two (2) projects of similar size, type, and complexity in the last five (5) years. The information must include the following:

         a. Building type description (function use)
         b. Building gross square footage
         c. Subcontract description (be specific)
(d) Subcontract amount
(e) Subcontract change orders
(f) Building owner representative and current telephone number
(g) Building architect name and current telephone number
(h) General contract name and current telephone number

This firm shall give evidence of being able to be bonded up to the value of his work for this project. A letter shall be provided by the bonding agency assuring capability of bonding this subcontract amount.

10. **SITE ACCESS:** Contractors / Bidders may schedule a time subsequent to the Site Inspection / Pre-bid Conference to take measurements or further observe existing conditions by contacting:

Leon Palmer, Project Manager  
University of Colorado at Boulder  
Department of Facilities Management  
(303) 944-8394

11. **BID SCHEDULE:**

<table>
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<tr>
<th>Event</th>
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<tr>
<td>Publication date</td>
<td>02/18/10</td>
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<tr>
<td>Plans specification available</td>
<td>02/26/10 at pre-bid meeting</td>
</tr>
<tr>
<td>Mandatory pre-bid conference</td>
<td>02/26/10 9:00 AM</td>
</tr>
<tr>
<td>Last day for questions</td>
<td>03/08/10 4:00 PM</td>
</tr>
<tr>
<td>Last day for addenda issue</td>
<td>03/10/10 4:00 PM</td>
</tr>
<tr>
<td>Bid date</td>
<td>03/12/10 2:00 PM</td>
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END
City of Boulder
Sales/Use Tax Division
303-441-3050

CONTRACTORS WORKING ON NON-CITY PERMITTED PROJECTS

To all Contractors working within the City of Boulder:

Under Boulder's Revised Code, the contractor is deemed to be the consumer of materials used in the construction project. Contractors may not avoid payment of the City of Boulder sales or use tax by placing provisions in a construction agreement or by using the name of a tax-exempt entity on an invoice or purchase order, regardless that the contractor is indicated thereon as the agent of a tax-exempt entity. **No exemption certificate issued by the Colorado Department of Revenue or any other taxing authority shall be recognized as a basis for exemption from sales or use taxes.**

Estimated use tax must be remitted to the City of Boulder prior to the start of the project. The tax is computed on the full contract price of the project. Follow these steps to compute and remit the sales/use tax to the City:

1. Multiply the full contract price by 0.5 and then multiply the resulting product by the tax rate of 3.41% (0.0341). This is the tax that is due to the City prior to the start of the project.
2. Remit the tax to the Sales Tax Department at 1777 Broadway, P.O. Box 791, Boulder, CO 80306-0791 along with a copy of this completed form.
3. At the completion of the project the construction company has two options for closing out the project with the city.
   - Use the formula in (1.) above to compute the final tax due based on the final contract price (including all change orders). Remit the additional tax due or file a request for refund with the City; or
   - Request that the city perform a full audit. Contact Ed Kaiser at 303-441-3921 or kaisere@bouldercolorado.gov to inform the City of which option you have chosen.

Contractor Name: ________________________________
Address: ________________________________
Phone #: ________________________________ Contact Person: ________________________________
Project Name: ________________________________
Project Address: ________________________________

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<tr>
<th>Full Contract price</th>
<th>A. ________________________________</th>
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<tr>
<td>Multiply ‘A’ by 0.5</td>
<td>B. ________________________________</td>
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<tr>
<td>Multiply ‘B’ by 0.0341</td>
<td>C. ________________________________</td>
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“C” is the amount of tax due to the City of Boulder. If you have any questions regarding sales/use tax or this process, contact Ed Kaiser at the above phone number or address.

Date received: ________________________________ City Authority Signature: ________________________________

1777 BROADWAY P.O. BOX 791 BOULDER, CO 80306 303/441-3921
University of Colorado at Boulder

CONTRACTOR’S STATEMENT OF EXPERIENCE

Project Name: MUS – Room C112 – Lower Grusin Stage

Project No. PR 005283

Project Manager: M. S. Leon Palmer
Phone: 303-944-8394
Email: Leon.Palmer@colorado.edu

Architect/Engineer: Studio H:T, Inc.

Mr. Christopher Herr
1445 Pearl Street #208
Boulder, CO 80302
Phone #: (303) 247-0405
Fax #: (303) 444-4143
Email Address: crh@studioht.com
This is a project specific qualification form. Contractor must fill this out on each project.
<table>
<thead>
<tr>
<th>Document Type</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION FORM</td>
<td>Page 1</td>
</tr>
<tr>
<td>TYPES OF WORK</td>
<td>Page 2</td>
</tr>
<tr>
<td>IDENTIFICATION FORM</td>
<td>Page 3, 4</td>
</tr>
<tr>
<td>PERSONNEL OF ORGANIZATION FORM</td>
<td>Page 5</td>
</tr>
<tr>
<td>PROJECT EXPERIENCE FORM</td>
<td>Page 6</td>
</tr>
<tr>
<td>WORK CURRENTLY UNDER CONTRACT FORM</td>
<td>Page 7</td>
</tr>
<tr>
<td>SURETIES FORM</td>
<td>Page 8</td>
</tr>
<tr>
<td>CORPORATION / CO-PARTNERSHIP FORM</td>
<td>Page 9</td>
</tr>
<tr>
<td>AFFIDAVIT FOR CORPORATION</td>
<td>Page 10</td>
</tr>
<tr>
<td>AFFIDAVIT FOR CO-PARTNERSHIP</td>
<td>Page 11</td>
</tr>
<tr>
<td>AFFIDAVIT FOR INDIVIDUAL</td>
<td>Page 12</td>
</tr>
<tr>
<td>BIDDING INFORMATION</td>
<td>Page 13</td>
</tr>
</tbody>
</table>
UNIVERSITY OF COLORADO AT BOULDER  
CONTRACTOR’S QUALIFICATION STATEMENT  

INFORMATION FORM  

STATEMENT OF ____________________________________________  
(Contractor)  

ADDRESS ____________________________________________  
(Street or PO Box) (City) (State) (Zip)  

TELEPHONE/FAX NO. __________________________  
(telephone)  
________________________  
(fax)  

DATE OF EXPERIENCE STATEMENT ____________________________  

PRINCIPLE OWNER/OFFICER ____________________________________________  
(Names(s) and Official Title(s))  

Please indicate below if your company qualifies as one of the following:  

Minority Business Enterprise (MBE) YES __ NO ___  
Justification: ____________________________________________  

________________________________________  

________________________________________  

________________________________________  

Woman-Owned Business Enterprise (WBE) YES __ NO ___  
Justification: ____________________________________________  

________________________________________  

________________________________________  

________________________________________  

Small Business Enterprise (SBE) YES __ NO ___  
Justification: ____________________________________________  

________________________________________  

________________________________________  

________________________________________  

Disadvantaged Business Enterprise (DBE) YES __ NO ___  
Justification: ____________________________________________  

________________________________________  

________________________________________  

________________________________________
UNIVERSITY OF COLORADO AT BOULDER
CONTRACTOR’S QUALIFICATION STATEMENT

TYPES OF WORK

(1) If you are a General Contractor interested in bidding on all types of construction, mark “All Classes of Construction” only.

(2) If you are interested in contracting directly with the University for certain types of work only, mark in the column provided after the particular types of work on which you wish to bid.

<table>
<thead>
<tr>
<th>TYPES OF WORK</th>
<th>MARK WITH (X)</th>
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<tbody>
<tr>
<td>1. All Classes of Construction</td>
<td></td>
</tr>
<tr>
<td>2. General</td>
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<td>3. Mechanical</td>
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<td>4. Electrical</td>
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<td>5. Excavating and Grading</td>
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<td>6. Concrete</td>
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<td>7. Structural Steel</td>
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<td>8. Steel and Miscellaneous Iron</td>
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<td>9. Painting and Decorating</td>
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<td>10. Laboratory Equipment</td>
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<td>11. Elevator Installation</td>
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<td>12. Plumbing</td>
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<td>13. Heating and Ventilating</td>
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<td>14. Air Conditioning</td>
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<tr>
<td>15. Boiler and Equipment</td>
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<td>16. Environmental (Describe)</td>
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<td>17. Other (Describe)</td>
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<td>18. Other (Describe)</td>
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<td>19. Other (Describe)</td>
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<tr>
<td>20. Other (Describe)</td>
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</tbody>
</table>
UNIVERSITY OF COLORADO AT BOULDER
CONTRACTOR’S QUALIFICATION STATEMENT

IDENTIFICATION

(The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to questions hereinafter made.)

LEGAL NAME

PRINCIPAL OFFICE

(Street or PO Box) (City) (State) (Zip)

_____ A Corporation _____ A Copartnership _____ An Individual _____ Combination

GENERAL INFORMATION

A. Are you licensed as a contractor? Yes ( ) No ( )

Licensed in the name of Location License No. & Type

B. How many years has your organization been in business as a contractor under your present business name?

C. How many years experience in construction work has your organization had? (Type)

(a) As a prime contractor? (b) As a subcontractor?

D. Have you or your organization, or any officer or partner thereof, failed to complete a contract? __________

If so, give details

E. If you have a controlling interest in any firms presently qualified with the University, show names thereof:

F. We normally perform ______% of the work with our own forces.

List trades:

Where qualification is based on a combination of several organizations, show the experience and equipment of the combined organizations.
G. Has your firm been involved in any litigation in the past five (5) years?  Yes (  ) No (  )
If yes, explain (listing type, kind, plaintiff, defendant, etc. and state the current status).

H. Are there any activities or interests of officers, principle stockholders, or employees of your firm or other factors which would place your firm and the University of Colorado at Boulder in a position of “Conflict of Interests”?
Yes (  ) No (  ) If yes, or in doubt, explain.

I. Has your firm ever been involved in any bankruptcy action as a bankrupt?
Yes (  ) No (  ) If yes, explain.
1. Name the persons with whom you have been associated in business as partners or business associates in each of the last five (5) years.

2. Show the construction experience of the principal individuals of your present organization in the following tabulation:

<table>
<thead>
<tr>
<th>Individual’s Name or Office in Your Organization</th>
<th>Present Position or Office in Your Organization</th>
<th>Years of Construction Experience</th>
<th>Magnitudes and Type of Work</th>
<th>In What Capacity</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
UNIVERSITY OF COLORADO AT BOULDER
CONTRACTOR’S QUALIFICATION STATEMENT

PROJECT EXPERIENCE

Show the projects your organization has completed during the last five years in the following tabulation:

<table>
<thead>
<tr>
<th>Year Completed</th>
<th>Project</th>
<th>Type of Work (See Page 2)</th>
<th>Location</th>
<th>Contract Value</th>
<th>Contracting Authority</th>
<th>In what Capacity</th>
</tr>
</thead>
</table>
# UNIVERSITY OF COLORADO AT BOULDER
## CONTRACTOR’S QUALIFICATION STATEMENT

### WORK CURRENTLY UNDER CONTRACT

<table>
<thead>
<tr>
<th>Expected Completion Date</th>
<th>Project</th>
<th>Type of Work (See Page 1)</th>
<th>Location</th>
<th>Contract Value</th>
<th>Contracting Authority</th>
<th>Architect or Engineer</th>
</tr>
</thead>
</table>
SURETIES

List the Surety Companies that have bonded your work for the past five (5) years:

<table>
<thead>
<tr>
<th>Name of Surety and Name and Address of Agent</th>
<th>Project and Location</th>
<th>Period of Bond From</th>
<th>Period of Bond To</th>
<th>General Comments</th>
</tr>
</thead>
</table>


UNIVERSITY OF COLORADO AT BOULDER
CONTRACTOR’S QUALIFICATION STATEMENT

CORPORATION / CO-PARTNERSHIP

CORPORATION:
(If a corporation, answer this:)

When Incorporated

In What State

President’s Name

Vice President’s Name

Secretary’s Name

Treasurer’s Name

CO-PARTNERSHIP:
(If a co-partnership, answer this:)

Date of Organization

State whether partnership is general, limited, or association

Name and address of each partner:

__________________________    __________________________
(name)  (name)

__________________________    __________________________
(address) (address)

WHERE QUALIFICATION IS BASED ON A COMBINATION OF ORGANIZATIONS, THE APPROPRIATE (ATTACHED) AFFIDAVITS MUST BE EXECUTED FOR EACH MEMBER OF SUCH COMBINATION.
AFFIDAVIT FOR CORPORATION

_________________________________________________________ certifies and says: That he is

(Name of officer)

_________________________________________________________ of the ______________________________________

(Official capacity)

corporation submitting this statement of experience: that he/she has read the same, and that the same is true of his/her own knowledge: that the statement is for the purpose of inducing the University of Colorado to supply the submittor with plans and specifications, and that any vendor, or other agency therein named is hereby authorized to supply the University of Colorado with any information necessary to verify the statement: and that furthermore, should this statement at any time cease to properly and truly represent his/her condition in any substantial respect, it will refrain from further bidding on University work until it shall have submitted a revised and corrected statement.

I certify and declare under penalty of perjury that the foregoing is true and correct:

Subscribed on ___________ at ___________ , ___________ , State of ________________

(date) (city) (county)

NOTE: Use full corporate name and attach corporate seal here. ______________________________________

(Officer must sign here)

NOTE: Statement will be returned unless affidavit is completed in EVERY respect.
AFFIDAVIT FOR CO-PARTNERSHIP

________________________________________ certifies and says: That he/she is a partner of
(partner of)

(Name of partner)

the partnership of __________________________________: That said partnership
(Name of Firm)

submitted this statement of experience: that he/she has read the same, and that the same is true of his/her own knowledge: that the statement is for the purpose of inducing the University of Colorado to supply the submittor with plans and specifications, and that any vendor, or other agency therein named is hereby authorized to supply the University of Colorado with any information necessary to verify the statement: and that furthermore, should this statement at any time cease to properly and truly represent the condition of said firm in any substantial respect, it will refrain from further bidding on University work until they shall have submitted a revised and corrected statement.

I certify and declare under penalty of perjury that the foregoing is true and correct:

Subscribed on __________ at __________, __________, State of ________________
(date) (city) (county)

The foregoing statement and affidavit are hereby offered.

________________________________________  (Member of Firm must sign here)

________________________________________  (Title)

________________________________________  (Name of Firm)

(Remaining members of Firm sign here)

NOTE: Statement will be returned unless affidavit is completed in EVERY respect.
AFFIDAVIT FOR INDIVIDUAL

______________________________ doing business ____________________________
(Name of individual) (Name of Firm)

certifies and says: That he/she is the person submitting this statement of experience:
that he/she has read the same, and that the same is true of his/her own knowledge:
that the statement is for the purpose of inducing the University of Colorado to supply the
submitter with plans and specifications, and that any vendor, or other agency therein
named is hereby authorized to supply the University of Colorado with any information
necessary to verify the statement: and that furthermore, should this statement at any
time cease to properly and truly represent his/her condition in any substantial respect, it
will refrain from further bidding on University work until it shall have submitted a revised
and corrected statement.

I certify and declare under penalty of perjury that the foregoing is true and correct:

Subscribed on __________ at __________, __________, State of _________________
(date) (city) (county)

NOTE: Statement will be returned unless affidavit is completed in EVERY respect. ____________________________
(Applicant must sign here)
QUALIFICATION

The University of Colorado will qualify or disqualify a Contractor on the basis of:

(1) The information contained in this statement and
(2) Past contract experience with the University.

NOTIFICATION

The University of Colorado will, in writing, notify Contractors of their qualification or disqualification.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

BID

Institution/Agency: University of Colorado at Boulder
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Bidder Acknowledges Receipt of Addenda No.s:

<table>
<thead>
<tr>
<th>Base Bid</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Refer to Bid Alternate Form SC-6.13.1 Attached, If Applicable)</td>
<td></td>
</tr>
</tbody>
</table>

Bidder’s Time of Completion

a. Time Period from Notice to Proceed to Substantial Completion: 90

b. Time Period from Substantial completion to Final Acceptance: 30

c. Time of Completion of Entire Project (a + b): 120 calendar days

1. **BID**: Pursuant to the advertisement by the State of Colorado dated February 18, 2010, the undersigned bidder hereby proposes to furnish all the labor and materials and to perform all the work required for the complete and prompt execution of everything described or shown in or reasonably implied from the Bidding Documents, including the Drawings and Specifications, for the work and for the base bid indicated above. Bidders should include all taxes that are applicable.

2. **EXAMINATION OF DOCUMENTS AND SITE**: The bidder has carefully examined the Bidding Documents, including the Drawings and Specifications, and has examined the site of the work, so as to make certain of the conditions at the site and to gain a clear understanding of the work to be done.

3. **PARTIES INTERESTED IN BID**: The bidder hereby certifies that the only persons or parties interested in this Bid are those named herein, and that no other bidder or prospective bidder has given any information concerning this Bid.

4. **BID GUARANTEE**: This Bid is accompanied by the required Bid Guarantee. You are authorized to hold said Bid Guarantee for a period of not more than thirty (30) days after the opening of the Bids for the work above indicated, unless the undersigned bidder is awarded the Contract, within said period, in which event the Director, State Buildings and Real Estate Programs, may retain said Bid Guarantee, until the undersigned bidder has executed the required Agreement and furnished the required Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance.

5. **TIME OF COMPLETION**: The bidder agrees to achieve substantial completion of the entire project within the number of calendar days entered above, and if applicable, further agrees that the period between the date of substantial completion and the date of final acceptance of the entire project will not exceed the number of calendar days noted above. If awarded this work, the bidder agrees to begin work within ten (10) days from the date of the Notice to Proceed subject to Article 46, Time of Completion and Liquidated Damages of The General Conditions of the Contract, and agrees to prosecute the work with due diligence to completion. The bidder represents that Article 54D has been reviewed to determine the type and amount of any liquidated damages that may be specified for this contract.
6. **EXECUTION OF DOCUMENTS:** The bidder understands that if this Bid is accepted, he must execute the required Agreement and furnish the required Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance within ten (10) days from the date of the Notice of Award, and that the bidder will be required to sign to acknowledge and accept the Contract Documents, including the Drawings and Specifications.

7. **ALTERNATES:** Refer to the Information for Bidders (SC-6.12) for Method of Award for Alternates and use State Form SBO-6.13.1 Bid Alternates form to be submitted with this bid form if alternates are requested by the institution/agency in the solicitation documents.

Submit wage rates (direct labor costs) for prime contractor and subcontractor as requested by the institution/agency in the solicitation documents.

The right is reserved to waive informalities and to reject any and all Bids.

Dated this _______ Day of ___________________ , 2010.

(Corporate Seal)

THE BIDDER:

_______________________________

Company Name

ATTEST

_______________________________

Address (including city, state and zip)

Phone number: _________________________

_______________________________

Signature

Name (Print) and Title

Print Email address:

SIGNATURES: If the Bid is being submitted by a Corporation, the Bid should be signed by an officer, i.e., President or Vice-President. The signature of the officer shall be attested to by the Secretary and properly sealed. If a sole proprietorship or a partnership is submitting the Bid, the Bid shall so indicate and be properly signed.
Additive alternates will not be used if deductible alternates are used and deductible alternates will not be used if additive alternates are used.

**Additive Alternates (AA)**

Refer to specification section 01030 for descriptions of add alternates. If the add alternates are accepted, the base bid would be modified by the amount entered by the bidder.

<table>
<thead>
<tr>
<th>A.A. No.</th>
<th>Description</th>
<th>Add $</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A. No. 1</td>
<td>Side wall diffusers in seating area</td>
<td></td>
</tr>
<tr>
<td>A.A. No. 2</td>
<td>Skim coat brick in seating area</td>
<td></td>
</tr>
<tr>
<td>A.A. No. 3</td>
<td>Replace scones on side walls in seating area</td>
<td></td>
</tr>
<tr>
<td>A.A. No. 4</td>
<td>Line source LED lighting at perimeter of seating area side wall diffusers</td>
<td></td>
</tr>
</tbody>
</table>

Bidder: ____________________________  Date: ____________________________
MINORITY/WOMEN BUSINESS ENTERPRISE PARTICIPATION REPORT

Institution/Agency: University of Colorado at Boulder
Project No./Name: PR005283 / MUS – Room C112 – Lower Grusin Stage

TO BE ELIGIBLE FOR AWARD OF THIS CONTRACT, EACH CONTRACTOR (INCLUDING ARCHITECT/ENGINEER/CONSULTANT/CONTRACTOR) IS REQUESTED TO COMPLY WITH THESE REQUIREMENTS.

I. The undersigned Architect/Engineer/Consultant/Contractor hereby certifies that the (company) (joint venture) (is) (is not)* a minority enterprise as defined in this report. The undersigned Architect/Engineer/Consultant/Contractor hereby certifies the (company) (joint venture) (is) (is not)* a woman-owned business enterprise as defined. (*Strike out where inapplicable.)

*Persons signing hereby swear and affirm that they are authorized to act on Architect/Engineer/Consultant/Contractor’s behalf and acknowledge that the State is relying on their representations to that effect. Principal is not a recognized title and will not be accepted

ARCHITECT/ENGINEER/CONSULTANT/CONTRACTOR

Legal Name of Contracting Entity

*Signature

By: ________________________________

Name (print) ____________________________ Title ____________________________

Date: ________________________________

II. It is the general policy of the State of Colorado to be as inclusive as possible to all member communities when spending taxpayer dollars.

III. REQUIREMENTS

A. Minority Business Enterprise (MBE) means, for the purpose of this report, a business enterprise at least 51 percent that is owned and controlled by minority group members, or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned and controlled by minority group members. Eligible persons are expected to be engaged full time in the day-to-day operation and management of the business. Minority group members are ethnic minorities including African American, Hispanic American, Native American or Asian/Pacific American.

B. Women Business Enterprise (WBE) means, for the purpose of this report, a business enterprise of at least 51 percent of which is owned and controlled by a woman or women, or, in the case of a publicly-owned business, at least 51 percent of the stock of which is owned and controlled by women. Women are expected to be engaged full time in the day-to-day operation and management of the business.

C. The State of Colorado does not have a certification process nor does it require MBE’s and WBE’s to be certified EXCEPT for certain contracts for highway and bridge construction administered by the Colorado Department of Transportation.

D. The percentages of minority and women-owned business participation will be determined by dollar value of the work subcontracted to or joint ventured with minority and women-owned firms, as compared to the total dollar value of the bid amount for all work bid under this contract.
E. Prior to the award of this contract, the contractor will be required to provide to the Principal Representative a list of M/WBE enterprises, stipulating the dollar amount of each subcontract or supplier of materials on page 2 of this Minority and Women Business Enterprises Participation Report.

F. The contractor will retain records and documents showing the level of participation for two years following completion of this contract. These records and documents, or copies thereof, will be made available at reasonable times and places for inspection by an authorized representative of the Principal Representative, or its designated representatives, and will be submitted to such representatives upon written request.

<table>
<thead>
<tr>
<th>MBE:</th>
<th>Yes □</th>
<th>WBE:</th>
<th>Yes □</th>
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<tbody>
<tr>
<td>No</td>
<td>□</td>
<td>No</td>
<td>□</td>
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</table>

Total Contract Amount: $___________

<table>
<thead>
<tr>
<th>Name and Address of M/WBE Subcontractors and/or Suppliers and/or Self-Performed Work by M/WBE Primes*</th>
<th>MBE Contract Amounts</th>
<th>WBE Contract Amounts</th>
<th>Type of Work</th>
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<tbody>
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</table>

*Indicate ethnicity based on Paragraph III. A. above.

Total MBE Contracts: $___________
Total WBE Contracts: $___________
Total MBE %: _______________________
Total WBE %: _______________________
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

BID BOND

Institution/Agency: University of Colorado at Boulder
Project No./Name: PR005283 / MUS – Room C112 – Lower Grusin Stage

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, ________________________________, hereinafter called the “PRINCIPAL”, is submitting a
PROPOSAL for the above described project, to the STATE OF COLORADO, hereinafter called the “OBLIGEE”.

WHEREAS, the Advertisement for Bids has required as a condition of receiving the Proposals that the Principal submit with the
PROPOSAL GUARANTY in an amount not less than five per cent (5%) of the Proposal, which sum it is specifically agreed is to be
forfeited as Liquidated Damages in the event that the Principal defaults in his obligation as hereinafter specified, and, in pursuance of
which Requirement, this Bid is made, executed and delivered.

NOW THEREFORE, the Principal and ________________________________, duly authorized to transact business in Colorado, as Surety, are held and firmly bound unto the Obligee, in the sum of five per cent (5%) of the Principal’s total bid price, lawful money of the United States for the payment of which sum, well and truly to be
made to the Obligee, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by
these presents.

FURTHER THAT, a condition of the obligation that the Principal shall maintain his Proposal in full force and effect for thirty (30) days
after the opening of the proposals for the project, or, if the Principal’s Proposal is accepted, the Principal shall, within the prescribed time,
execute the required Agreement, furnish the required Performance Bond, Labor and Material Payment Bond, Insurance Policy, and
Certificates of Insurance, then this obligation shall be null and void, otherwise it shall remain in full force and effect, and subject to
forfeiture upon demand as Liquidated Damages.

IN WITNESS WHEREOF said Principal and Surety have executed this Bond, this __________ day of __________, A.D., 2010.

(Corporate Seal)

THE PRINCIPAL

Company Name

Address (including city, state and zip)

Phone number:

________________________

Name (Print)

Signature

________________________
Name (Print) and Title

SIGNATURES

If the “Principal” is doing business as a Corporation, the Bid Bond shall be signed by an officer, i.e., President or
Vice President. The signature of the officer shall be attested to by the Secretary and properly sealed.

If the “Principal” is an individual or a partnership, the Bid Bond shall so indicate and be properly signed.

(Corporate Seal)

THE SURETY

________________________
By __________________________

Secretary

Attorney-in-Fact

THIS BOND MUST BE ACCOMPANIED BY POWER OF ATTORNEY, EFFECTIVELY DATED.
FAILURE TO PROVIDE A PROPERLY EXECUTED BID BOND WITH A PROPERLY EXECUTED POWER OF
ATTORNEY WILL RESULT IN THE BIDDER’S PROPOSAL BEING DEEMED NON-RESPONSIVE.
TO:

The State of Colorado, represented by the undersigned, has considered the Proposals submitted for the above described work.

Your Proposal, deemed to be in the best interest of the State of Colorado, in the amount of _______________ and no/100 Dollars ($ ____________) is hereby accepted, pending final execution of the Agreement.

Base Bid $ _______________
Total Contract Amount $ ___________ *

You are required to execute the approved Agreement and to furnish the Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance within ten (10) days from the date of this Notice.

If you fail to execute said Agreement and to furnish said Performance Bond, Labor and Material Payment Bond, Insurance Policy and Certificates of Insurance within ten (10) days from the date of this Notice, the State Controller will be entitled to retain the amount of the Proposal Guaranty submitted with your Proposal as Liquidated Damages. In this event, the right is reserved to consider all of your rights arising out of the acceptance of your Proposal as abandoned and to award the work covered by your Proposal to another, or to re-advertise the work, or otherwise dispose thereof.

By ______________________________________
Paul M. Leef, AIA, LEED AP / Date
Campus Architect
Director, Planning, Design & Construction
State Buildings Programs
(of Authorized Delegate)

By ______________________________________
Ronald L. Ried, Director / Date
Facilities Management Business Services
Principal Representative
(Institution or Agency)

When completely executed, this form is to be sent by certified mail to the Contractor by the Principal Representative.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS
University of Colorado at Boulder

CONTRACTOR'S AGREEMENT
DESIGN/BID/BUILD STANDARD FORMAT
(STATE FORM SC-6.21)

_______________________________________________________________

CONTRACT ROUTING NO.

AGENCY IDENTIFICATION NO.

PROJECT NO. PR 005283

PROJECT NAME: MUS – Room C112 – Lower Grusin Stage

PROJECT MANAGER: M. S. Leon Palmer

CONTRACTOR:  

DATE: March 2010
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECITALS</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 1. Performance of the Work</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 2. Provisions of the Contract Documents</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 3. Time of Completion</td>
<td>1</td>
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<tr>
<td>ARTICLE 4. Essential Condition</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 5. Contract Sum</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 6. Contract Documents</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 7. Safety and Security</td>
<td>1</td>
</tr>
<tr>
<td>SIGNATURE APPROVALS</td>
<td>2</td>
</tr>
</tbody>
</table>

### Signed Notice of Award

**GC Agreement**

### Exhibits:

- **A** Contractor's Bid (Form SC-6.13)
- **B** Performance Bond (Form SC-6.22)
- **C** Labor and Material Payment Bond (Form SC-6.221)
- **D** Insurance Certificates
- **E** Minority and Women Business Enterprises Participation Report (MWBE-1)
- **F** Certification and Affidavit Regarding Unauthorized Immigrants (required at contract signing prior to commencing work)
- **G** Sole Source Government Contracts (if applicable)
- **H** Contract Management Information Construction Contractor – Performance Evaluation Report (if applicable)
1. PARTIES. THIS AGREEMENT is entered into by and between the STATE OF COLORADO, acting by and through the Regents of the University of Colorado, a body corporate, hereinafter called the Principal Representative, and (vendor name) having its offices at (vendor address) hereinafter referred to as the Contractor.

2. EFFECTIVE DATE AND NOTICE OF NONLIABILITY. This Agreement shall not be effective or enforceable until it is approved and signed by the State Controller or its designee (hereinafter called the “Effective Date”), but shall be effective and enforceable thereafter in accordance with its provisions. The State shall not be liable to pay or reimburse Construction Manager for any performance hereunder or be bound by any provision hereof prior to the Effective Date.

WHEREAS, the Principal Representative intends to renovate inside Grusin Hall, the main performance space in the Imig Music building, hereinafter called the Project; and

WHEREAS, authority exists in Law and Funds have been budgeted, appropriated, and otherwise made available, and a sufficient unencumbered balance thereof remains available for payment in Fund Number 410, Speed Type / Account Number, 17194824-515192; Contract Encumbrance Number TBD,

WITNESSETH, that the State of Colorado and the Contractor agree as follows:

ARTICLE 1. PERFORMANCE OF THE WORK
The Contractor shall furnish all the work, labor and materials, and shall perform, to the satisfaction of the Principal Representative and its Architect/Engineer, all of the work required for the complete and prompt execution of everything described or shown in, or reasonably implied from the Contract Documents, including The General Conditions of the Contract and the Drawings and Specifications for the above Project.

ARTICLE 2. PROVISIONS OF THE CONTRACT DOCUMENTS
The Contractor agrees to do the work in a first class, substantial and workmanlike manner to the satisfaction of the State of Colorado and its Architect/Engineer in strict accordance with the provisions of the Contract Documents, including The General Conditions of the Contract and the Drawings and Specifications.

ARTICLE 3. TIME OF COMPLETION
The Contractor agrees to substantially complete the entire Project within 90 calendar days from the date of the Notice to Proceed, and, if applicable, the Contractor agrees to complete the final punch list and finally complete the Project within 30 calendar days. The Contractor shall prosecute the work with due diligence to completion.

ARTICLE 4. ESSENTIAL CONDITION
Timely completion of the project is an essential condition of this Agreement. The Contractor shall be subject to any liquidated damages described in Article 54D of The General Conditions of the Contract for failure to satisfactorily complete the work within the time periods in Article 3 above.

ARTICLE 5. CONTRACT SUM
The Contractor shall be paid for the performance of this Agreement, subject to any additions and deductions as provided for in Articles 32, 34 and 35 of The General Conditions of the Contract, the sum of Thousand, Hundred and no/100 Dollars ($ ).

ARTICLE 6. CONTRACT DOCUMENTS
The Contract Documents, as enumerated in Article 1 of The General Conditions of the Contract, are all essential parts of this Agreement and are fully incorporated herein.

ARTICLE 7. SAFETY and SECURITY - Contractor understands that concern for the safety and well-being of University students and staff is of particular importance to the University. Contractor expressly acknowledges that it is Contractor’s duty to take reasonable precautions to protect the University’s students and staff. The extent of such precautions will depend on the particular circumstances of the work to be performed. However, to the extent that work to be performed involves security-sensitive functions or security-sensitive areas (e.g. unsupervised access to minors or work involving access to security-sensitive data), such precautions may include, but are not limited to, conducting criminal history checks on employees or agents assigned to such work at the University."
THE PARTIES HERETO HAVE EXECUTED THIS CONTRACT

*Persons signing for Contractor hereby swear and affirm that they are authorized to act on Contractor’s behalf and acknowledge that the State is relying on their representations to that effect. **Principal is not a recognized title and will not be accepted**

THE CONTRACTOR

STATE OF COLORADO, acting by and through:
The Regents of the University of Colorado
A Body Corporate
Ronald L. Ried, Director
Facilities Management Business Services

By: ________________________________
Date: ______________________________

APPROVED
DEPARTMENT OF PERSONNEL & ADMINISTRATION
STATE BUILDINGS PROGRAMS
State Architect (or authorized Delegate)
Paul M. Leef, AIA, LEED TM AP
Campus Architect & Director, Planning, Design & Construction

By: ________________________________
Date: ______________________________

ALL CONTRACTS MUST BE APPROVED BY THE STATE CONTROLLER:

CRS §24-30-202 requires the State Controller to approve all State Contracts. This Contract is not valid until signed and dated below by the State Controller or delegate. Contractor is not authorized to begin performance until such time. If Contractor begins performing prior thereto, the State of Colorado is not obligated to pay Contractor for such performance or for any goods and/or services provided hereunder.

APPROVED:
STATE OF COLORADO
STATE CONTROLLER'S OFFICE
State Controller (or authorized Delegate)
Steve McNally, Associate Vice Chancellor & Controller

By: ________________________________
Date: ______________________________

APPROVED:
STATE OF COLORADO
ATTORNEY GENERAL
(or authorized Delegate)

By: ________________________________
Date: ______________________________

Approved by ___
Known all persons by these presents:

That the Contractor

as Principal and hereinafter called “Principal,”

and

as Surety and hereinafter called “Surety,” a corporation organized and existing under the laws of ________, are held and firmly bound unto the STATE OF COLORADO acting by and through the Regents of the University of Colorado, a body corporate, hereinafter called the “Principal Representative”, in the sum of $__________

for the payment whereof the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly, by these presents.

Whereas, the Principal and the State of Colorado acting by and through the Principal Representative have entered into a certain contract, hereinafter called “contract,” dated _______________; 2010, for the construction of a Project described as MUS – Room C112 – Lower Grusin Stage

which contract is hereby by reference made a part hereof;
NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION, is such that, if the Principal shall promptly, fully and faithfully perform all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term of said Contract any extensions thereof that may be granted by the Principal Representative with or without notice to the Surety, and during the life of any guaranty required under the Contract, and shall also well and truly perform and fulfill all undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

AND THE SAID SURETY, for value received hereby stipulates and agrees that whenever the Principal shall be, and declared by the Principal Representative to be in default under said Contract, the State of Colorado having performed its obligations thereunder, the Surety may promptly remedy the default or shall promptly (1) Complete the Contract in accordance with its terms and conditions, or (2) Obtain a bid or bids for submittal to the Principal Representative for completing the Contract in accordance with its terms and conditions, and upon determination by the Principal Representative and Surety of the lowest responsible bidder, arrange for a contract between such bidder and the State of Colorado acting by and through the Principal Representative and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion, less the balance of the contract price but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount hereinafter set forth. The term “balance of the contract price” as herein used shall mean the total amount payable to the Principal under the Contract and any amendments thereto, less the amount properly paid by the State of Colorado to the Contractor.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the State of Colorado.

IN WITNESS WHEREOF said Principal and Surety have executed this Bond, this __________ day of ________________________, A.D. 2010.

(Corporate Seal) (Corporate Seal)

THE PRINCIPAL

_______________

ATTEST:

By: ____________________________

Title: __________________________

Secretary

(Corporate Seal)

SURETY

_______________

By: ____________________________

Attorney-in-fact

THIS BOND MUST BE ACCOMPANIED BY POWER OF ATTORNEY, EFFECTIVELY DATED

Note: This bond is issued simultaneously with another bond conditioned for the full and faithful payment for all labor and material of the contract.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

LABOR AND MATERIAL BOND

Institution/Agency: University of Colorado at Boulder
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

BONDING COMPANY: DO NOT MAKE ANY CHANGES TO THE LANGUAGE IN THIS BOND.

KNOW ALL PERSONS BY THESE PRESENTS:

That the Contractor

as Principal and hereinafter called "Principal,"

and

as Surety and hereinafter called "Surety," a corporation organized and existing under the laws of __________________________, are held and firmly bound unto the STATE OF COLORADO acting by and through The Regents of the University of Colorado, a body corporate, hereinafter called "Principal Representative," and to all subcontractors and any others who have supplied or furnished or shall supply or furnish materials, rental machinery, tools, or equipment actually used in the performance of the hereinafter identified Contract, or who have performed or shall perform labor in the performance of or in connection with said Contract, hereinafter called "Obligees" in the sum of __________________________

______________________ Dollars ($__________________)

together with interest at the rate of eight per cent (8%) per annum on all payments becoming due in accordance with said Contract, from the time such payments shall become due until such payment shall be made, for the payment of which, well and truly made to the Obligees, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly, by these presents.

WHEREAS, the Principal and the State of Colorado acting by and through the Principal Representative have entered into a certain Contract, hereinafter called "Contract," dated __________________________ for the construction of a PROJECT described as MUS – Room C112 – Lower Grusin Stage

which Contract is hereby by reference made a part hereof;
NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal and the Surety shall fully indemnify and save harmless the State of Colorado and the Principal Representative from and against any and all costs and damages, including patent infringements, which either may suffer by reason of any failure or failures of the Principal promptly and faithfully to perform all terms and conditions of said Contract and shall fully reimburse and repay the State of Colorado and the Principal Representative all outlay and expense which the State of Colorado and the Principal Representative may incur in making good any such failure or failures, and further, if the Principal and his subcontractors shall duly and promptly pay for any and all labor, materials, team hire, sustenance, provisions, provender, rental machinery, tools, or equipment and other supplies which have been or shall be used or consumed by said Principal or his subcontractors in the performance of the work of said Contract, and it said Principal shall duly and promptly pay all his subcontractors the sums due them for any and all materials, rental machinery, tools, or equipment and labor that have been or shall be furnished, supplied, performed or used in connection with performance of said Contract, and shall also fully indemnify and save harmless the State of Colorado and the Principal Representative to the extent of any and all expenditures which either or both of them may be required to make by reason of any failures or defaults by the Principal or any subcontractor in connection with such payments; then this obligation shall be null and void, otherwise it shall remain in full force and effect.

It is expressly understood and agreed that any alterations which may be made in the terms of said Contract or in the work to be done under said Contract, or any extension(s) of time for the performance of the Contract, or any forebearance on the part of either the State of Colorado or the Principal to any of the others, shall not in any way release the Principal and the Surety, or either of them, their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to the Surety of any such alteration, extension or forbearance being hereby waived.

IN WITNESS WHEREOF, the Principal and the Surety have executed this Bond, this ________ day of ______________________, A.D., 2010.

(Corporate Seal)

THE PRINCIPAL

__________________________

ATTEST:

By: ________________________

Title: ________________________

Secretary

(Corporate Seal)

SURETY

__________________________

By:

__________________________

Attorney-in-fact

THIS BOND MUST BE ACCOMPANIED BY POWER OF ATTORNEY, EFFECTIVELY DATED

Note: This bond is issued simultaneously with another bond conditioned for the full and faithful performance of the contract.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

THE GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT
DESIGN/BID/BUILD STANDARD FORMAT
(STATE FORM SC-6.23)

Project Name: MUS – Room C112 – Lower Grusin Stage
Project No. PR 005283
Project Manager Leon Palmer
Date March 2010
# TABLE OF CONTENTS

## THE CONTRACT

**ARTICLE 1. DEFINITIONS**
- A. CONTRACT DOCUMENTS
- B. PROCEDURAL DOCUMENTS
- C. DEFINITIONS OF WORDS AND TERMS USED

**ARTICLE 2. EXECUTION, CORRELATIONS, INTENT OF DOCUMENTS, COMMUNICATIONS AND COOPERATION**
- A. EXECUTION
- B. CORRELATION
- C. INTENT OF DOCUMENTS
- D. PARTNERING, COMMUNICATIONS AND COOPERATION

**ARTICLE 3. COPIES FURNISHED**

**ARTICLE 4. OWNERSHIP OF DRAWINGS**

## THE ARCHITECT

**ARTICLE 5. ARCHITECT/ENGINEER’S STATUS**

**ARTICLE 6. ARCHITECT/ENGINEER DECISIONS AND JUDGMENTS**
- A. DECISIONS
- B. JUDGMENTS
- C. ACCESS TO WORK
- D. INSPECTION

## THE CONTRACTOR

**ARTICLE 7. CONTRACTOR’S SUPERINTENDENCE AND SUPERVISION**

**ARTICLE 8. MATERIALS AND EMPLOYEES**

**ARTICLE 9. SURVEYS, PERMITS, LAWS, TAXES AND REGULATIONS**
- A. SURVEYS
- B. PERMITS AND LICENSES
- C. TAXES
- D. LAWS AND REGULATIONS

**ARTICLE 10. PROTECTION OF WORK AND PROPERTY**
- A. GENERAL PROVISIONS
- B. SAFETY PRECAUTIONS
- C. EMERGENCIES

**ARTICLE 11. DRAWINGS AND SPECIFICATIONS ON THE WORK**

**ARTICLE 12. REQUESTS FOR INFORMATION AND SCHEDULES**
- A. REQUESTS FOR INFORMATION
- B. SCHEDULES

**ARTICLE 13. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**
- A. SUBMITTAL PROCESS
- B. FABRICATION AND ORDERING
- C. DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS
- D. CONTRACTOR REPRESENTATIONS

**ARTICLE 14. SAMPLES AND TESTING**
- A. SAMPLES
- B. TESTING – GENERAL
- C. TESTING – CONCRETE AND SOILS
- D. TESTING – OTHER

**ARTICLE 15. SUBCONTRACTS**

**ARTICLE 16. RELATIONS OF CONTRACTOR AND SUBCONTRACTOR**

**ARTICLE 17. MUTUAL RESPONSIBILITY OF CONTRACTORS**

**ARTICLE 18. SEPARATE CONTRACTS**

**ARTICLE 19. USE OF PREMISES**

**ARTICLE 20. CUTTING, FITTING OR PATCHING**
ARTICLE 21. UTILITIES
   A. TEMPORARY UTILITIES
   B. PROTECTION OF EXISTING UTILITIES
   C. CROSSING OF UTILITIES

ARTICLE 22. UNSUITABLE CONDITIONS

ARTICLE 23. TEMPORARY FACILITIES
   A. OFFICE FACILITIES
   B. TEMPORARY HEAT
   C. WEATHER PROTECTION
   D. DUST PARTITIONS
   E. BENCH MARKS
   F. SIGN
   G. SANITARY PROVISION

ARTICLE 24. CLEANING UP

ARTICLE 25. INSURANCE
   A. GENERAL LIABILITY, PROPERTY DAMAGE AND AUTOMOBILE
   B. WORKERS’ COMPENSATION INSURANCE
   C. BUILDER’S RISK INSURANCE
   D. ADDITIONAL MISCELLANEOUS INSURANCE PROVISIONS

ARTICLE 26. CONTRACTOR’S PERFORMANCE AND PAYMENT BONDS

ARTICLE 27. LABOR AND WAGES

ARTICLE 28. ROYALTIES AND PATENTS

ARTICLE 29. ASSIGNMENT

ARTICLE 30. CORRECTION OF WORK BEFORE ACCEPTANCE

ARTICLE 31. APPLICATIONS FOR PAYMENTS
   A. CONTRACTOR’S SUBMITTALS
   B. ARCHITECT/ENGINEER CERTIFICATION
   C. RETAINAGE WITHHELD
   D. RELEASE OF RETAINAGE

ARTICLE 32. CERTIFICATES FOR PAYMENTS

ARTICLE 33. PAYMENTS WITHHELD

ARTICLE 34. DEDUCTIONS FOR UNCORRECTED WORK

ARTICLE 35. CHANGES IN THE WORK
   A. THE VALUE OF CHANGED WORK
   B. DETAILED BREAKDOWN
   C. EMERGENCY FIELD CHANGE ORDERED WORK
   D. APPROPRIATION LIMITATIONS – § 24-91-103.6, C.R.S., as amended

ARTICLE 36. CLAIMS

ARTICLE 37. DIFFERING SITE CONDITIONS
   A. NOTICE IN WRITING
   B. LIMITATIONS

ARTICLE 38. DELAYS AND EXTENSIONS OF TIME

ARTICLE 39. NON-BINDING DISPUTE RESOLUTION – FACILITATED NEGOTIATIONS

ARTICLE 40. RIGHT OF OCCUPANCY

ARTICLE 41. COMPLETION, FINAL INSPECTION, ACCEPTANCE AND SETTLEMENT
   A. NOTICE OF COMPLETION
   B. FINAL INSPECTION
   C. NOTICE OF SUBSTANTIAL COMPLETION
   D. NOTICE OF ACCEPTANCE
   E. SETTLEMENT

ARTICLE 42. GENERAL WARRANTY AND CORRECTION OF WORK AFTER ACCEPTANCE

ARTICLE 43. LIENS
ARTICLE 44.  ONE-YEAR GUARANTEE AND SPECIAL GUARANTEES AND WARRANTIES .................. 38
A.  ONE-YEAR GUARANTEE OF THE WORK .......................................................... 38
B.  SPECIAL GUARANTEES AND WARRANTIES ....................................................... 38

ARTICLE 45.  GUARANTEE INSPECTIONS AFTER COMPLETION .................................. 38

ARTICLE 46.  TIME OF COMPLETION AND LIQUIDATED DAMAGES ............................. 39

ARTICLE 47.  DAMAGES .............................................................................................. 40

ARTICLE 48.  STATE’S RIGHT TO DO THE WORK; TEMPORARY SUSPENSION OF WORK; DELAY DAMAGES .......................................................... 41
A.  STATE’S RIGHT TO DO THE WORK ................................................................. 41
B.  TEMPORARY SUSPENSION OF WORK ............................................................. 41
C.  DELAY DAMAGES .............................................................................................. 42

ARTICLE 49.  STATE’S RIGHT TO TERMINATE CONTRACT ........................................ 42
A.  GENERAL ........................................................................................................... 42
B.  CONDITIONS AND PROCEDURES ................................................................. 42
C.  ADDITIONAL CONDITIONS ............................................................................. 43

ARTICLE 50.  TERMINATION FOR CONVENIENCE OF STATE ....................................... 43
A.  NOTICE OF TERMINATION ............................................................................... 43
B.  PROCEDURES .................................................................................................. 43

ARTICLE 51.  CONTRACTOR’S RIGHT TO STOP WORK AND/OR TERMINATE CONTRACT .... 44

ARTICLE 52.  SPECIAL PROVISIONS ........................................................................... 45
A.  CONTROLLER’S APPROVAL .............................................................................. 45
B.  FUND AVAILABILITY ........................................................................................ 45
C.  GOVERNMENTAL IMMUNITY ......................................................................... 45
D.  INDEPENDENT CONTRACTOR ....................................................................... 45
E.  COMPLIANCE WITH LAW ............................................................................... 45
F.  CHOICE OF LAW .............................................................................................. 45
G.  BINDING ARBITRATION PROHIBITED ............................................................ 45
H.  SOFTWARE PIRACY PROHIBITION ............................................................... 46
I.  EMPLOYEE FINANCIAL INTEREST/CONFLICT OF INTEREST ..................... 46
J.  VENDOR OFFSET ............................................................................................. 46
K.  PUBLIC CONTRACTS FOR SERVICES .............................................................. 46
L.  PUBLIC CONTRACTS WITH NATURAL PERSONS .......................................... 46

ARTICLE 53.  MISCELLANEOUS PROVISIONS ................................................................ 46
A.  CONSTRUCTION OF LANGUAGE .................................................................... 46
B.  SEVERABILITY ................................................................................................... 46
C.  SECTION HEADINGS ....................................................................................... 47
D.  AUTHORITY ...................................................................................................... 47
E.  INTEGRATION OF UNDERSTANDING ............................................................. 47
F.  VENUE .............................................................................................................. 47
G.  NO THIRD PARTY BENEFICIARIES ............................................................... 47
H.  WAIVER ........................................................................................................... 47
I.  INDEMNIFICATION .......................................................................................... 47
J.  STATEWIDE CONTRACT MANAGEMENT SYSTEM ....................................... 47

ARTICLE 54.  OPTIONAL PROVISIONS AND ELECTIONS .............................................. 47
A.  MODIFICATION OF ARTICLE 45. GUARANTEE INSPECTIONS AFTER COMPLETION .... 47
B.  MODIFICATION OF ARTICLE 27. LABOR AND WAGES .................................. 47
C.  MODIFICATION OF ARTICLE 39. NON-BINDING DISPUTE RESOLUTION – FACILITATED NEGOTIATIONS .......................................................... 47
D.  MODIFICATION OF ARTICLE 46. TIME OF COMPLETION AND LIQUIDATED DAMAGES .......... 48
E.  NOTICE IDENTIFICATION .............................................................................. 48

INDEX .................................................................................................................. 50

Note: The sections of the General Conditions indicated in italics (Articles 35 General and 35A, 35B, 37, 38, 46, 48B, 49 and 50) are regulatory and cannot be modified except through appropriate rule making procedures through the Division of Finance and Procurement, Department of Personnel & Administration.
A. CONTRACT DOCUMENTS

The Contract Documents consist of:
1. Agreement (SC-6.21);
2. Performance Bond (SC-6.22) and Labor and Material Payment Bond (SC-6.221);
3. General and Supplementary General Conditions of the Contract (SC-6.23);
4. Detailed Specification Requirements, including all addenda issued prior to the opening of the bids; and,
5. Drawings, including all addenda issued prior to the opening of the bids.
6. Change Orders (SC-6.31) and Amendments (SC-6.0), if any, when properly executed.

B. PROCEDURAL DOCUMENTS

The Procedural Documents used in the administration and performance of the Agreement consist of:
1. Authorization to Bid (SBP-6.10)
2. Information for Bidders (SBP-6.12);
3. Bid (SBP-6.13);
4. Bid Bond (SBP-6.14);
5. Notice of Award (SBP-6.15);
6. Builder’s risk insurance certificates of insurance (ACORD 25-S);
7. Liability and workers’ compensation certificates of insurance;
8. Notice to Proceed (Design/Bid/Build) (SBP-6.26);
9. Notice of Approval of Occupancy/Use (SBP-01);
10. Notice of Partial Substantial Completion (SBP-071);
11. Notice of Substantial Completion (SBP-07);
12. Notice of Partial Final Acceptance (SC-6.27);
13. Notice of Final Acceptance (SBP-6.271);
14. Notice of Partial Contractor’s Settlement (SC-7.3);
15. Notice of Contractor’s Settlement (SBP-7.31);
16. Application and Certificate for Contractor’s Payment (SBP-7.2);
17. Other procedural and reporting documents or forms referred to in the General Conditions, the Supplementary General Conditions, the Specifications or required by the State Buildings Programs or the Principal Representative, including but not necessarily limited to Pre-Acceptance Check List (SBP-05) and Pre-Acceptance Punch List (SBP-06), and the Building Inspection Record (SBP-BIR). A list of the current standard State Buildings Programs forms applicable to this Contract may be obtained from the Principal Representative on request.

C. DEFINITIONS OF WORDS AND TERMS USED

1. AGREEMENT. The term “Agreement” shall mean the written agreement entered into by the State of Colorado acting by and through the Principal Representative and the Contractor for the performance of the Work and payment therefor, on State Form SC-6.21. The term Agreement when used without reference to State Form SC-6.21 may also refer to the entirety of the parties’ agreement to perform the Work described in the Contract Documents or reasonably inferable there from. The term “Contract” shall be interchangeable with this latter meaning of the term Agreement
2. ARCHITECT/ENGINEER. The term “Architect/Engineer” shall mean either the architect of record or the engineer of record under contract to the State of Colorado for the Project identified in the Contract Documents.

3. OCCUPANCY. The term “Occupancy” means occupancy taken by the State as Owner after the Date of Substantial Completion at a time when a building or other discrete physical portion of the Project is used for the purpose intended. The Date of Occupancy shall be the date of such first use, but shall not be prior to the date of execution of the Notice of Approval of Occupancy/Use. Prior to the date of execution of a Notice of Approval of Occupancy/Use, the state shall have no right to occupy and the project may not be considered safe for occupancy for the intended use.

4. CHANGE ORDER. The term “Change Order” means a written order, signed by a Procurement Officer, directing the Contractor to make changes in the Work, in accordance with Article 35A, The Value of Changed Work.

5. COLORADO LABOR. The term “Colorado labor” shall be defined, as provided in § 8-17-101, C.R.S., as any person who is a resident of the state of Colorado, at the time of employment, without discrimination as to race, color, creed, sex, age, or religion except when sex or age is a bona fide occupational qualification, or shall have such other meaning as the term may otherwise be given in § 8-17-101, C.R.S., as amended.

6. CONTRACTOR. The word “Contractor” shall mean the person, company, firm, corporation or other legal entity entering into a contract with the State of Colorado acting by and through the Principal Representative.

7. DAYS. The term “days” whether singular or plural shall mean calendar days unless expressly stated otherwise. Where the term “business days” is used it shall mean business days of the State of Colorado.

8. DRAWINGS. The term “Drawings” shall mean all drawings approved by appropriate State officials which have been prepared by the Architect/Engineer showing the work to be done, except that where a list of drawings is specifically enumerated in the Supplementary General Conditions or division 1 of the Specifications, the term shall mean the drawings so enumerated, including all addenda drawings.

9. EMERGENCY FIELD CHANGE ORDER. The term “Emergency Field Change Order” shall mean a written change order for extra work or a change in the work necessitated by an emergency as defined in Article 35C executed on State form SC 6.31 and identified as an Emergency Field Change Order. The use of such orders is limited to emergencies and to the amounts shown in Article 35C.

10. FINAL ACCEPTANCE. The terms “final acceptance” or “finally complete” mean the stage in the progress of the work, after substantial completion, when all remaining items of work have been completed, all requirements of the Contract Documents are satisfied and the Notice of Acceptance can be issued. Discrete physical portions of the Project may be separately and partially deemed finally complete at the discretion of the Principal Representative when that portion of the Project reaches such stage of completion and a partial Notice of Acceptance can be issued.

11. NOTICE. The term “Notice” shall mean any communication in writing from either contracting party to the other by such means of delivery that receipt cannot properly be denied. Notice shall be provided to the person identified to receive it in Article 54E, Notice Identification, or to such other person as either party identifies in writing to receive Notice. Notice by facsimile transmission where proper transmission is evidence shall be adequate where facsimile numbers are included in Article 54E. Notwithstanding an email delivery or return receipt, email Notice shall not be adequate. Acknowledgment of receipt of a voice message shall not be deemed to waive the requirement that Notice, where required, shall be in writing.
12. OWNER. The term “Owner” shall mean the Principal Representative.

13. PRINCIPAL REPRESENTATIVE. The term “Principal Representative” shall be defined, as provided in § 24-30-1301(11), C.R.S., as the governing board of a state department, institution, or agency; or if there is no governing board, then the executive head of a state department, institution, or agency, as designated by the governor or the general assembly and as specifically identified in the Contract Documents, or shall have such other meaning as the term may otherwise be given in § 24-30-1301(11), C.R.S., as amended. The Principal Representative may delegate authority. The Contractor shall have the right to inquire regarding the delegated authority of any of the Principal Representative’s representatives on the project and shall be provided with a response in writing when requested.

14. PROCUREMENT OFFICER. The term “Procurement Officer” means any person duly authorized to enter into and administer contracts and make written determinations with respect thereto. “Procurement Officer” includes an authorized representative of the Principal Representative acting within the limits of his or her authority.

15. PRODUCT DATA. The term “Product Data” shall mean all submittals in the form of printed manufacturer’s literature, manufacturer’s specifications, and catalog cuts.

16. REASONABLY INFERABLE: The phrase “reasonably inferable” means that if an item or system is either shown or specified, all material and equipment normally furnished with such items or systems and needed to make a complete installation shall be provided whether mentioned or not, omitting only such parts as are specifically excepted, and shall include only components which the Contractor could reasonably anticipate based on his or her skill and knowledge using an objective, industry standard, not a subjective standard. This term takes into consideration the normal understanding that not every detail is to be given on the Drawings and Specifications. The phrase shall not, however, be construed to make the Contractor, rather than the Architect/Engineer, responsible for producing the Drawings and Specifications.

17. SAMPLES. The term “Samples” shall mean examples of materials or work provided to establish the standard by which the Work will be judged.

18. SC. The term “SC” means “State Contract” which is used in connection with labeling applicable State form documents (e.g. “SC 6.23” is the State form number for these General Conditions of the Contract).

19. SBP. The term “SBP” means “State Buildings”, which is used in connection with labeling applicable State form documents (e.g., “SBP-01” is the form number for Notice of Approval of Occupancy/Use).

20. SHOP DRAWINGS. The term “Shop Drawings” shall mean any and all detailed drawings prepared and submitted by Contractor, Subcontractor at any tier, vendors or manufacturers providing the products and equipment specified on the Drawings or called for in the Specifications.

21. SPECIFICATIONS. The term “Specifications” shall mean the requirements of divisions 1 through 17 of the project manual prepared by the Architect/Engineer describing the work to be accomplished.

22. STATE BUILDINGS PROGRAMS. The term “State Buildings Programs” is the shortened name of the division of State Buildings Programs. It shall refer to the division of the executive department of State government responsible for project administration, review, approval and coordination of plans, construction procurement policy, contractual procedures, and code compliance and inspection of all buildings, public works and improvements erected for state purposes; except public roads and highways and projects under the supervision of the division of wildlife and the division of parks and outdoor recreation as provided in § 24-30-1301, et seq, C.R.S. The term State Buildings Programs shall also mean that individual within a State Department agency or institution, including institutions of higher education, who has signed an agreement accepting delegation to perform all or part of the responsibilities and functions of State Buildings Programs.

23. SUBMITTALS. The term “submittals” means drawings, lists, tables, documents and samples prepared by the Contractor to facilitate the progress of the work as required by these General Conditions or the Drawings and Specifications. They consist of Shop Drawings, Product Data, Samples, and various administrative support documents including but not limited to lists of subcontractors, construction progress schedules, schedules of values, applications for payment, inspection and test results, requests for information, various document logs, and as-built drawings. Submittals are required by the Contract Documents, but except to the extent expressly specified otherwise are not themselves a part of the Contract Documents.
24. **SUBSTANTIAL COMPLETION.** The terms “substantial completion” or “substantially complete” mean the stage in the progress of the work when the construction is sufficiently complete, in accordance with the Contract Documents as modified by any Change Orders, so that the Work, or at the discretion of the Principal Representative, any designated portion thereof, is available for its intended use by the Principal Representative and a Notice of Substantial Completion can be issued. Portions of the Project may, at the discretion of the Principal Representative, be designated as substantially complete.

25. **SURETY.** The term “Surety” shall mean the company providing the labor and material payment and performance bonds for the Contractor as obligor.

26. **WORK.** The term “Work” shall mean all or part of the labor, materials, equipment, and other services required by the Contract Documents or otherwise required to be provided by the Contractor to meet the Contractor’s obligations under the Contract.

### ARTICLE 2. EXECUTION, CORRELATION, INTENT OF DOCUMENTS, COMMUNICATION AND COOPERATION

#### A. EXECUTION

The Contractor, within ten (10) days from the date of Notice of Award, will be required to:

1. Execute the Agreement, State Form SC-6.21;
2. Furnish fully executed Performance and Labor and Material Payment Bonds on State Forms SC-6.22 and SC-6.221; and
3. Furnish certificates of insurance evidencing all required insurance on standard Acord forms designed for such purpose.
4. Furnish certified copies of any insurance policies requested by the Principal Representative.

#### B. CORRELATION

By execution of the Agreement the Contractor represents that the Contractor has visited the site, has become familiar with local conditions and local requirements under which the Work is to be performed, including the building code programs of the State Buildings Program as implemented by the Principal Representative, and has correlated personal observations with the requirements of the Contract Documents.

#### C. INTENT OF DOCUMENTS

The Contract Documents are complementary, and what is called for by any one document shall be as binding as if called for by all. The intention of the documents is to include all labor, materials, equipment and transportation necessary for the proper execution of the Work. Words describing materials or work which have a well-known technical or trade meaning shall be held to refer to such recognized standards.

In any event, if any error exists, or appears to exist, in the requirements of the Drawings or Specifications, or if any disagreement exists as to such requirements, the Contractor shall have the same explained or adjusted by the Architect/Engineer before proceeding with the work in question. In the event of the Contractor’s failure to give prior written Notice of any such errors or disagreements of which the Contractor or the Subcontractors at any tier are aware, the Contractor shall, at no additional cost to the Principal Representative, make good any damage to, or defect in, work which is caused by such omission.

Where a conflict occurs between or within standards, Specifications or Drawings, which is not resolved by reference to the precedence between the Contract Documents, the more stringent or higher quality requirements shall apply so long as such more stringent or higher quality requirements are reasonably inferable. The Architect/Engineer shall decide which requirements will provide the best installation. With the exception noted in the following paragraph, the precedence of the Contract Documents is in the following sequence:

1. The Agreement (SC-6.21);
2. The Supplementary General Conditions, if any;
3. The General Conditions (SC-6.23); and
4. Drawings and Specifications, all as modified by any addenda.
Change Orders and Amendments, if any, to the Contract Documents take precedence over the original Contract Documents.

Notwithstanding the foregoing order of precedence, the Special Provisions of Article 52 of the General Conditions, Special Provisions, shall take precedence, rule and control over all other provisions of the Contract Documents.

Unless the context otherwise requires, form numbers in this document are for convenience only. In the event of any conflict between the form required by name or context and the form required by number, the form required by name or context shall control. The Contractor may obtain State forms from the Principal Representative upon request.

D. PARTNERING, COMMUNICATIONS AND COOPERATION

In recognition of the fact that conflicts, disagreements and disputes often arise during the performance of construction contracts, the Contractor and the Principal Representative aspire to encourage a relationship of open communication and cooperation between the employees and personnel of both, in which the objectives of the Contract may be better achieved and issues resolved in a more fully informed atmosphere.

The Contractor and the Principal Representative each agree to assign an individual who shall be fully authorized to negotiate and implement a voluntary partnering plan for the purpose of facilitating open communications between them. Within thirty days (30) of the Notice to Proceed, the assigned individuals shall meet to discuss development of an informal agreement to accomplish these goals.

The assigned individuals shall endeavor to reach an informal agreement, but shall have no such obligation. Any plans these parties voluntarily agree to implement shall result in no change to the contract amount, and no costs associated with such plan or its development shall be recoverable under any contract clause. In addition, no plan developed to facilitate open communication and cooperation shall alter, amend or waive any of the rights or duties of either party under the Contract unless and except by written Amendment to the Contract, nor shall anything in this clause or any subsequently developed partnering plan be deemed to create fiduciary duties between the parties unless expressly agreed in a written Amendment to the Contract. It is also recognized that projects with relatively low contract values may not justify the expense or special efforts required. In the case of small projects with an initial Contract value under $500,000, the requirements of the preceding paragraph shall not apply.

ARTICLE 3. COPIES FURNISHED

The Contractor will be furnished, free of charge, the number of copies of Drawings and Specifications as specified in the Contract Documents, or if no number is specified, all copies reasonably necessary for the execution of the work.

ARTICLE 4. OWNERSHIP OF DRAWINGS

Drawings or Specifications, or copies of either, furnished by the Architect/Engineer, are not to be used on any other work. At the completion of the Work, at the written request of the Architect/Engineer, the Contractor shall endeavor to return all Drawings and Specifications.

The Contractor may retain the Contractor’s Contract Document set, copies of Drawings and Specifications used to contract with others for any portion of the Work and a marked up set of as-built drawings.

ARTICLE 5. ARCHITECT/ENGINEER’S STATUS

The Architect/Engineer is the representative of the Principal Representative for purposes of administration of the Contract, as provided in the Contract Documents and the Agreement. In case of termination of employment or the death of the Architect/Engineer, the Principal Representative will appoint a capable Architect/Engineer against whom the Contractor makes no reasonable objection, whose status under the Contract shall be the same as that of the former Architect/Engineer.
ARTICLE 6. ARCHITECT/ENGINEER DECISIONS AND JUDGMENTS, ACCESS TO WORK AND INSPECTION

A. DECISIONS
The Architect/Engineer shall, within a reasonable time, make decisions on all matters relating to the execution and progress of the Work or the interpretation of the Contract Documents, and in the exercise of due diligence shall be reasonably available to the Contractor to timely interpret and make decisions with respect to questions relating to the design or concerning the Contract Documents.

B. JUDGMENTS
The Architect/Engineer is, in the first instance, the judge of the performance required by the Contract Documents as it relates to compliance with the Drawings and Specifications and quality of workmanship and materials.

The Architect/Engineer shall make judgments regarding whether directed work is extra or outside the scope of Work required by the Contract Documents at the time such direction is first given. If, in the Contractor’s judgment, any performance directed by the Architect/Engineer is not required by the Contract Documents or if the Architect/Engineer does not make the judgment required, it shall be a condition precedent to the filing of any claim for additional cost related to such directed work that the Contractor, before performing such work, shall first obtain in writing, the Architect/Engineer’s written decision that such directed work is included in the performance required by the Contract Documents.

The Architect/Engineer’s direction to perform the work does not state that the work is included in the performance required by the Contract Documents, the Contractor shall, in writing, request the Architect/Engineer to advise in writing whether the directed work will be considered extra work or work included in the performance required by the Contract Documents.

The Architect/Engineer shall respond to any such written request for such a decision within three (3) business days and if no response is provided, or if the Architect/Engineer’s written decision is to the effect that the work is included in the performance required by the Contract Documents, the Contractor may file with the Principal Representative and the Architect/Engineer a Notice of claim in accordance with Article 36, Claims. Whether or not a Notice of claim is filed, the Contractor shall proceed with the ordered work. Disagreement with the decision of the Architect/Engineer shall not be grounds for the Contractor to refuse to perform the work directed or to suspend or terminate performance.

C. ACCESS TO WORK
The Architect/Engineer, the Principal Representative and representatives of State Buildings Programs shall at all times have access to the work. The Contractor shall provide proper facilities for such access and for their observations or inspection of the work.

D. INSPECTION
The Architect/Engineer has agreed to make, or that structural, mechanical, electrical engineers or other consultants will make, periodic visits to the site to generally observe the progress and quality of the Work to determine in general if the Work is proceeding in accordance with the Contract Documents. Observation may extend to all or any part of the Work and to the preparation, fabrication or manufacture of materials.

Without in any way meaning to be exclusive or to limit the responsibilities of the Architect/Engineer or the Contractor, the Architect/Engineer has agreed to observe, among other aspects of the Work, the following for compliance with the Contract Documents:

1. Bearing surfaces of excavations before concrete is placed based upon the findings and recommendations of the Principal Representative’s soils engineering consultant;
2. Reinforcing steel after installation and before concrete is poured;
3. Structural concrete;
4. Laboratory reports on all concrete testing based upon the findings and recommendations of the Principal Representative’s testing consultant;
5. Structural steel during and after erection and prior to its being covered or enclosed;
6. Steel welding; Principal Representative will furnish steel welding inspection consultant/agency if required or necessary for the project;
7. Mechanical and plumbing work following its installation and prior to its being covered or enclosed;
8. Electrical work following its installation and prior to its being covered or enclosed;
9. Compaction testing reports based upon the findings and recommendations of the Principal Representative’s testing consultant; and
10. Any special or quality control testing required in the Contract Documents provided by the Principal Representative’s testing consultant.

If the Specifications, the Architect/Engineer’s instructions, laws, ordinances of any public authority require any work to be specifically tested or approved, the Contractor shall give the Architect/Engineer timely notice of its readiness for observation by the Architect/Engineer or inspection by another authority, and if the inspection is by another authority, of the date fixed for such inspection, required certificates of inspection being secured by the Contractor. The Contractor shall give all required Notices to the Principal Representative or his or her designee for inspections required for the building inspection program. It shall be the responsibility of the Contractor to determine the Notice required by the State pursuant to Building Inspection Record for the Project, according to State form SBP-B.I.R., or the equivalent form required by the Principal Representative as approved by the State Buildings Program. If any such work is covered up without approval or consent of the Architect/Engineer or prior to any building code inspection, it must, if required by the Architect/Engineer, the Principal Representative or the State Buildings Programs, be uncovered for examination, at the Contractor’s expense. If such work is found to be not in accordance with the Contract Documents, the Contractor shall pay such costs, unless he or she shall show that the defect in the work was caused by another contractor engaged by the Principal Representative. In that event, the Principal Representative shall pay such cost. In addition, examination of questioned work may be ordered, and if so ordered, the work must be uncovered by the Contractor. If such work be found in accordance with the Contract Documents, the Contractor shall be reimbursed the cost of examination and replacement.

ARTICLE 7. CONTRACTOR’S SUPERINTENDENCE AND SUPERVISION
The Contractor shall employ, and keep present on the Project during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Architect/Engineer and the Principal Representative. The superintendent shall not be changed except with the consent of the Architect/Engineer and the Principal Representative, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his or her employ. The superintendent shall represent the Contractor in his or her absence and all directions given to the superintendent shall be as binding as if given to the Contractor. Directions received by the superintendent shall be documented by the superintendent and confirmed in writing with the Contractor.

The Contractor shall give efficient supervision to the Work, using his or her best skill and attention. He or she shall carefully study and compare all Drawings, Specifications and other written instructions and shall without delay report any error, inconsistency or omission which he or she may discover in writing to the Architect/Engineer. The Contractor shall not be liable to the Principal Representative for damage to the extent it results from errors or deficiencies in the Contract Documents or other instructions by the Architect/Engineer, unless the Contractor knew or had reason to know, that damage would result by proceeding and the Contractor fails to so advise the Architect/Engineer.

The superintendent shall see that the Work is carried out in accordance with the Contract Documents and in a uniform, thorough and first-class manner in every respect. The Contractor’s superintendent shall establish all lines, levels, and marks necessary to facilitate the operations of all concerned in the Contractor’s Work. The Contractor shall lay out all work in a manner satisfactory to the Architect/Engineer, making permanent records of all lines and levels required for excavation, grading, foundations, and for all other parts of the Work.

ARTICLE 8. MATERIALS AND EMPLOYEES
Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the Work.
Unless otherwise specified, all materials shall be new and both workmanship and materials shall be first class and of uniform quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor is fully responsible for all acts and omissions of the Contractor’s employees and shall at all times enforce strict discipline and good order among employees on the site. The Contractor shall not employ on the Work any person reasonably deemed unfit by the Principal Representative or anyone not skilled in the work assigned to him.

ARTICLE 9. SURVEYS, PERMITS, LAWS, TAXES AND REGULATIONS

A. SURVEYS
The Principal Representative shall furnish all surveys, property lines and bench marks deemed necessary by the Architect/Engineer, unless otherwise specified.

B. PERMITS AND LICENSES
Permits and licenses necessary for the prosecution of the Work shall be secured and paid for by the Contractor. Unless otherwise specified in the Specifications, no local municipal or county building permit shall be required. However, State Buildings Programs requires each Principal Representative to administer a building code inspection program, the implementation of which may vary at each agency or institution of the State. The Contractors' employees shall become personally familiar with these local conditions and requirements and shall fully comply with such requirements. State electrical and plumbing permits are required, unless the requirement to obtain such permits is altered by State Building's Programs. The Contractor shall obtain and pay for such permits.

Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Principal Representative, unless otherwise specified.

C. TAXES
1. REFUND OF SALES AND USE TAXES
The Contractor shall pay all local taxes required to be paid, including but not necessarily limited to all sales and use taxes. If requested by the Principal Representative prior to issuance of the Notice to Proceed or directed in the Supplementary General Conditions or the Specifications, the Contractor shall maintain records of such payments in respect to the Work, which shall be separate and distinct from all other records maintained by the Contractor, and the Contractor shall furnish such data as may be necessary to enable the State of Colorado, acting by and through the Principal Representative, to obtain any refunds of such taxes which may be available under the laws, ordinances, rules or regulations applicable to such taxes. When so requested or directed, the Contractor shall require Subcontractors at all tiers to pay all local sales and use taxes required to be paid and to maintain records and furnish the Contractor with such data as may be necessary to obtain refunds of the taxes paid by such Subcontractors. No State sales and use taxes are to be paid on material to be used in this Project. On application by the purchaser or seller, the Department of Revenue shall issue to a Contractor or to a Subcontractor at any tier, a certificate or certificates of exemption per § 39-26-114(1)(d), C.R.S., and § 39-26-203, C.R.S.

2. FEDERAL TAXES
The Contractor shall exclude the amount of any applicable federal excise or manufacturers' taxes from the proposal. The Principal Representative will furnish the Contractor, on request exemption certificates.

D. LAWS AND REGULATIONS
The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn or specified. If the Contractor observes that the Drawings or Specifications require work which is at variance therewith, the Contractor shall without delay notify the Architect/Engineer in writing and any necessary changes shall be adjusted as provided in Article 35, Changes In The Work.
The Contractor shall bear all costs arising from the performance of work required by the Drawings or Specifications that the Contractor knows to be contrary to such laws, ordinances, rules or regulations, if such work is performed without giving Notice to the Architect/Engineer.

ARTICLE 10. PROTECTION OF WORK AND PROPERTY

A. GENERAL PROVISIONS
The Contractor shall continuously maintain adequate protection of all work and materials, protect the property from injury or loss arising in connection with this Contract and adequately protect adjacent property as provided by law and the Contract Documents. The Contractor shall make good any damage, injury or loss, except to the extent:

1. Directly due to errors in the Contract Documents;
2. Caused by agents or employees of the Principal Representative; and,
3. Due to causes beyond the Contractor’s control and not to fault or negligence; provided such damage, injury or loss would not be covered by the insurance required to be carried by the Contractor;

B. SAFETY PRECAUTIONS
The Contractor shall take all necessary precautions for the safety of employees on the Project, and shall comply with all applicable provisions of federal, State and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. He or she shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of workers and the public and shall post danger signs warning against the hazards created by such features of construction as protruding nails, hoists, well holes, elevator hatchways, scaffolding, window openings, stairways and falling materials; and he or she shall designate a responsible member of his or her organization on the Project, whose duty shall be the prevention of accidents. The name and position of any person so designated shall be reported to the Architect/Engineer by the Contractor.

The Contractor shall provide all necessary bracing, shoring and tying of all structures, decks and framing to prevent any structural failure of any material which could result in damage to property or the injury or death of persons; take all precautions to insure that no part of any structure of any description is loaded beyond its carrying capacity with anything that will endanger its safety at any time during the execution of this Contract; and provide for the adequacy and safety of all scaffolding and hoisting equipment. The Contractor shall not permit open fires within the building enclosure. The Contractor shall construct and maintain all necessary temporary drainage and do all pumping necessary to keep excavations and floors, pits and trenches free of water. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work, except as otherwise noted.

The Contractor shall take due precautions when obstructing sidewalks, streets or other public ways in any manner, and shall provide, erect and maintain barricades, temporary walkways, roadways, trench covers, colored lights or danger signals and any other devices necessary or required to assure the safe passage of pedestrians and automobiles.

C. EMERGENCIES
In an emergency affecting the safety of life or of the Work or of adjoining property, the Contractor without special instruction or authorization from the Architect/Engineer or Principal Representative, is hereby permitted to act, at his or her discretion, to prevent such threatened loss or injury; and he or she shall so act, without appeal, if so authorized or instructed. Provided the Contractor has no responsibilities for the emergency, if the Contractor incurs additional cost not otherwise recoverable from insurance or others on account of any such emergency work, the Contract sum shall be equitably adjusted in accordance with Article 35, Changes In The Work.

ARTICLE 11. DRAWINGS AND SPECIFICATIONS ON THE WORK
The Contractor shall keep on the job site one copy of the Contract Documents in good order, including current copies of all Drawings and Specifications for the Work, and any approved Shop Drawings, Product Data or Samples, and as-built drawings. As-built drawings shall be updated weekly by the Contractor and Subcontractors to reflect actual constructed conditions including dimensioned locations of underground work.
and the Contractor's failure to maintain such updates may be grounds to withhold portions of payments otherwise due in accordance with Article 33, Payments Withheld. All such documents shall be available to the Architect/Engineer and representatives of the State. In addition, the Contractor shall keep on the job site one copy of all approved addenda, Change Orders and requests for information issued for the Work.

The Contractor shall develop procedures to insure the currency and accuracy of as-built drawings and shall maintain on a current basis a log of requests for information and responses thereto, a Shop Drawing and Product Data submittal log, and a Sample submittal log to record the status of all necessary and required submittals.

**ARTICLE 12. REQUESTS FOR INFORMATION AND SCHEDULES**

**A. REQUESTS FOR INFORMATION**

The Architect/Engineer shall furnish additional instructions with reasonable promptness, by means of drawings or otherwise, necessary for the proper execution of the Work. All such drawings and instructions shall be consistent with the Contract Documents and reasonably inferable there from. The Architect/Engineer shall determine what additional instructions or drawings are necessary for the proper execution of the Work.

The Work shall be executed in conformity with such instructions and the Contractor shall do no work without proper drawings, specifications or instructions. If the Contractor believes additional instructions, specifications or drawings are needed for the performance of any portion of the Work, the Contractor shall give Notice of such need in writing through a request for information furnished to the Architect/Engineer sufficiently in advance of the need for such additional instructions, specifications or drawings to avoid delay and to allow the Architect/Engineer a reasonable time to respond. The Contractor shall maintain a log of the requests for information and the responses provided.

**B. SCHEDULES**

1. **SUBMITTAL SCHEDULES**

Prior to filing the Contractor's first application for payment, a schedule shall be prepared which may be preliminary to the extent required, fixing the dates for the submission and initial review of required Shop Drawings, Product Data and Samples for the beginning of manufacture and installation of materials, and for the completion of the various parts of the Work. It shall be prepared so as to cause no delay in the Work or in the work of any other contractor. The schedule shall be subject to change from time to time in accordance with the progress of the Work, and it shall be subject to the review and approval by the Architect/Engineer. It shall fix the dates at which the various Shop Drawings Product Data and Samples will be required from the Architect/Engineer. The schedule shall be prepared and approved in time to avoid delay, considering reasonable periods for review, manufacture or installation.

At the time the schedule is prepared, the Contractor, the Architect/Engineer and Principal Representative shall jointly identify the Shop Drawing, Product Data and Samples, if any, which the Principal Representative shall receive simultaneously with the Architect/Engineer for the purposes of owner coordination with existing facility standards and systems. The Contractor shall furnish a copy for the Principal Representative when so requested. Transmittal of Shop Drawings and Product Data copies to the Principal Representative shall be solely for the convenience of the Principal Representative and shall neither create nor imply responsibility or duty of review by the Principal Representative.

The Contractor may also, or at the direction of the Principal Representative at any time shall, prepare and maintain a schedule, which may also be preliminary and subject to change to the extent required, fixing the dates for the initial responses to requests for information or for detail drawings which will be required from the Architect/Engineer to allow the beginning of manufacture, installation of materials and for the completion of the various parts of the Work. The schedule shall be subject to review and approval by the Architect/Engineer. The schedule shall be prepared and approved in time to avoid delay, considering reasonable periods for review, manufacture or installation, but so long
as the request for information schedule is being maintained, it shall not be deemed to transfer responsibility to the Contractor for errors or omissions in the Contract Documents where circumstances make timely review and performance impossible.

The Architect/Engineer shall not unreasonably withhold approval of the Contractor’s schedules and shall inform the Contractor and the Principal Representative of the basis of any refusal to agree to the Contractor’s schedules. The Principal Representative shall attempt to resolve any disagreements.

2. SCHEDULE OF VALUES
Within twenty-one (21) calendar days after the date of the Notice to Proceed, the Contractor shall submit to the Architect/Engineer and Principal Representative, for approval, and to the State Buildings Programs when specifically requested, a complete itemized schedule of the values of the various parts of the Work, as estimated by the Contractor, aggregating the total price. The schedule of values shall be in such detail as the Architect/Engineer or the Principal Representative shall require, prepared on forms acceptable to the Principal Representative. It shall, at a minimum, identify on a separate line each division of the Specifications including the general conditions costs to be charged to the Project. The Contractor shall revise and resubmit the schedule of values for approval when, in the opinion of the Architect/Engineer or the Principal Representative, such resubmittal is required due to changes or modifications to the Contract Documents or the Contract sum.

The total cost of each line item so separately identified shall, when requested by the Architect/Engineer or the Principal Representative, be broken down into reasonable estimates of the value of:

a. Material, which shall include the cost of material actually built into the Project plus any local sales or use tax paid thereon; and,

b. Labor and other costs.

The cost of subcontracts shall be incorporated in the Contractor’s schedule of values, and when requested by the Architect/Engineer or the Principal Representative, shall be separately shown as line items.

The Architect/Engineer shall review the proposed schedules and approve it after consultation with the Principal Representative, or advise the Contractor of any required revisions within ten (10) days of its receipt. In the event no action is taken on the submittal within ten days, the Contractor may utilize the schedule of values as its submittal for payment until it is approved or until revisions are requested.

When the Architect/Engineer deems it appropriate to facilitate certification of the amounts due to the Contractor, further breakdown of subcontracts, including breakdown by labor and materials, may be directed.

This schedule of values, when approved, will be used in preparing Contractor’s applications for payment on State Form SC-7.2, Application for Payment.

3. CONSTRUCTION SCHEDULES
Within twenty-one (21) calendar days after the date of the Notice to Proceed, the Contractor shall submit to the Architect/Engineer and the Principal Representative, and to the State Buildings Programs when specifically requested, on a form acceptable to them, an overall timetable of the construction schedule for the Project. Unless the Supplementary General Conditions or the Specifications allow scheduling with bar charts or other less sophisticated scheduling tools, the Contractor’s schedule shall be a critical-path method (CPM) construction schedule. The CPM schedule shall start with the date of the Notice to Proceed and include submittals activities, the various construction activities, change order work (when applicable), close-out, testing, demonstration of equipment operation when called for in the Specifications, and acceptance. The CPM shall at a minimum correlate to the schedule of values line items and shall be cost loaded if requested by the Architect/Engineer or Principal Representative. The completion time shall be the time specified in the Agreement and all Project scheduling
shall allocate float utilizing the full period available for construction as specified in the Agreement on State Form SC 6.13, without indication of early completion, unless such earlier completion is approved in writing by the Principal Representative and State Building Programs.

The time shown between the starting and completion dates of the various elements within the construction schedule shall represent one hundred per cent (100%) completion of each element.

All other elements of the CPM schedule shall be as required by the Specifications. In addition, the Contractor shall submit monthly updates of the construction schedule. These updates shall reflect the Contractor’s “work in place” progress.

When requested by the Architect/Engineer, the Principal Representative or the State Buildings Programs, the Contractor shall revise the construction schedule to reflect changes in the schedule of values.

When the testing of materials is required by the Specifications, the Contractor shall also prepare and submit to the Architect/Engineer and the Principal Representative a schedule for testing in accordance with Article 14, Samples and Testing.

ARTICLE 13. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. SUBMITTAL PROCESS

The Contractor shall check and field verify all dimensions. The Contractor shall check, approve and submit to the Architect/Engineer in accordance with the schedule described in Article 12, Requests for Information and Schedules, all Shop Drawings, Product Data and Samples required by the specifications or required by the Contractor for the work of the various trades. All Drawings and Product Data shall contain identifying nomenclature and each submittal shall be accompanied by a letter of transmittal identifying in detail all enclosures. The number of copies of Shop Drawings and Product Data to be submitted shall be as specified in the Specifications and if no number is specified then three copies shall be submitted.

The Architect/Engineer shall review and comment on the Shop Drawings and Product Data within the time provided in the agreed upon schedule for conformance with information given and the design concept expressed in, or reasonably inferred from, the Contract Documents. The nature of all corrections to be made to the Shop Drawings and Product Data, if any, shall be clearly noted, and the submittals shall be returned to the Contractor for such corrections. If a change in the scope of the Work is intended by revisions requested to any Shop Drawings and Product Data, the Contractor shall be requested to prepare a change proposal in accordance with Article 35, Changes In The Work. On resubmitted Shop Drawings, Product Data or Samples, the Contractor shall direct specific attention in writing on the transmittal cover to revisions other than those corrections requested by the Architect/Engineer on any previously checked submittal. The Architect/Engineer shall promptly review and comment on, and return, the resubmitted items.

The Contractor shall thereafter furnish such other copies in the form approved by the Architect/Engineer as may be needed for the prosecution of the work.

B. FABRICATION AND ORDERING

Fabrication shall be started by the Contractor only after receiving approved Shop Drawings from the Architect/Engineer. Materials shall be ordered in accordance with approved Product Data. Work which is improperly fabricated, whether through incorrect Shop Drawings, faulty workmanship or materials, will not be acceptable.
C. DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS
The review and comments of the Architect/Engineer of Shop Drawings, Product Data or Samples shall not relieve the Contractor from responsibility for deviations from the Drawings or Specifications, unless he or she has in writing called the attention of the Architect/Engineer to such deviations at the time of submission, nor shall it relieve the Contractor from responsibility for errors of any sort in Shop Drawings or Product Data. Review and comments on Shop Drawings or Product Data containing identified deviations from the Contract Documents shall not be the basis for a Change Order or a claim based on a change in the scope of the Work unless Notice is given to the Architect/Engineer and Principal Representative of all additional costs, time and other impacts of the identified deviation by bringing it to their attention in writing at the time the submittals are made, and any subsequent change in the Contract sum or the Contract time shall be limited to cost, time and impacts so identified.

D. CONTRACTOR REPRESENTATIONS
By preparing, approving, and/or submitting Shop Drawings, Product Data and Samples, the Contractor represents that the Contractor has determined and verified all materials, field measurements, and field construction criteria related thereto, and has checked and co-ordinated the information contained within each submittal with the requirements of the Work, the Project and the Contract Documents and prior reviews and approvals.

ARTICLE 14. SAMPLES AND TESTING
A. SAMPLES
The Contractor shall furnish for approval, with such promptness as to cause no delay in his or her work or in that of any other Contractor, all Samples as directed by the Architect/Engineer. The Architect/Engineer shall check and approve such Samples, with reasonable promptness, but only for conformance with the design intent of the Contract Documents and the Project, and for compliance with any submission requirements given in the Contract Documents.

B. TESTING - GENERAL
The Contractor shall provide such equipment and facilities as the Architect/Engineer may require for conducting field tests and for collecting and forwarding samples to be tested. Samples themselves shall not be incorporated into the Work after approval without the permission of the Architect/Engineer.

All materials or equipment proposed to be used may be tested at any time during their preparation or use. The Contractor shall furnish the required samples without charge and shall give sufficient Notice of the placing of orders to permit testing thereof. Products may be sampled either prior to shipment or after being received at the site of the Work.

Tests shall be made by an accredited testing laboratory. Except as otherwise provided in the Specifications, sampling and testing of all materials, and the laboratory methods and testing equipment, shall be in accordance with the latest standards and tentative methods of the American Society of Testing Materials (ASTM). The cost of testing which is in addition to the requirements of the Specifications shall be paid by the Contractor if so directed by the Architect/Engineer, and the Contract sum shall be adjusted accordingly by Change Order; provided however, that whenever testing shows portions of the Work to be deficient, all costs of testing including that required to verify the adequacy of repair or replacement work shall be the responsibility of the Contractor.

C. TESTING - CONCRETE AND SOILS
Unless otherwise specified or provided elsewhere in the Contract Documents, the Principal Representative will contract for and pay for the testing of concrete and for soils compaction testing through an independent laboratory or laboratories selected and approved by the Principal Representative. The Contractor shall assume the responsibility of arranging, scheduling and coordinating the concrete sample collection efforts and soils compaction efforts. Testing shall be performed in accordance with the requirements of the Specifications, and if no requirements are specified, the Contractor shall request instructions and testing shall be as directed by the Architect/Engineer or the soils engineer, as applicable, and in accordance with standard industry practices.
The Principal Representative and the Architect/Engineer shall be given reasonable advance notice of each concrete pour and reserve the right to either increase or decrease the number of cylinders or the frequency of tests.

Soil compaction testing shall be at random locations selected by the soils engineer. In general, soils compaction testing shall be as directed by the soils engineer and shall include all substrate prior to backfill or construction.

D. TESTING - OTHER
Additional testing required by the Specifications will be accomplished and paid for by the Principal Representative in a manner similar to that for concrete and soils unless noted otherwise in the Specifications. In any case, the Contractor will be responsible for arranging, scheduling and coordinating additional tests. Where the additional testing will be contracted and paid for by the Principal Representative the Contractor shall give the Principal Representative not less than one month advance written Notice of the date the first such test will be required.

ARTICLE 15. SUBCONTRACTS
The Contractor shall, within twenty one (21) days after the date of the Notice of Award, submit to the Architect/Engineer, the Principal Representative and State Buildings Programs a preliminary list of Subcontractors. It shall be as complete as possible at the time, showing all known Subcontractors planned for the work. The list shall be supplemented as other Subcontractors are determined by the Contractor and any such supplemental list shall be submitted to the Architect/Engineer, the Principal Representative and State Buildings Programs not less than ten (10) days before the Subcontractor commences work.

The Contractor’s list shall include those Subcontractors, if any, which the Contractor indicated in its bid would be employed for specific portions of the Work if such indication was requested in the bid documents issued by the State. The substitution of any Subcontractor listed in the Contractor’s bid shall be justified in writing not less than ten (10) days after the date of the Notice of Award, and shall be subject to the approval of the Principal Representative. For reasons such as the Subcontractor’s refusal to perform as agreed, subsequent unavailability or later discovered bid errors, or other similar reasons, but not including the availability of a lower Subcontract price, such substitution may be approved. The Contractor shall bear any additional cost incurred by such substitutions.

The Contractor shall not employ any Subcontractor that the Architect/Engineer, within seven (7) days after the date of receipt of the Contractor’s list of Subcontractors or any supplemental list, objects to in writing as being unacceptable to either the Architect/Engineer, the Principal Representative or State Buildings Programs. If a Subcontractor is deemed unacceptable, the Contractor shall propose a substitute Subcontractor and the Contract sum shall be adjusted by any demonstrated difference between the Subcontractor’s bids, except where the Subcontractor has been debarred by the State or fails to meet qualifications of the Contract Documents to perform the work proposed.

The Contractor shall be fully responsible to the Principal Representative for the acts and omissions of Subcontractors and of persons either directly or indirectly employed by them. All instructions or orders in respect to work to be done by Subcontractors shall be given to the Contractor.

ARTICLE 16. RELATIONS OF CONTRACTOR AND SUBCONTRACTOR
The Contractor agrees to bind each Subcontractor to the terms of these General Conditions and to the requirements of the Drawings and Specifications, and any Addenda thereto, and also all the other Contract Documents, so far as applicable to the work of such Subcontractor. The Contractor further agrees to bind each Subcontractor to those terms of the General Conditions which expressly require that Subcontractors also be bound, including without limitation, requirements that Subcontractors waive all rights of subrogation, provide adequate general commercial liability and property insurance, automobile insurance and workers’ compensation insurance as provided in Article 25, Insurance.

Nothing contained in the Contract Documents shall be deemed to create any contractual relationship whatsoever between any Subcontractor and the State of Colorado acting by and through its Principal Representative.
ARTICLE 17. MUTUAL RESPONSIBILITY OF CONTRACTORS
Should the Contractor cause damage to any separate contractor on the work, the Contractor agrees, upon due Notice, to settle with such contractor by agreement, if he or she will so settle. If such separate contractor sues the Principal Representative on account of any damage alleged to have been so sustained, the Principal Representative shall notify the Contractor, who shall defend such proceedings if requested to do so by Principal Representative. If any judgment against the Principal Representative arises there from, the Contractor shall pay or satisfy it and pay all costs and reasonable attorney fees incurred by the Principal Representative, in accordance with Article 52C, Indemnification, provided the Contractor was given due Notice of an opportunity to settle.

ARTICLE 18. SEPARATE CONTRACTS
The Principal Representative reserves the right to enter into other contracts in connection with the Project or the Contract. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his or her work with theirs. If any part of the Contractor’s work depends, for proper execution or results, upon the work of any other contractor, the Contractor shall inspect and promptly report to the Architect/Engineer any defects in such work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other contractor’s work as fit and proper for the reception of work, except as to defects which may develop in the other Contractor’s work after the execution of the Contractor's work.

To insure the proper execution of subsequent work, the Contractor shall measure work already in place and shall at once report to the Architect/Engineer any discrepancy between the executed work and the Drawings.

ARTICLE 19. USE OF PREMISES
The Contractor shall confine apparatus, the storage of materials and the operations of workmen to limits indicated by law, ordinances, permits and any limits lines shown on the Drawings. The Contractor shall not unreasonably encumber the premises with materials.

The Contractor shall enforce all of the Architect/Engineer’s instructions and prohibitions regarding, without limitation, such matters as signs, advertisements, fires and smoking.

ARTICLE 20. CUTTING, FITTING OR PATCHING
The Contractor shall do all cutting, fitting or patching of work that may be required to make its several parts come together properly and fit it to receive or be received by work of other Contractors shown upon, or reasonably inferred from, the Drawings and Specifications for the complete structure, and shall provide for such finishes to patched or fitted work as the Architect/Engineer may direct. The Contractor shall not endanger any work by cutting, excavating or otherwise altering the work and shall not cut or alter the work of any other Contractor save with the consent of the Architect/Engineer.

ARTICLE 21. UTILITIES
A. TEMPORARY UTILITIES
Unless otherwise specifically stated in the Specifications or on the Drawings, the Principal Representative shall be responsible for the locations of all utilities as shown on the Drawings or indicated elsewhere in the Specifications, subject to the Contractor’s compliance with all statutory or regulatory requirements to call for utility locates. When actual conditions deviate from those shown the Contractor shall comply with the requirements of Article 37, Differing Site Conditions. The Contractor shall provide and pay for the installation of all temporary utilities required to supply all the power, light and water needed by him and other Contractors for their Work and shall install and maintain all such utilities in such manner as to protect the public and workmen and conform with any applicable laws and regulations. Upon completion of the work, he or she shall remove all such temporary utilities from the site. The Contractor shall pay for all consumption of power, light and water used by him or her and the other Contractors, without regard to whether such items are metered by temporary or permanent meters. The Superintendent shall have full authority over all trades and Subcontractors at any tier to prevent waste. The cut-off date on permanent meters shall be either the agreed date of the date of the Notice of Substantial Completion or the Notice of Approval of Occupancy/Use of the Project.
B. PROTECTION OF EXISTING UTILITIES
Where existing utilities, such as water mains, sanitary sewers, storm sewers and electrical conduits, are shown on the Drawings, the Contractor shall be responsible for the protection thereof, without regard to whether any such utilities are to be relocated or removed as a part of the Work. If any utilities are to be moved, the moving must be conducted in such manner as not to cause undue interruption or delay in the operation of the same.

C. CROSSING OF UTILITIES
When new construction crosses highways, railroads, streets, or utilities under the jurisdiction of State, city or other public agency, public utility or private entity, the Contractor shall secure proper written permission before executing such new construction. The Contractor will be required to furnish a proper release before final acceptance of the Work.

ARTICLE 22. UNSUITABLE CONDITIONS
The Contractor shall not work at any time, or permit any work to be done, under any conditions contrary to those recommended by manufacturers or industry standards which are otherwise proper, unsuited for proper execution, safety and performance. Any cost caused by ill-timed work shall be borne by the Contractor unless the timing of such work shall have been directed by the Architect/Engineer or the Principal Representative, after the award of the Contract, and the Contractor provided Notice of any additional cost.

ARTICLE 23. TEMPORARY FACILITIES
A. OFFICE FACILITIES
The Contractor shall provide and maintain without additional expense for the duration of the Project temporary office facilities, as required and as specified, for his or her own use and the use of the Architect/Engineer, representatives of the Principal Representative and State Buildings Programs.

B. TEMPORARY HEAT
The Contractor shall furnish and pay for all the labor, facilities, equipment, fuel and power necessary to supply temporary heating, ventilating and air conditioning, except to the extent otherwise specified, and shall be responsible for the installation, operation, maintenance and removal of such facilities and equipment. Unless otherwise specified, the permanent HVAC system shall not be used for temporary heat in whole or in part. If the Contractor desires to put the permanent system into use, in whole or in part, the Contractor shall set it into operation and furnish the necessary fuel and manpower to safely operate, protect and maintain that HVAC system. Any operation of all or any part of the permanent HVAC system including operation for testing purposes shall not constitute acceptance of the system, nor shall it relieve the Contractor of his or her one-year guarantee of the system from the date of the Notice of Substantial Completion of the entire Project, and if necessary due to prior operation, the Contractor shall provide manufacturers’ extended warranties from the date of the Contractor’s use prior to the date of the Notice of Substantial Completion.

C. WEATHER PROTECTION
The Contractor shall, at all times, provide protection against weather, so as to maintain all work, materials, apparatus and fixtures free from injury or damages.

D. DUST PARTITIONS
If the Work involves work in an occupied existing building, the Contractor shall erect and maintain during the progress of the work, suitable dust-proof temporary partitions, or more permanent partitions as specified, to protect such building and the occupants thereof.

E. BENCH MARKS
The Contractor shall maintain any site bench marks provided by the Principal Representative and shall establish any additional benchmarks specified by the Architect/Engineer as necessary for the Contractor to layout the work and ascertain all grades and levels as needed.

F. SIGN
The Contractor shall erect and permit one 4’ x 8’ sign only at the site to identify the Project as specified or directed by the Architect/Engineer which shall be maintained in good condition during the life of the Project.
G. SANITARY PROVISION
The Contractor shall provide and maintain suitable, clean, temporary sanitary toilet facilities for any and all workmen engaged on the Work, for the entire construction period, in strict compliance with the requirement of all applicable codes, regulations, laws and ordinances, and no other facilities, new or existing, may be used by any person on the Project. When the Project is complete the Contractor shall promptly remove them from the site, disinfect, and clean or treat the areas as required. If any new construction surfaces in the Project other than the toilet facilities provided for herein are soiled at any time, the entire areas so soiled shall be completely removed from the Project and rebuilt.

ARTICLE 24. CLEANING UP
The Contractor shall keep the building and premises free from all surplus material, waste material, dirt and rubbish caused by employees or work, and at the completion of the Work shall remove all such surplus material, waste material, dirt, and rubbish, as well as all tools, equipment and scaffolding, and shall wash and clean all window glass and plumbing fixtures, perform cleanup and cleaning required by the Specifications and leave all of the work clean unless more exact requirements are specified.

ARTICLE 25. INSURANCE
A. GENERAL LIABILITY, PROPERTY DAMAGE AND AUTOMOBILE
The Contractor shall procure and maintain comprehensive commercial general liability and property damage insurance and comprehensive automobile liability and property damage insurance as hereinafter specified, at his or her own expense, during the life of this Contract. This insurance shall include a provision preventing cancellation without forty-five (45) days’ prior Notice by certified mail and shall state whether the coverage is “claims made” or “per occurrence”. The Contractor shall obtain “per occurrence” insurance unless otherwise agreed in writing by the Principal Representative. A completed Certificate of Insurance shall be filed with State Buildings Programs within ten (10) days after the date of the Notice of Award, said Certificate to specifically state the inclusion of the coverages and provisions set forth herein.

This insurance must protect the Contractor from all claims for bodily injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with, any operations under this Contract, whether such operations be by the Contractor or by any Subcontractor under him or anyone directly or indirectly employed by the Contractor or by a Subcontractor. All such insurance shall be written with limits and coverages as specified below and shall be written on a Comprehensive Form of Policy. In the event any of the hazards or exposures, normally listed in standard policies as “Exclusions”, are involved or required under this Contract, then such hazards or exposures shall be covered and protection afforded under the policy and such exclusions (X), (c) and (u), as excerpted from standard policies, must be removed from the policy as listed below:

“(X) Injury to or destruction of any property arising out of blasting or explosion, other than the explosion of air or steam vessels, piping under pressure, prime movers, machinery of power transmitting equipment”

“(c) The collapse of or structural injury to any building or structure due to: (1) grading of land, excavating, burrowing, filling, backfilling, tunneling, pile driving, cofferdam work or caisson work; or (2) moving, shoring, underpinning, raising or demolition of any building or structure, or removal or rebuilding of any structural support thereof;”

“(u) (1) injury to or destruction of wires, conduits, pipes, mains, sewers or other similar property, or any apparatus in connection therewith, below the surface of the ground, if such injury or destruction is caused by and occurs during the use of mechanical equipment for the purpose of grading of land, paving, excavating or drilling; or, (2) injury to or destruction of property at any time resulting there from.”

Such insurance shall be written with limits and coverages as follows, and the State of Colorado shall be named as an additional insured listed on the Acord form. The additional insured endorsement shall be requested on Insurance Services Office, Inc. (ISO) endorsement form No. CG20101185. If CG20101185 is not available, the endorsement shall be furnished by CG20101093. Additionally, CG20371001 shall be included, if possible. All aggregate amounts must be specified on the Acord form.
A. **Commercial General Liability (CGL)**, (including bodily injury, personal injury and property damage) with the following coverages depending upon format:

1. Occurrence basis policy-combined single limit of $1,000,000
   (Acord example) Minimum limit: $1,000,000 each occurrence
2. Annual Aggregate limit policy-not less than $2,000,000
   (Acord example) Minimum limits: $2,000,000 general aggregate with dedicated limits per project site
   $2,000,000 products and completed operations aggregate

The following coverages shall be included in the CGL:

1. Premises-Operations
2. Explosion/Collapse Hazard
3. Underground Hazard
4. Products/Completed Operations Hazard
5. Broad Form Contractual
6. Independent Contractors
7. Broad Form Property Damage
8. Personal Injury

B. **Automobile Liability** and business auto liability covering liability arising out of any auto (including owned, hired and non-owned autos).

   Occurrence basis policy-combined single limit of $1,000,000
   (Acord example) Minimum limit: $1,000,000 combined single limit each accident

   Coverages:

   1. Specific waiver of subrogation
   2. Contractual liability

C. **Umbrella/Excess Liability (for construction projects exceeding $10,000,000, provide the following coverage)**: The vendor shall maintain umbrella/excess liability insurance on an occurrence basis in excess of the underlying insurance described in Sections A, B, and D, which is at least as broad as each and every area of the underlying policies. The amounts of insurance required in Sections A, B, and D may be satisfied by the vendor purchasing coverage for the limits specified or by any combination of underlying and umbrella limits, so long as the total amount of insurance is not less than the limits specified in each section previously mentioned.

   (Acord example) Minimum limit: $5,000,000 combined single limit and aggregate limit

   Coverages:

   1. Additional insured endorsement
   2. Pay on behalf of wording
   3. Concurrency of effective dates with primary
   4. Blanket contractual liability
   5. Punitive damages coverage (where not prohibited by law)

B. **WORKERS’ COMPENSATION INSURANCE**

   The Contractor shall procure and maintain Workers’ Compensation Insurance at his or her own expense during the life of this Contract, including occupational disease provisions for all employees. This insurance, if issued by a private carrier, shall contain the same forty-five (45) days’ Notice of cancellation as required in Article 25, Insurance for the Comprehensive General Liability Insurance.

   Evidence of such insurance shall be by the issuance of either a Certificate by the State Compensation
Insurance Fund (or its successor) or, if issued by a private carrier, the completion of a Certificate of Insurance, and such Certificate shall be filed with the State Buildings Program. The Certificate shall be filed within ten (10) days after the date of the Notice of Award.

The Contractor shall also require each Subcontractor to furnish Workers' Compensation Insurance, including occupational disease provisions for all of the latter's employees, and to the extent not furnished, the Contractor accepts full liability and responsibility for Subcontractor’s employees.

In cases where any class of employees engaged in hazardous work under this Contract at the site of the Project is not protected under the Workers' Compensation statute, the Contractor shall provide, and shall cause each Subcontractor to provide, adequate and suitable insurance for the protection of employees not otherwise protected.

C. **BUILDER’S RISK INSURANCE**

Unless otherwise expressly stated in the Supplementary General Conditions (e.g. where the State elects to provide for projects with a completed value of less than $1,000,000), the Contractor shall effect and maintain a policy of insurance to provide, at Contractor’s expense, All Risk Builder’s Risk Insurance Coverage which shall be in the dollar amount of the total Project for which the Work of this Contract is to be done. Such policy may have a deductible clause but not to exceed ten thousand dollars ($10,000.00).

The Contractor shall waive all rights of subrogation as regards the State of Colorado, its officials, its officers, its agents and its employees, all while acting within the scope and course of their employment. The Insurer shall not void such insurance policy by reason of the Contractor waiving said rights. The Contractor shall require all Subcontractors at any tier to similarly waive all such rights of subrogation and shall expressly include such a waiver in all subcontracts. The insurance shall remain in effect until the Date of Notice specified on the Notice of Acceptance, State Form SBP-6.27, whether or not the building or some part thereof is occupied in any manner prior to final acceptance of the Project, and shall remain fully in effect not withstanding any acceptance of the work of any Subcontractor on the Project. Such insurance shall be in an amount equal to the total insurable value of the construction. Upon request, the amount of such insurance shall be increased to include the cost of any additional work to be done on the Project, or materials or equipment to be incorporated in the Project, or materials or equipment to be incorporated in the Project, under other independent contracts let or to be let. In such event, the Contractor shall be reimbursed for this cost as his or her share of the insurance in the same ratio as the ratio of the insurance represented by such independent contracts let or to be let to the total insurance carried.

All such insurance shall insure the State of Colorado acting by and through its Principal Representative, the Contractor and his or her Subcontractors at any tier as their interests may appear. The insurance shall include a loss payable provision naming the State Controller, as loss payee.

The Principal Representative, with approval of the State Controller, shall have the power to adjust and settle any loss. Unless it is agreed otherwise, all monies received shall be applied first on rebuilding or repairing the destroyed or injured work.

The Certificate of Insurance shall specifically state the inclusion of the provisions herein above. A certificate for such insurance shall be filed with State Buildings Programs within ten (10) days after date of Notice of Award. The Insurance shall include a provision preventing cancellation without forty five (45) days’ prior Notice in writing by certified mail.

D. **ADDITIONAL MISCELLANEOUS INSURANCE PROVISIONS**

Certificates of insurance and/or insurance policies required under this Contract shall be subject to the following stipulations and additional requirements:

1. The clause entitled “Other Insurance Provisions” contained in any policy including the State of Colorado as an additional named insured shall not apply to the State of Colorado;
2. Any and all deductibles or self-insured retentions contained in any Insurance policy shall be assumed by and at the sole risk of the Contractor;
3. If any of the said policies shall fail at any time to meet the requirements of the Contract Documents as to form or substance, or if a company issuing any such policy shall be or at any time cease to be approved by the Division of Insurance of the State of Colorado, or be or cease to be in compliance with any stricter requirements of the Contract Documents, the Contractor shall promptly obtain a new policy, submit the same to State Building Programs for approval if requested, and submit a Certificate of Insurance as hereinbefore provided. Upon failure of the Contractor to furnish, deliver and maintain such insurance as provided herein, this Contract, in the sole discretion of the State of Colorado, may be immediately declared suspended, discontinued, or terminated. Failure of the Contractor in obtaining and/or maintaining any required insurance shall not relieve the Contractor from any liability under the Contract, nor shall the insurance requirements be construed to conflict with the obligations of the Contractor concerning indemnification;

4. All requisite insurance shall be obtained from financially responsible insurance companies, authorized to do business in the State of Colorado and acceptable to the State;

5. Receipt, review or acceptance by the State of any insurance policies or certificates of insurance required by this Contract shall not be construed as a waiver or relieve the Contractor from its obligation to meet the insurance requirements contained in these General Conditions.

ARTICLE 26. CONTRACTOR’S PERFORMANCE AND PAYMENT BONDS
The Contractor shall furnish a Performance Bond and a Labor and Material Payment Bond on State Forms SC-6.22, Performance Bond, and SC-6.221, Labor and Material Payment Bond, or such other forms as State Building Programs may approve for the Project, executed by a corporate Surety authorized to do business in the State of Colorado and in the full amount of the Contract sum. The expense of these bonds shall be borne by the Contractor and the bonds shall be filed with State Building Programs.

If, at any time, a Surety on such a bond is found to be, or ceases to be in strict compliance with any qualification requirements of the Contract Documents or the bid documents, or loses its right to do business in the State of Colorado, another Surety will be required, which the Contractor shall furnish to State Building Programs within ten (10) days after receipt of Notice from the State or after the Contractor otherwise becomes aware of such conditions.

ARTICLE 27. LABOR AND WAGES
In accordance with laws of Colorado, C.R.S. § 8-17-101, et. seq., as amended, Colorado labor shall be employed to perform the work to the extent of not less than eighty percent (80%) of each type or class of labor in the several classifications of skilled and common labor employed on the Project. If the Federal Davis-Bacon Act shall be applicable to the Project, as indicated in Article 54B, Modification of Article 27, the minimum wage rates to be paid on the Project will be specified in the Contract Documents.

ARTICLE 28. ROYALTIES AND PATENTS
The Contractor shall be responsible for assuring that all rights to use of products and systems have been properly arranged and shall take such action as may be necessary to avoid delay, at no additional charge to the Principal Representative, where such right is challenged during the course of the work. The Contractor shall pay all royalties and license fees required to be paid and shall defend all suits or claims for infringement of any patent rights and shall save the State of Colorado harmless from loss on account thereof, in accordance with Article 52C, Indemnification; provided, however, the Contractor shall not be responsible for such loss or defense for any copyright violations contained in the Contract Documents prepared by the Architect/Engineer or the Principal Representative of which the Contractor is unaware, or for any patent violations based on specified processes that the Contractor is unaware are patented or that the Contractor should not have had reason to believe were patented.

ARTICLE 29. ASSIGNMENT
Except as otherwise provided hereafter the Contractor shall not assign the whole or any part of this Contract without the written consent of the Principal Representative. This provision shall not be construed to prohibit assignments of the right to payment to the extent permitted by Section 4-9-406, C.R.S., as amended, provided that written Notice of assignment adequate to identify the rights assigned is received by the Principal Representative and the controller for the agency, department, or institution executing this Contract (as distinguished from the State Controller). Such assignment of the right to payment shall not be deemed valid until receipt by the Principal Representative and such controller and the Contractor assumes the risk that such written Notice of assignment is received by the Principal Representative and the controller for the
agency, department, or institution involved. In case the Contractor assigns all or part of any moneys due or
to become due under this Contract, the instrument of assignment shall contain a clause substantially to the
effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the
Contractor shall be subject to all claims of all persons, firms, and corporations for services rendered or
materials supplied for the performance of the work called for in this Contract, whether said service or
materials were supplied prior to or after the assignment. Nothing in this Article shall be deemed a waiver of
any other defenses available to the State against the Contractor or the assignee.

ARTICLE 30. CORRECTION OF WORK BEFORE ACCEPTANCE
The Contractor shall promptly remove from the premises all work or materials condemned or declared
irreparably defective as failing to conform to the Contract Documents on receipt of written Notice from the
Architect/Engineer or the Principal Representative, whether incorporated in the Work or not. If such
materials have been incorporated in the Work, or if any unsatisfactory work is discovered, the
Contractor shall promptly replace and re-execute his or her work in accordance with the requirements of the
Contract Documents without expense to the Principal Representative, and shall also bear the expense of
making good all work of other contractors destroyed or damaged by the removal or replacement of such
defective material or work.

If the Contractor does not remove such condemned or irreparably defective work or material within a
reasonable time, the Principal Representative may, after giving a second seven (7) day advance Notice to
the Contractor and the Surety, remove them and may store the material at the Contractor’s expense. The
Principal Representative may accomplish the removal and replacement with its own forces or with another
Contractor. If the Contractor does not pay the expense of such removal and pay all storage charges within
ten (10) days thereafter, the Principal Representative may, upon ten (10) days’ written Notice, sell such
material at auction or at private sale and account for the net proceeds thereof, after deducting all costs and
expenses which should have been borne by the Contractor. If the Contractor shall commence and diligently
pursue such removal and replacement before the expiration of the seven day period, or if the Contractor
shall show good cause in conjunction with submittal of a revised CPM schedule showing when the work will
be performed and why such removal of condemned work should be scheduled for a later date, the Principal
Representative shall not proceed to remove or replace the condemned work.

Should any defective work or material be discovered during the process of construction, or should
reasonable doubt arise as to whether certain material or work is in accordance with the Contract Documents,
the value of such defective or questionable material or work shall not be included in any application for
payment, or if previously included, shall be deducted by the Architect/Engineer from the next application
submitted by the Contractor.

If the Contractor does not perform repair, correction and replacement of defective work, in lieu of proceeding
by issuance of a Notice of intent to remove condemned work as outlined above, the Principal Representative
may, not less than seven (7) days after giving the original written Notice of the need to repair, correct, or
replace defective work, deduct all costs and expenses of replacement or correction as instructed by the
Architect/Engineer from the Contractor’s next application for payment in addition to the value of the defective
work or material. The Principal Representative may also make an equitable deduction from the Contract
sum by unilateral Change Order, in accordance with Article 33, Payments Withheld and Article 35, Changes
In The Work.

If the Contractor disagrees with the Notice to remove work or materials condemned or declared irreparably
defective, the Contractor may request facilitated negotiation of the issue and the Principal Representative’s
right to proceed with removal and to deduct costs and expenses of repair shall be suspended and tolled until
such time as the parties meet and negotiate the issue.

During construction, whenever the Architect/Engineer has advised the Contractor in writing, in the
Specifications, by reference to Article 6, Architect/Engineer Decisions And Judgments, of these General
Conditions or elsewhere in the Contract Documents of a need to observe materials in place prior to their
being permanently covered up, it shall be the Contractor’s responsibility to notify the Architect/Engineer at
least forty-eight (48) hours in advance of such covering operation. If the Contractor fails to provide such
notification, Contractor shall, at his or her expense, uncover such portions of the work as required by the
Architect/Engineer for observation, and reinstall such covering after observation. When a covering operation
is continued from day to day, notification of the commencement of a single continuing covering operation
shall suffice for the activity specified so long as it proceeds regularly and without interruption from day to day, in which event the Contractor shall coordinate with the Architect/Engineer regarding the continuing covering operation.

ARTICLE 31. APPLICATIONS FOR PAYMENTS

A. CONTRACTOR’S SUBMITTALS

On or before the first day of each month and no more than five days prior thereto, the Contractor may submit applications for payment for the work performed during such month covering the portion of the Work completed as of the date indicated, and payments on account of this Contract shall be due within thirty (30) days after the last day of the period for which payment is requested. The Contractor shall submit the application for payment to the Architect/Engineer on State forms SBP-7.2, Certificate for Contractor's Payment, or such other format as the State Buildings Programs shall approve, in an itemized format in accordance with the schedule of values or a cost loaded CPM when required, supported to the extent reasonably required by the Architect/Engineer or the Principal Representative by receipts or other vouchers, showing payments for materials and labor, prior payments and payments to be made to Subcontractors and such other evidence of the Contractor’s right to payments as the Architect/Engineer or Principal Representative may direct.

If payments are made on account of materials not incorporated in the Work but delivered and suitably stored at the site, or at some other location agreed upon in writing, such payments shall be conditioned upon submission by the Contractor of bills of sale or such other procedure as will establish the Principal Representative’s title to such material or otherwise adequately protect the Principal Representative’s interests, and shall provide proof of insurance whenever requested by the Principal Representative or the Architect/Engineer, and shall be subject to the right to inspect the materials at the request of either the Architect/Engineer or the Principal Representative.

All applications for payment, except the final application, and the payments there under, shall be subject to correction in the next application rendered following the discovery of any error.

B. ARCHITECT/ENGINEER CERTIFICATION

In accordance with the Architect/Engineer’s agreement with the Principal Representative, the Architect/Engineer after appropriate observation of the progress of the work shall certify to the Principal Representative the amount that the Contractor is entitled to, and forward the application to the Principal Representative. If the Architect/Engineer certifies an amount different from the amount requested or otherwise alters the Contractor’s application for payment, a copy shall be forwarded to the Contractor.

If the Architect/Engineer is unable to certify all or portions of the amount requested due to the absence or lack of required supporting evidence, the Architect/Engineer shall advise the Contractor of the deficiency. If the deficiency is not corrected at the end of ten (10) days, the Architect/Engineer may either certify the remaining amounts properly supported to which the Contractor is entitled, or return the application for payment to the Contractor for revision with a written explanation as to why it could not be certified.

C. RETAINAGE WITHHELD

Unless otherwise provided in the Supplementary General Conditions, an amount equivalent to ten percent (10%) of the amount shown to be due the Contractor on each application for payment shall be withheld until fifty percent (50%) of the work required by the Contract has been performed. Thereafter, the remaining Certificates for Contractor’s Payment (SBP-7.2) shall be paid without retaining additional funds, if in the opinion of the Architect/Engineer and the Principal Representative, satisfactory progress is being made in the Work. The withheld percentage of the contract price of any such work, improvement, or construction shall be administered according to § 24-91-101, et seq., C.R.S., as amended, and except as provided in § 24-91-103, C.R.S., as amended, and Article 31D, shall be retained until the Work or discrete portions of the Work, have been completed satisfactorily, finally or partially accepted, and advertised for final settlement as further provided in Article 41.
D. RELEASE OF RETAINAGE

The Contractor may, for satisfactory and substantial reasons shown to the Principal Representative’s satisfaction, make a written request to the Principal Representative and the Architect/Engineer for release of part or all of the withheld percentage applicable to the work of a Subcontractor which has completed the subcontracted work in a manner finally acceptable to the Architect/Engineer, the Contractor, and the Principal Representative. Any such request shall be supported by a written approval from the Surety furnishing the Contractor’s bonds and any surety that has provided a bond for the Subcontractor. The release of any such withheld percentage shall be further supported by such other evidence as the Architect/Engineer or the Principal Representative may require, including but not limited to, evidence of prior payments made to the Subcontractor, copies of the Subcontractor’s contract with the Contractor, any applicable warranties, as-built information, maintenance manuals and other customary close-out documentation. Neither the Principal Representative nor the Architect/Engineer shall be obligated to review such documentation nor shall they be deemed to assume any obligations to third parties by any review undertaken.

The Contractor’s obligation under these General Conditions to guarantee work for one year from the date of the Notice of Substantial Completion or the date of any Notice of Partial Substantial Completion of the applicable portion or phase of the Project, shall be unaffected by such partial release; unless a Notice of Partial Substantial Completion is issued for the work subject to the release of retainage.

Any rights of the Principal Representative which might be terminated by or from the date of any final acceptance of the Work, whether at common law or by the terms of this Contract, shall not be affected by such partial release of retainage prior to any final acceptance of the entire Project.

The Contractor remains fully responsible for the Subcontractor’s work and assumes any risk that might arise by virtue of the partial release to the Subcontractor of the withheld percentage, including the risk that the Subcontractor may not have fully paid for all materials, labor and equipment furnished to the Project.

If the Principal Representative considers the Contractor’s request for such release satisfactory and supported by substantial reasons, the Architect/Engineer shall make a “final inspection” of the applicable portion of the Project to determine whether the Subcontractor’s work has been completed in accordance with the Contract Documents. A final punch list shall be made for the Subcontractor’s work and the procedures of Article 41, Completion, Final Inspection, Acceptance and Settlement, shall be followed for that portion of the work, except that advertisement of the intent to make final payment to the Subcontractor shall be required only if the Principal Representative has reason to believe that a supplier or Subcontractor to the Subcontractor for which the request is made, may not have been fully paid for all labor and materials furnished to the Project.

ARTICLE 32. CERTIFICATES FOR PAYMENTS

State Form SBP-7.2, Certificate For Contractor’s Payment, and its continuation detail sheets, when submitted, shall constitute the Certificate of Contractor’s Application for Payment, and shall be a representation by the Contractor to the Principal Representative that the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and materials for which payment is requested have been incorporated into the Project except as noted in the application. If requested by the Principal Representative the Certificate of Contractor’s Application for Payment shall be sworn under oath and notarized.

ARTICLE 33. PAYMENTS WITHHELD

The Architect/Engineer, the Principal Representative or State Buildings Programs may withhold, or on account of subsequently discovered evidence nullify, the whole or any part of any application on account of, but not limited to any of the following:

1. Defective work not remedied;
2. Claims filed or reasonable evidence indicating probable filing of claims;
3. Failure of the Contractor to make payments to Subcontractors for material or labor;
4. A reasonable doubt that the Contract can be completed for the balance of the contract price then unpaid;
5. Damage or injury to another contractor or any other person, persons or property except to the extent of coverage by a policy of insurance;
6. Failure to obtain necessary permits or licenses or to comply with applicable laws, ordinances, codes, rules or regulations or the directions of the Architect/Engineer;
7. Failure to submit a monthly construction schedule;
8. Failure of the Contractor to keep work progressing in accordance with the time schedule;
9. Failure to keep a superintendent on the work;
10. Failure to maintain as built drawings of the work in progress;
11. Unauthorized deviations by the Contractor from the Contract Documents; or
12. On account of liquidated damages.

In addition, the Architect Engineer, Principal Representative or State Buildings Programs may withhold or nullify the whole or any part of any application for any reason noted elsewhere in these General Conditions of the Contract. Nullification shall mean reduction of amounts shown as previously paid on the application. The amount withheld or nullified may be in such amount as the Architect/Engineer or the Principal Representative estimates to be required to allow the State to accomplish the Work, cure the failure and cover any damages or injuries, including an allowance for attorneys fees and costs where appropriate. When the grounds for such witholding or nullifying are removed, payment shall be made for the amounts thus withheld or nullified on such grounds.

ARTICLE 34. DEDUCTIONS FOR UNCORRECTED WORK
If the Architect/Engineer and the Principal Representative deem it inexpedient to correct work injured or not performed in accordance with the Contract Documents, the Principal Representative may, after consultation with the Architect/Engineer and ten (10) days’ Notice to the Contractor of intent to do so, make reasonable reductions from the amounts otherwise due the Contractor on the next application for payment. Notice shall specify the amount withheld or terms of any contemplated reduction. The Contractor may during this period elect to correct or perform the work. If the Contractor does not elect to correct or perform the work, an equitable deduction from the Contract sum shall be made by Change Order, in accordance with Article 35, Changes In The Work, unilaterally if necessary. If either party elects facilitation of this issue after Notice is given, the ten-day notice period shall be extended and tolled until facilitation has occurred.

ARTICLE 35. CHANGES IN THE WORK
The Principal Representative, or such other Procurement Officer as the Principal Representative may designate, without invalidating the Agreement, and with the approval of State Buildings Programs and the State Controller, may order extra work or make changes with or without the consent of the Contractor as hereafter provided, by altering, adding to or deducting from the Work, the Contract sum being adjusted accordingly. All such changes in the Work shall be within the general scope of and be executed under the conditions of the Contract, except that any claim for extension of time made necessary due to the change or any claim of other delay or other impacts caused by or resulting from the change in the Work shall be presented by the Contractor and adjusted by Change Order to the extent known at the time such change is ordered and before proceeding with the extra or changed work. Any claims for extension of time or of delay or other impacts, and any costs associated with extension of time, delay or other impacts, which are not presented before proceeding with the change in the Work, and which are not adjusted by Change Order to the extent known, shall be waived.

The Architect/Engineer shall have authority to make minor changes in the Work, not involving extra cost, and not inconsistent with the intent of the Contract Documents, but otherwise, except in an emergency endangering life or property, no extra work or change in the Contract Documents shall be made unless by 1) a written Change Order, approved by the Principal Representative, State Buildings Programs, and the State Controller prior to proceeding with the changed work; or 2) by an Emergency Field Change Order approved by the Principal Representative and State Buildings Programs as hereafter provided in Article 35C, Emergency Field Ordered Changed Work; or 3) by an allocation in writing of any allowance already provided in the encumbered contract amount, the Contract sum being later adjusted to decrease the Contract sum by any unallocated or unexpended amounts remaining in such allowance. No change to the Contract sum shall be valid unless so ordered.
A. THE VALUE OF CHANGED WORK
1. The value of any extra work or changes in the Work shall be determined by agreement in one or more of the following ways:
   a. By estimate and acceptance of a lump-sum amount;
   b. By unit prices specified in the Agreement, or subsequently agreed upon, that are extended by specific quantities;
   c. By actual cost plus a fixed fee in a lump sum amount for profit, overhead and all indirect and off-site home office costs, the latter amount agreed upon in writing prior to starting the extra or changed work.
2. Where the Contractor and the Principal Representative cannot agree on the value of extra work, the Principal Representative may order the Contractor to perform the changes in the Work and a Change Order may be unilaterally issued based on an estimate of the change in the Work prepared by the Architect/Engineer. The value of the change in the Work shall be the Principal Representative’s determination of the amount of equitable adjustment attributable to the extra work or change. The Principal Representative’s determination shall be subject to appeal by the Contractor pursuant to the claims process in Article 36, Claims. The Principal Representative is the Procurement Officer for purposes of all of the remedies provisions of the Contract.
3. Except as otherwise provided in Article 35B, Detailed Breakdown, below, the Cost Principles of the Colorado Procurement Rules in effect on the date of this Contract, pursuant to § 24-107-101, C.R.S., as amended, shall govern all Contract changes.

B. DETAILED BREAKDOWN
In all cases where the value of the extra or changed work is not known based on unit prices in the Contractor’s bid or the Agreement, a detailed change proposal shall be submitted by the Contractor on a Change Order Proposal (SC-6.312), or in such other format as the State Buildings Program approves, with which the Principal Representative may require an itemized list of materials, equipment and labor, indicating quantities, time and cost for completion of the changed work.

Such detailed change proposals shall be stated in lump sum amounts and shall be supported by a separate breakdown, which shall include estimates of all or part of the following when requested by the Architect/Engineer or the Principal Representative:

1. Materials, indicating quantities and unit prices including taxes and delivery costs if any (separated where appropriate into general, mechanical and electrical and/or other Subcontractors’ work; and the Principal Representative may require in its discretion any significant subcontract costs to be similarly and separately broken down).
2. Labor costs, indicating hourly rates and time and labor burden to include Social Security and other payroll taxes such as unemployment, benefits and other customary burdens.
3. Costs of project management time and superintendence time of personnel stationed at the site, and other field supervision time, but only where a time extension, other than a weather delay, is approved as part of the Change Order, and only where such project management time and superintendence time is directly attributable to and required by the change; provided however that additional cost of on-site superintendence shall be allowable whenever in the opinion of the Architect/Engineer the impact of multiple change requests to be concurrently performed will result in inadequate levels of supervision to assure a proper result unless additional superintendence is provided.
4. Construction equipment (including small tools). Expenses for equipment and fuel shall be based on customary commercially reasonable rental rates and schedules. Equipment and hand tool costs shall not include the cost of items customarily owned by workers.
5. Workers’ compensation costs, if not included in labor burden.
6. The cost of commercial general liability and property damage insurance premiums but only to the extent charged the Contractor as a result of the changed work.
7. Overhead and profit, as hereafter specified.
8. Builder’s risk insurance premium costs.
9. Bond premium costs.
10. Testing costs not otherwise excluded by these General Conditions.
11. Subcontract costs.

Unless modified in the Supplementary General Conditions, overhead and profit shall not exceed the percentages set forth in the table below.

<table>
<thead>
<tr>
<th>To the Contractor or to Subcontractors</th>
<th>OVERHEAD</th>
<th>PROFIT</th>
<th>COMMISSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>for the portion of work performed with their own forces:</td>
<td>10%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>To the Contractor or to Subcontractors for work performed by others at a tier immediately below either of them:</td>
<td>5%</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

Overhead shall include: a) insurance premium for policies not purchased for the Project and itemized above, b) home office costs for office management, administrative and supervisory personnel and assistants, c) estimating and change order preparation costs, d) incidental job burdens, e) legal costs, f) data processing costs, g) interest costs on capital, h) general office expenses except those attributable to increased rental expenses for temporary facilities, and all other indirect costs, but shall not include the Social Security tax and other direct labor burdens. The term “work” as used in the proceeding table shall include labor, materials and equipment and the “Commission” shall include all costs and profit for carrying the subcontracted work at the tiers below except direct costs as listed in items 1 through 11 above if any.

On proposals for work involving both additions and credits in the amount of the Contract sum, the overhead and profit will be allowed on the net increase only. On proposals resulting in a net deduct to the amount of the Contract sum, profit on the deducted amount shall be returned to the Principal Representative at fifty percent (50%) of the rate specified. The inadequacy of the profit specified shall not be a basis for refusal to submit a proposal.

Except in the case of Change Orders or Emergency Field Change Orders agreed to on the basis of a lump sum amount or unit prices as described in paragraphs 35A1 and 35A2 above, The Value of Changed Work, the Contractor shall keep and present a correct and fully auditable account of the several items of cost, together with vouchers, receipts, time cards and other proof of costs incurred, summarized on a Change Order form (SC-6.31) using such format for supporting documentation as the Principal Representative and State Buildings Programs approve. This requirement applies equally to work done by Subcontractors. Only auditable costs shall be reimbursable on Change Orders where the value is determined on the basis of actual cost plus a fixed fee pursuant to paragraph 35A3 above, or where unilaterally determined by the Principal Representative on the basis of an equitable adjustment in accordance with the Procurement Rules, as described above in Article 35A, The Value Of Changed Work.

Except for proposals for work involving both additions and credits, changed work shall be adjusted and considered separately for work either added or omitted. The amount of adjustment for work omitted shall be estimated at the time it is directed to be omitted, and when reasonable to do so, the agreed adjustment shall be reflected on the schedule of values used for the next Contractor’s application for payment.

The Principal Representative reserves the right to contract with any person or firm other than the Contractor for any or all extra work; however, unless specifically required in the Contract Documents, the Contractor shall have no responsibility without additional compensation to supervise or coordinate the work of persons or firms separately contracted by the Principal Representative.

C. EMERGENCY FIELD CHANGE ORDERED WORK

The Principal Representative, without invalidating the Agreement, and with the approval of State Buildings Programs and without the approval of the State Controller, may order extra work or make changes in the case of an emergency that is a threat to life or property or where the likelihood of delays in processing a normal Change Order will result in substantial delays and or significant cost
increases for the Project. Emergency Field Orders are not to be used solely to expedite normal Change Order processing absent a clear showing of a high potential for significant and substantial cost or delay. Such changes in the Work may be directed through issuance of an Emergency Field Change Order signed by the Contractor, the Principal Representative (or by a designee specifically appointed to do so in writing), and approved by the Director of State Buildings Program or his or her delegate. The change shall be directed using a State Change Order form (SC-6.31), modified with the words “Emergency Field Change Order” at the top.

If the amount of the adjustment of the Contract price and time for completion can be determined at the time of issuance of the Emergency Field Change Order, those adjustments shall be reflected on the face of the Emergency Field Change Order. Otherwise, the Emergency Field Change Order shall reflect a not to exceed (NTE) amount for any schedule adjustment (increasing or decreasing the time for completion) and an NTE amount for any adjustment to Contract sum, which NTE amount shall represent the maximum amount of adjustment to which the Contractor will be entitled, including direct and indirect costs of changed work, as well as any direct or indirect costs attributable to delays, inefficiencies or other impacts arising out of the change. Emergency Field Change Orders directed in accordance with this provision need not bear the approval signatures of the State Controller.

On Emergency Field Change Orders where the price and schedule have not been finally determined, the Contractor shall submit final costs for adjustment as soon as practicable. No later than seven (7) days after issuance, except as otherwise permitted, and every seven days thereafter, the Contractor shall report all costs to the Principal Representative and the Architect/Engineer. Weekly cost reports and the final adjustment of the Emergency Field Change Orders amount and the adjustment to the Project time for completion shall be prepared in accordance with the procedures described in Article 35A, The Value of Changed Work, and B, Detailed Breakdown, above. Unless otherwise provided in writing signed by the Director of State Buildings Programs to the Principal Representative and the Contractor, describing the extent and limits of any greater authority, individual Emergency Field Change Orders shall not be issued for more than $25,000, nor shall the cumulative value of Emergency Field Change Orders exceed an amount of $100,000.

D. APPROPRIATION LIMITATIONS - § 24-91-103.6, C.R.S., as amended
The amount of money appropriated, as shown on the Agreement (SC 6.21), is equal to or in excess of the Contract amount. No Change Order, Emergency Field Change Order, or other type of order or directive shall be issued by the Principal Representative, or any agent acting on his or her behalf, which directs additional compensable work to be performed, which work causes the aggregate amount payable under the Contract to exceed the amount appropriated for the original Contract, as shown on the Agreement (SC-6.13), unless one of the following occurs: (1) the Contractor is provided written assurance from the Principal Representative that sufficient additional lawful appropriations exist to cover the cost of the additional work; or (2) the work is covered by a contractor remedy provision under the Contract, such as a claim for extra cost. By way of example only, no assurance is required for any order, directive or instruction by the Architect/Engineer or the Principal Representative to perform work which is determined to be within the performance required by the Contract Documents; the Contractor’s remedy shall be as described elsewhere in these General Conditions.

Written assurance shall be in the form of an Amendment to the Contract reciting the source and amount of such appropriation available for the Project. No remedy granting provision of this Contract shall obligate the Principal Representative to seek appropriations to cover costs in excess of the amounts recited as available to pay for the work to be performed.

ARTICLE 36. CLAIMS
It is the intent of these General Conditions to provide procedures for speedy and timely resolution of disagreements and disputes at the lowest level possible. In the spirit of on the job resolution of job site issues, the parties are encouraged to use the partnering processes of Article 2D, Partnering, Communications and Cooperation, before turning to the more formal claims processes described in this Article 36, Claims. The use of non-binding dispute resolution, whether through the formal processes described in Article 39, Non-Binding Dispute Resolution – Facilitated Negotiations, or through less formal alternative processes developed as part of a partnering plan, are also encouraged. Where such process cannot resolve the issues in dispute, the claims process that follows is intended to cause the issues to be presented, decided and where necessary, documented in close proximity to the events from which the
issues arise. To that end, and in summary of the remedy granting process that follows commencing with the
next paragraph of this Article 36, Claims, the Contractor shall 1) first, seek a decision by the
Architect/Engineer, and 2) shall second, informally present the claim to Principal Representative as
described hereafter, and 3) failing resolution in the field, give Notice of intent to exercise statutory rights of
review of a formal contract controversy, and 4) seek resolution outside the Contract as provided by the
Procurement Code.

If the Contractor claims that any instructions, by detailed drawings, or otherwise, or any other act or omission
of the Architect/Engineer or Principal Representative affecting the scope of the Contractor's work, involve
extra cost, extra time or changes in the scope of the Work under this Contract, the Contractor shall have the
right to assert a claim for such costs or time, provided that before either proceeding to execute such work
(except in an emergency endangering life or property), or filing a Notice of claim, the Contractor shall have
obtained or requested a written decision of the Architect/Engineer following the procedures as provided in
Article 6A and B, Architect/Engineer Decisions and Judgments, respectively; provided, however, that in the
case of a directed change in the Work pursuant to Article 36A4, no written judgment or decision of the
Architect/Engineer is required. If the Contractor is delayed by the lack of a response to a request for a
decision by the Architect/Engineer, the Contractor shall give Notice in accordance with Article 38, Delays
And Extensions Of Time.

Unless it is the Architect/Engineer's judgment and determination that the work is not included in the
performance required by the Contract Documents, the Contractor shall proceed with the work as originally
directed. Where the Contractor's claim involves a dispute concerning the value of work unilaterally directed
pursuant to Article 35A4 the Contractor shall also proceed with the work as originally directed while his or
her claim is being considered.

The Contractor shall give the Principal Representative and the Architect/Engineer Notice of any claim
promptly after the receipt of the Architect/Engineer's decision, but in no case later than three (3) business
days after receipt of the Architect/Engineer's decision (or no later than ten (10) days from the date of the
Contractor's request for a decision when the Architect/Engineer fails to decide as provided in Article 6). The
Notice of claim shall state the grounds for the claim and the amount of the claim to the extent known in
accordance with the procedures of Article 35, Changes In The Work. The period in which Notice must be
given may be extended by the Principal Representative if requested in writing by the Contractor with good
cause shown, but any such extension to be effective shall be in writing.

The Principal Representative shall respond in writing, with a copy to the Architect/Engineer, within a
reasonable time, and except where a request for facilitation of negotiation has been made as hereafter
provided, in no case later than seven (7) business days (or at such other time as the Contractor and
Principal Representative agree) after receipt of the Contractor's Notice of claim regarding such instructions
or alleged act or omission. If no response to the Contractor's claim is received within seven (7) business
days of Contractor's Notice (or at such other time as the Contractor and Principal Representative agree) and
the instructions have not been retracted, it shall be deemed that the Principal Representative has denied the
claim.

The Principal Representative may grant or deny the claim in whole or in part, and a Change Order shall be
issued if the claim is granted. To the extent any portion of claim is granted where costs are not clearly
shown, the Principal Representative may direct that the value of that portion of the work be determined by
any method allowed in Article 35A, The Value Of Changed Work. Except in the case of a deemed denial,
the Principal Representative shall provide a written explanation regarding any portion of the Contractor's
claim that is denied.

If the Contractor disagrees with the Principal Representative's judgment and determination on the claim and
seeks an equitable adjustment of the Contract sum or time for performance, he or she shall give Notice of
intent to exercise his or her statutory right to seek a decision on the contract controversy within ten (10) days
of receipt of the Principal Representative's decision denying the claim. A "contract controversy," as such
term is used in the Colorado Procurement Code, § 24-109-106, C.R.S., shall not arise until the initial claim
process described above in this Article 36 has been properly exhausted by the Contractor. The Contractor's
failure to proceed with work directed by the Architect/Engineer or to exhaust the claim process provided
above in this Article 36, shall constitute an abandonment of the claim by the Contractor and a waiver of the
right to contest the decision in any forum.

Rev. 8/2009
SC-6.23
At the time of filing the Notice of intent to exercise his or her statutory right to seek a decision on the contract controversy, the Contractor may request that the Principal Representative defer a decision on the contract controversy until a later date or until the end of the Project. If the Principal Representative agrees, he or she shall so advise the Contractor in writing. If no such request is made, or if the Principal Representative does not agree to such a request, the Principal Representative shall render a written decision within twenty (20) business days and advise the Contractor of the reasons for any denial. Unless the claim has been decided by the Principal Representative (as opposed to delegates of the Principal Representative), the person who renders the decision on this statutory contract controversy shall not be the same person who decided the claim. To the extent any portion of the contract controversy is granted where costs are not clearly shown, the Principal Representative may direct that the value of that portion of the work be determined by any method allowed in Article 35A, The Value Of Changed Work. In the event of a denial the Principal Representative shall give Notice to the Contractor of his or her right to administrative and judicial reviews as provided in the Colorado Procurement Code, § 24-109-201 et seq, C.R.S., as amended. If no decision regarding the contract controversy is issued within twenty (20) business days of the Contractor's giving Notice (or such other date as the Contractor and Principal Representative have agreed), and the instructions have not been retracted or the alleged act or omission have not been corrected, it shall be deemed that the Principal Representative has ruled by denial on the contract controversy. Except in the case of a deemed denial, the Principal Representative shall provide an explanation regarding any portion of the contract controversy that involves denial of the Contractor’s claim.

Either the Contractor or the Principal Representative may request facilitation of negotiations concerning the claim or the contract controversy, and if requested, the parties shall consult and negotiate before the Principal Representative decides the issue. Any request for facilitation by the Contractor shall be made at the time of the giving of Notice of the claim or Notice of the contract controversy. Facilitation shall extend the time for the Principal Representative to respond by commencing the applicable period at the completion of the facilitated negotiation, which shall be the last day of the parties’ meeting, unless otherwise agreed in writing.

Disagreement with the decision of the Architect Engineer, or the decision of the Principal Representative to deny any claim or denying the contract controversy, shall not be grounds for the Contractor to refuse to perform the work directed or to suspend or terminate performance. During the period that any claim or contract controversy decision is pending under this Article 36, Claims, the Contractor shall proceed diligently with the work directed.

In all cases where the Contractor proceeds with the work and seeks equitable adjustment by filing a claim and or statutory appeal, the Contractor shall keep a correct account of the extra cost, in accordance with Article 35B, Detailed Breakdown supported by receipts. The Principal Representative shall be entitled to reject any claim or contract controversy whenever the foregoing procedures are not followed and such accounts and receipts are not presented.

The payments to the Contractor in respect of such extra costs shall be limited to reimbursement for the current additional expenditure by the Contractor made necessary by the change in the work, plus a reasonable amount for overhead and profit, determined in accordance with Article 35B, Detailed Breakdown, determined solely with reference to the additional work, if any, required by the change.

ARTICLE 37. Differing Site Conditions
A. NOTICE IN WRITING
   The Contractor shall promptly, and where possible before conditions are disturbed, give the Architect/Engineer and the Principal Representative Notice in writing of:
   
   1. subsurface or latent physical conditions at the site differing materially from those indicated in or reasonably assumed from the information provided in the Contract Documents; and,
   2. unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.
The Architect/Engineer shall promptly investigate the conditions, and if it is found that such conditions do materially so differ and cause an increase or decrease in the Contractor’s costs of performance of any part of the work required by the Contract Documents, whether or not such work is changed as a result of such conditions, an equitable adjustment shall be made and the Contract sum shall be modified in accordance with Article 35, Changes In The Work.

If the time required for completion of the work affected by such materially differing conditions will extend the work on the critical path as indicated on the CPM schedule, the time for completion shall also be equitably adjusted.

B. LIMITATIONS
No claim of the Contractor under this clause shall be allowed unless the Contractor has given the Notice required in Article 37A, Notice In Writing, above. The time prescribed for presentation and adjustment in Articles 36, Claims and 38, Delays And Extensions Of Time, shall be reasonably extended by the State to the extent required by the nature of the differing conditions; provided, however, that even when so extended no claim by the Contractor for an equitable adjustment hereunder shall be allowed if not quantified and presented prior to the date the Contractor requests a final inspection pursuant to Article 41A, Notice Of Completion.

ARTICLE 38. DELAYS AND EXTENSIONS OF TIME
If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the State of Colorado or the Architect/Engineer, or of any employee or agent of either, or by any separately employed Contractor or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties or any other causes beyond the Contractor’s control, including weather delays as defined below, the time of Completion of the Work shall be extended for a period equal to such portion of the period of delays directly affecting the completion of the Work as the Contractor shall be able to show he or she could not have avoided by the exercise of due diligence.

The Contractor shall provide Notice in writing to the Architect/Engineer, the Principal Representative and State Buildings Programs within three (3) business days from the beginning of such delay and shall file a written claim for an extension of time within seven (7) business days after the period of such delay has ceased, otherwise, any claim for an extension of time is waived.

Provided that the Contractor has submitted reasonable schedules for approval when required by Article 12, Requests for Information and Schedules, if no schedule is agreed to fixing the dates on which the responses to requests for information or detail drawings will be needed, or Shop Drawings, Product Data or Samples are to be reviewed as required or allowed by Article 12B, Schedules, no extension of time will be allowed for the Architect/Engineer’s failure to furnish such detail drawings as needed, or for the failure to initially review Shop Drawings, Product Data or Samples, except in respect of that part of any delay in furnishing detail drawings or instructions extending beyond a reasonable period after written demand for such detailed drawings or instructions is received by the Architect/Engineer. In any event, any claim for an extension of time for such cause will be recognized only to the extent of delay directly caused by failure to furnish detail drawings or instructions or to review Shop Drawings, Product Data or Samples pursuant to schedule, after such demand.

All claims for extension of time due to a delay claimed to arise or result from ordered changes in the scope of the Work, or due to instructions claimed to increase the scope of the Work, shall be presented to the Architect/Engineer, the Principal Representative and State Buildings Programs as part of a claim for extra cost, if any, in accordance with Article 36, Claims, and in accordance with the Change Order procedures required by Article 35, Changes In The Work.

Except as otherwise provided in this paragraph, no extension of time shall be granted when the Contractor has failed to utilize a CPM schedule or otherwise identify the Project’s critical path as specified in Article 12, Requests for Information and Schedules, or has elected not to do so when allowed by the Supplementary General Conditions or the Specifications to use less sophisticated scheduling tools, or has failed to maintain such a schedule. Delay directly affecting the completion of the Work shall result in an extension of time only to the extent that completion of the Work was affected by impacts to the critical path shown on Contractor’s CPM schedule. Where the circumstances make it indisputable in the opinion of the Architect/Engineer that
the delay affected the completion of the Work so directly that the additional notice of the schedule impact by reference to a CPM schedule was unnecessary, a reasonable extension of time may be granted.

Extension of the time for completion of the Work will be granted for delays due to weather conditions only when the Contractor demonstrates that such conditions were more severe and extended than those reflected by the ten-year average for the month, as evidenced by the Climatological Data, U. S. Department of Commerce, for the Project area.

Extensions of the time for completion of the Work due to weather will be granted on the basis of one and three tenths (1.3) calendar days for every day that the Contractor would have worked but was unable to work, with each separate extension figured to the nearest whole calendar day.

For weather delays and delays caused by events, acts or omissions not within the control of the Principal Representative or any person acting on the Principal Representative's behalf, the Contractor shall be entitled to an extension of time only and shall not be entitled to recovery of additional cost due to or resulting from such delays. This Article does not, however, preclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

ARTICLE 39. NON-BINDING DISPUTE RESOLUTION – FACILITATED NEGOTIATIONS

The Contractor and Principal Representative agree to designate one or more mutually acceptable persons willing and able to facilitate negotiations and communications for the resolution of conflicts, disagreements or disputes between them at the specific request of either party with regard to any Project decision of either or any decision of the Architect/Engineer. The designation of such person(s) shall not carry any obligation to use their services except that each party agrees that if the other party requests the intervention of such person(s) with respect to any such conflict, dispute or disagreement, the non-requesting party shall participate in good faith attempts to negotiate a resolution of the issue in dispute. If the parties cannot agree on a mutually acceptable person to serve in this capacity one shall be so appointed; provided, however, that either party may request the director of State Buildings Programs to appoint such a person, who, if appointed, shall be accepted for this purpose by both the Contractor and the Principal Representative.

The cost, if any, of the facilitative services of the person(s) so designated shall be shared if the parties so agree in any partnering plan; or in the absence of agreement the cost shall be borne by the party requesting the facilitation of negotiation.

Any dispute, claim, question or disagreement arising from or relating to the Contract or an alleged breach of the Contract may be subject to a request by either party for facilitated negotiation subject to the limitations hereafter listed, and the parties shall participate by consultation and negotiation with each other, as guided by the facilitator and with recognition of their mutual interests, in an attempt to reach an equitable solution satisfactory to both parties.

The obligation to participate in facilitated negotiations shall be as described above and elsewhere in these General Conditions, as by way of example in Article 36, Claims, or Article 34, Deductions for Uncorrected Work, and to the extent not more particularly described or limited elsewhere, each party’s obligations shall be as follows:

1. a party shall not initiate communication with the facilitator regarding the issues in dispute; except that any request for facilitation shall be made in writing with copies sent, faxed or delivered to the other party;

2. a party shall prepare a brief written description of its position if so requested by the facilitator (who may elect to first discuss the parties’ positions with each party separately in the interest of time and expense);

3. a party shall respond to any reasonable request for copies of documents requested by the facilitator, but such requests, if voluminous, may consist of an offer to allow the facilitator access to the parties’ documents;

4. a party shall review any meeting agenda proposed by a facilitator and endeavor to be informed on the subjects to be discussed;

5. a party shall meet with the other party and the facilitator at a mutually acceptable place and time, or, if none can be agreed to, at the time and place designated by the facilitator for a period not to exceed four hours unless the parties agree to a longer period;
6. a party shall endeavor to assure that any facilitation meeting shall be attended by any other persons in their employ that the facilitator requests be present, if reasonably available, including the Architect/Engineer;
7. each party shall participate in such facilitated face-to-face negotiations of the issues in dispute through persons fully authorized to resolve the issue in dispute;
8. each party shall be obligated to participate in negotiations requested by the other party and to perform the specific obligations described in paragraphs (1) through (10) this Article 39, Facilitated Negotiation, no more than three times during the course of the Project;
9. neither party shall be under any obligation to resolve any issue by facilitated negotiation, but each agrees to participate in good faith and the Principal Representative shall direct the Architect/Engineer to appropriately document any resolution or agreement reached and to execute any Amendment or Change Order to the Contract necessary to implement their agreement; and,
10. any discussions and documents prepared exclusively for use in the negotiations shall be deemed to be matters pertaining to settlement negotiations and shall not be subsequently available in further proceedings except to the extent of any documented agreement.

In accordance with State Fiscal Rules and Article 52F, Choice of Law; No Arbitration, nothing in this Article 39 shall be deemed to call for arbitration or otherwise obligate the State to participate in any form of binding alternative dispute resolution.

A partnering plan developed as described in Article 2D, Communications and Cooperation, may modify or expand the requirements of this Article but may not reduce the obligation to participate in facilitated negotiations when applicable. In the case of small projects estimated to be valued under $500,000, the requirements of this Article may be deleted from this Contract, by modification in Article 54, Optional Provisions And Elections. When so modified, the references to the parties’ right to elect facilitated negotiation elsewhere in these General Conditions shall be deleted.

ARTICLE 40. RIGHT OF OCCUPANCY
The Principal Representative shall have the right to take possession of and to use any completed or partially completed portions of the Work, even if the time for completing the entire Work or portions of the Work has not expired and even if the Work has not been finally accepted, and the Contractor shall fully cooperate with the Principal Representative to allow such possession and use. Such possession and use shall not constitute an acceptance of such portions of the Work.

Prior to any occupancy of the Project, an inspection shall be made by the Architect/Engineer, State Buildings Programs and the Contractor. Such inspection shall be made for the purpose of ensuring that the building is secure, protected by operation safety systems as designed, operable exits, power, lighting and HVAC systems, and otherwise ready for the occupancy intended and the Notice of Substantial Completion has been issued for the occupancy intended. The inspection shall also document existing finish conditions to allow assessment of any damage by occupants. The Contractor shall assist the Principal Representative in completing and executing State Form SBP-01, Approval of Occupancy/Use, prior to the Principal Representative’s possession and use. Any and all areas so occupied will be subject to a final inspection when the Contractor complies with Article 41, Completion, Final Inspection, Acceptance and Settlement.

ARTICLE 41. COMPLETION, FINAL INSPECTION, ACCEPTANCE AND SETTLEMENT
A. NOTICE OF COMPLETION
When the Work, or a discrete physical portion of the Work (as hereafter described) which the Principal Representative has agreed to accept separately, is substantially complete and ready for final inspection, the Contractor shall file a written Notice with the Architect/Engineer that the Work, or such discrete physical portion, in the opinion of the Contractor, is substantially complete under the terms of the Contract. The Contractor shall prepare and submit with such Notice a comprehensive list of items to be completed or corrected prior to final payment, which shall be subject to review and additions as the Architect/Engineer or the Principal Representative shall determine after inspection. If the Architect/Engineer or the Principal Representative believe that any of the items on the list of items submitted, or any other item of work to be corrected or completed, or the cumulative number of items of work to be corrected or completed, will prevent a determination that the Work is substantially complete, those items shall be completed by the Contractor and the Notice shall then be resubmitted.
B. FINAL INSPECTION
Within ten (10) days after the Contractor files written Notice that the Work is substantially complete, the Architect/Engineer, the Principal Representative, and the Contractor shall make a “final inspection” of the Project to determine whether the Work is substantially complete and has been completed in accordance with the Contract Documents. State Buildings Programs shall be notified of the inspection not less than three (3) business days in advance of the inspection. The Contractor shall provide the Principal Representative and the Architect/Engineer an updated punch list in sufficient detail to fully outline the following:

1. work to be completed, if any; and
2. work not in compliance with the Drawings or Specifications, if any.

A final punch list shall be made by the Architect/Engineer in sufficient detail to fully outline to the Contractor:

1. work to be completed, if any;
2. work not in compliance with the Drawings or Specifications, if any; and
3. unsatisfactory work for any reason, if any.

The required number of copies of the final punch list will be countersigned by the authorized representative of the Principal Representative and will then be transmitted by the Architect/Engineer to the Contractor, the Principal Representative, and State Buildings Programs. The Architect/Engineer's final punch list shall control over the Contractor's preliminary punch list.

C. NOTICE OF SUBSTANTIAL COMPLETION
Notice of Substantial Completion shall establish the date of substantial completion of the Project. The Contractor acknowledges and agrees that because the departments, agencies and institutions of the State of Colorado are generally involved with the business of the public at large, greater care must be taken in establishing the date of substantial completion than might otherwise be the case to ensure that a project or building or discrete physical portion of the Work is fully usable and safe for public use, and that such care necessarily raises the standard by which the concept of substantial completion is applied for a public building.

The Notice of Substantial Completion shall not be issued until the following have been fully established:

1. All required building code inspections have been called for and the appropriate code officials have affixed their signatures to the Building Inspection Record indicating successful completion of all required code inspections;
2. All required corrections noted on the Building Inspection Record shall have been completed unless the Architect/Engineer, the Principal Representative and State Buildings Programs, in their complete and absolute discretion, all concur that the condition requiring the remaining correction is not in any way life threatening, does not otherwise endanger persons or property, and does not result in any undue inconvenience or hardship to the Principal Representative or the public;
3. The building, structure or Project can be fully and comfortably used by the Principal Representative and the public without undue interference by the Contractor’s employees and workers during the completion of the final punch list taking into consideration the nature of the public uses intended and taking into consideration any stage or level of completion of HVAC system commissioning or other system testing required by the Specifications to be completed prior to issuance of the Notice of Substantial Completion;
4. The Project has been fully cleaned as required by these General Conditions, and as required by any stricter requirements of the Specifications, and the overall state of completion is appropriate for presentation to the public; and
5. The Contractor has provided a schedule for the completion of each and every item identified on the punch list which specifies the Subcontractor or trade responsible for the work, and the dates the completion or correction of the item will be commenced and finished; such schedule will show completion of all remaining final punch list items within the period indicated in the Contract for final punch list completion prior to Final Acceptance, with the exception of only
those items which are beyond the control of the Contractor despite due diligence. The schedule shall provide for a reasonable punch list inspection process. Unless liquidated damages have been specified in Article 54D(2), the cost to the Principal Representative, if any, for re-inspections due to failure to adhere to the Contractor’s proposed punch-list completion schedule shall be the responsibility of the Contractor and may be deducted by the Principal Representative from final amounts due to the Contractor.

Substantial completion of the entire Project shall not be conclusively established by a decision by the Principal Representative to take possession and use of a portion, or all of the Project, where portions of the Project cannot meet all the criteria noted above. Notice of Substantial Completion for the entire Project shall, however, only be withheld for substantial reasons when the Principal Representative has taken possession and uses all of the Project in accordance with the terms of Article 40, Right Of Occupancy. Failure to furnish the required completion schedule shall constitute a substantial reason for withholding the issuance of any Notice of Substantial Completion.

The Contractor shall have the right to request a final inspection of any discrete physical portion of the Project when in the opinion of the Architect/Engineer a final punch list can be reasonably prepared, without confusion as to which portions of the Project are referred to in any subsequent Notice of Partial Final Settlement which might be issued after such portion is finally accepted. Discrete physical portions of the Project may be, but shall not necessarily be limited to, such portions of the Project as separate buildings where a Project consists of multiple buildings. Similarly, an addition to an existing building where the Project also calls for renovation or remodeling of the existing building may constitute a discrete physical portion of the Project. In such circumstances, when in the opinion of the Principal Representative, the Architect/Engineer and State Buildings Programs, the requirements for issuance of a Notice of Substantial Completion can be satisfied with respect to the discrete portion of the Project, a partial Notice of Substantial Completion may be issued for such discrete physical portion of the Project. The ability to beneficially occupy a discrete physical portion of the Project shall also be considered.

D. NOTICE OF ACCEPTANCE

The Notice of Acceptance shall establish the completion date of the Project. It shall not be authorized until the Contractor shall have performed all of the work to allow completion and approval of the Pre-Acceptance Checklist (SBP-05). It shall not be authorized until the Pre-Acceptance punch list (SBP-06) shall have been prepared and approved containing no more than ten items of work remaining to be completed or repaired.

Where partial Notices of Substantial Completion have been issued, partial Notices of Final Acceptance may be similarly issued when appropriate for that portion of the Work. Partial Notice of Final Acceptance may also be issued to exclude the work described in Change Orders executed during late stages of the Project where a later completion date for the Change Ordered work is expressly provided for in the Contract as amended by the Change Order, provided the work can be adequately described to allow partial advertisement of any Notice of Partial Final Settlement to be issued without confusion as to the work included for which final payment will be made.

E. SETTLEMENT

Final payment and settlement shall be made on the date fixed and published for such payment except as hereafter provided. The Principal Representative shall not authorize final payment until all items on the Pre-Acceptance punch list (SBP-06) have been completed, the Notice of Acceptance issued, and the Notice of Contractors Settlement published. If the work shall be substantially completed, but Final Acceptance and completion thereof shall be prevented through delay in correction of minor defects, or unavailability of materials or other causes beyond the control of the Contractor, the Principal Representative in his or her discretion may release to the Contractor such amounts as may be in excess of three times the cost of completing the unfinished work or the cost of correcting the defective work, as estimated by the Architect/Engineer and approved by State Buildings Programs. Before the Principal Representative may issue the Notice of Contractor’s Settlement and advertise the Project for final payment, the Contractor shall have corrected all items on the punch list except those items for which delayed performance is expressly permitted, subject to withholding for the cost thereof, and shall have:
1. Delivered to the Architect/Engineer:
   a. All guarantees and warranties;
   b. All statements to support local sales tax refunds, if any;
   c. Three (3) complete bound sets of required operating maintenance instructions; and,
   d. One (1) set of as-built Contract Documents showing all job changes.

2. Demonstrated to the operating personnel of the Principal Representative the proper operation and maintenance of all equipment.

Upon completion of the foregoing the Project shall be advertised in accordance with the Notice of Contractor’s Settlement by two publications of Notice, the last publication appearing at least ten (10) days prior to the time of final settlement. Publication and final settlement should not be postponed or delayed solely by virtue of unresolved claims against the Project or the Contractor from Subcontractors, suppliers or materialmen based on good faith disputes; the resolution of the question of payment in such cases being directed by statute.

Except as hereafter provided, on the date of final settlement thus advertised, provided the Contractor has submitted a written Notice to the Architect/Engineer that no claims have been filed, and further provided the Principal Representative shall have received no claims, final payments and settlement shall be made in full. If any unpaid claim for labor, materials, rental machinery, tools, supplies or equipment is filed before payment in full of all sums due the Contractor, the Principal Representative and the State Controller shall withhold from the Contractor on the date established for final settlement, sufficient funds to insure the payment of such claim, until the same shall have been paid or withdrawn, such payment or withdrawal to be evidenced by filing a receipt in full or an order for withdrawal signed by the claimant or his or her duly authorized agent or assignee. The amount so withheld may be in the amount of 125% of the claims or such other amount as the Principal Representative reasonably deems necessary to cover expected legal expenses. Such withheld amounts shall be in addition to any amount withheld based on the cost to compete unfinished work or the cost to repair defective work. However, as provided by statute, such funds shall not be withheld longer than ninety (90) days following the date fixed for final settlement with the Contractor, as set forth in the published Notice of Contractor’s Settlement, unless an action at law shall be commenced within that time to enforce such unpaid claim and a Notice of such action at law shall have been filed with the Principal Representative and the State Controller. At the expiration of the ninety (90) day period, the Principal Representative shall authorize the State Controller to release to the Contractor all other money not the subject of such action at law or withheld based on the cost to compete unfinished work or the cost to repair defective work.

Notices of Partial Final Settlement may be similarly advertised, provided all conditions precedent have been satisfied as though that portion of the work affected stood alone, a Notice of Partial Acceptance has been issued, and the consent of surety to the partial final settlement has been obtained in writing. Thereafter, partial final payments may be made to the Contractor subject to the same conditions regarding unpaid claims.

ARTICLE 42. GENERAL WARRANTY AND CORRECTION OF WORK AFTER ACCEPTANCE

The Contractor warrants that the materials used and the equipment furnished shall be new and of good quality unless specified to the contrary. The Contractor further warrants that the Work shall in all respects be free from material defects not permitted by the Specifications and shall be in accordance with the requirements of the Contract Documents. Neither the final certificate for payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for defects or faulty materials or workmanship. The Contractor shall be responsible to the Principal Representative for such warranties for the longest period permitted by any applicable statute of limitations.

In addition to these general warranties, and without limitation of these general warranties, for a period of one year after the date of any Notice of Substantial Completion, or any Notice of Partial Substantial Completion if applicable, the Contractor shall remedy defects, and faulty workmanship or materials, and work not in accordance with the Contract Documents which was not accepted at the time of the Notice of Final Acceptance, all in accordance with the provisions of Article 45, One-Year Guarantee And Special Guarantees And Warranties.
ARTICLE 43. LIENS
Colorado statutes do not provide for any right of lien against public buildings. In lieu thereof, § 38-26-107, C.R.S., provides adequate relief for any claimant having furnished labor, materials, rental machinery, tools, equipment, or services toward construction of the particular public work in that final payment may not be made to a Contractor until all such creditors have been put on Notice by publication in the public press of such pending payment and given opportunity for a period of up to ninety (90) days to stop payment to the Contractor in the amount of such claims.

ARTICLE 44. ONE-YEAR GUARANTEE AND SPECIAL GUARANTEES AND WARRANTIES
A. ONE-YEAR GUARANTEE OF THE WORK
The Contractor shall guarantee to remedy defects and repair or replace the Work for a period of one year from the date of the Notice of Substantial Completion or from the dates of any partial Notices of Substantial Completion issued for discrete physical portions of the Work. The Contractor shall remedy any defects due to faulty materials or workmanship and shall pay for, repair and replace any damage to other work resulting there from, which shall appear within a period of one year from the date of such Notice(s) of Substantial Completion. The Contractor shall also remedy any deviation from the requirements of the Contract Documents which shall later be discovered within a period of one year from the date of the Notice of Substantial Completion; provided, however, that the Contractor shall not be required to remedy deviations from the requirements of the Contract Documents where such deviations were obvious, apparent and accepted by the Architect/Engineer or the Principal Representative at the time of the Notice of Final Acceptance. The Principal Representative shall give Notice of observed defects or other work requiring correction with reasonable promptness. Such Notice shall be in writing to the Architect/Engineer and the Contractor.

The one year guarantee of the Contractor’s work may run separately for discrete physical portions of the Work for which partial Notices of Substantial Completion have been issued, however, it shall run from the last Notice of Substantial Completion with respect to all or any systems common to the work to which more than one Notice of Substantial Completion may apply.

This one-year guarantee shall not be construed to limit the Contractor’s general warranty described in Article 42, General Warranty and Correction of Work After Acceptance, that all materials and equipment are new and of good quality, unless specified to the contrary, and that the Work shall in all respects be free from material defects not permitted by the Specifications and in accordance with the requirements of the Contract Documents.

B. SPECIAL GUARANTEES AND WARRANTIES
In case of work performed for which product, manufacturers or other special warranties are required by the Specifications, the Contractor shall secure the required warranties and deliver copies thereof to the Principal Representative through the Architect/Engineer upon completion of the work.

These product, manufacturers or other special warranties, as such, do not in any way lessen the Contractor’s responsibilities under the Contract. Whenever guarantees or warranties are required by the Specifications for a longer period than one year, such longer period shall govern.

ARTICLE 45. GUARANTEE INSPECTIONS AFTER COMPLETION
The Architect/Engineer, the Principal Representative and the Contractor together shall make at least two (2) complete inspections of the work after the Work has been determined to be substantially complete and accepted. One such inspection, the “Six-Month Guarantee Inspection,” shall be made approximately six (6) months after date of the Notice of Substantial Completion, unless in the case of smaller projects valued under $500,000 this inspection is declined in Article 54A, Modification of Article 45, in which case the inspection to occur at six months shall not be required. Another such inspection, the “Eleven-Month Guaranty Inspection” shall be made approximately eleven (11) months after the date of the Notice of Substantial Completion. The Principal Representative shall schedule and so notify all parties concerned, including State Buildings Programs, of these inspections. If more than one Notice of Substantial Completion has been issued at the reasonable discretion of the Principal Representative separate eleven month inspections may be required where the one year guarantees do not run reasonably concurrent.
Written punch lists and reports of these inspections shall be made by the Architect/Engineer and forwarded to the Contractor, the Principal Representative, State Buildings Programs, and all other participants within ten (10) days after the completion of the inspections. The punch list shall itemize all guarantee items, prior punch list items still to be corrected or completed and any other requirements of the Contract Documents to be completed which were not waived by final acceptance because they were not obvious or could not reasonably have been previously observed. The Contractor shall immediately initiate such remedial work as may be necessary to correct any deficiencies or defective work shown by this report, and shall promptly complete all such remedial work in a manner satisfactory to the Architect/Engineer, the Principal Representative and State Buildings Programs.

If the Contractor fails to promptly correct all deficiencies and defects shown by this report, the Principal Representative may do so, after giving the Contractor ten (10) days written Notice of intention to do so.

The State of Colorado, acting by and through the Principal Representative, shall be entitled to collect from the Contractor all costs and expenses incurred by it in correcting such deficiencies and defects, as well as all damages resulting from such deficiencies and defects.

ARTICLE 46. TIME OF COMPLETION AND LIQUIDATED DAMAGES

It is hereby understood and mutually agreed, by and between the parties hereto, that the date of beginning, rate of progress, and the time for completion of the Work to be done hereunder are ESSENTIAL CONDITIONS of this Agreement, and it is understood and agreed that the Work embraced in this Contract shall be commenced at the time specified in the Notice to Proceed (SC-6.26).

It is further agreed that time is of the essence of each and every portion of this Contract, and of any portion of the Work described on the Drawings or Specifications, wherein a definite and certain length of time is fixed for the performance of any act whatsoever. The parties further agree that where under the Contract additional time is allowed for the completion of the Work or any identified portion of the Work, the new time limit or limits fixed by such extension of the time for completion shall be of the essence of this Agreement.

The Contractor acknowledges that subject to any limitations in the Advertisement for Bids, issued for the Project, the Contractor’s bid is consistent with and considers the number of days to substantially complete the Project and the number of days to finally complete the Project to which the parties may have stipulated in the Agreement, which stipulation was based on the Contractor’s bid. The Contractor agrees that work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will ensure the Project will be substantially complete, and fully and finally complete, as recognized by the issuance of all required Notices of Substantial Completion and Notices of Final Acceptance, within any times stipulated and specified in the Agreement, as the same may be amended by Change Order or other written modification, and that the Principal Representative will be damaged if the times of completion are delayed.

It is expressly understood and agreed, by and between the parties hereto, that the times for the Substantial Completion of the Work or for the final acceptance of the Work as may be stipulated in the Agreement, and as applied here and in Article 54D, Modifications of Article 46, are reasonable times for these stages of completion of the Work, taking into such consideration all factors, including the average climatic range and usual industrial conditions prevailing in the locality of the building operations.

If the Contractor shall neglect, fail or refuse to complete the Work within the times specified in the Agreement, such failure shall constitute a breach of the terms of the Contract and the State of Colorado, acting by and through the Principal Representative, shall be entitled to liquidated damages for such neglect, failure or refusal, as specified in Article 54D, Modification of Article 46.

The Contractor and the Contractor’s Surety shall be jointly liable for and shall pay the Principal Representative, or the Principal Representative may withhold, the sums hereinafter stipulated as liquidated damages for each calendar day of delay until the entire Project is 1) substantially completed, and the Notice (or all Notices) of Substantial Completion are issued, 2) finally complete and accepted and the Notice (or all Notices) of Acceptance are issued, or 3) both. Delay in substantial completion shall be measured from the Date of the Notice to Proceed and delay in final completion and acceptance shall be measured from the Date of the Notice of Substantial Completion.
In the first instance, specified in Article 54D(1), Modification of Article 46, liquidated damages, if any, shall be the amount specified therein, for each calendar day of delay beginning after the stipulated number of days for Substantial Completion from the date of the Notice to Proceed, until the date of the Notice of Substantial Completion. Unless otherwise specified in any Supplementary General Conditions, in the event of any partial Notice of Substantial Completion, liquidated damages shall accrue until all required Notices of Substantial Completion are issued.

In the second instance, specified in Article 54D(2), Modification of Article 46, liquidated damages, if any, shall be the amount specified in Article 54D, Modification of Article 46, for each calendar day in excess of the number of calendar days specified in the Contractor’s bid for the Project and stipulated in the Agreement to finally complete the Project (as defined by the issuance of the Notice of Acceptance) after the final Notice of Substantial Completion has been issued.

In the third instance, when so specified in both Articles 54D(1) and (2), both types of liquidated damages shall be separately assessed where those delays have occurred.

The parties expressly agree that said amounts are a reasonable estimate of the presumed actual damages that would result from any of the breaches listed, and that any liquidated damages that are assessed have been agreed to in light of the difficulty of ascertaining the actual damages that would be caused by any of these breaches at the time this Contract was formed; the liquidated damages in the first instance representing an estimate of damages due to the inability to use the Project; the liquidated damages in the second instance representing an estimate of damages due to the additional administrative, technical, supervisory and professional expenses related to and arising from the extended closeout period including delivery of any or all guarantees and warranties, the submittals of sales and use tax payment forms, the calling for the final inspection and the completion of the final punch list.

The parties also agree and understand that the liquidated damages to be assessed in each instance are separate and distinct, although potentially cumulative, damages for the separate and distinct breaches of delayed substantial completion or final acceptance. Such liquidated damages shall not be avoided by virtue of the fact of concurrent delay caused by the Principal Representative, or anyone acting on behalf of the Principal Representative, but in such event the period of delay for which liquidated damages are assessed shall be equitably adjusted in accordance with Article 38, Delays And Extensions Of Time.

ARTICLE 47. DAMAGES

If either party to this Contract shall suffer damage under this Contract in any manner because of any wrongful act or neglect of the other party or of anyone employed by either of them, then the party suffering damage shall be reimbursed by the other party for such damage. Except to the extent of damages liquidated for the Contractor’s failure to achieve timely completion as set forth in Article 46, Time of Completion and Liquidated Damages, the Principal Representative shall be responsible for, and at his or her option may insure against, loss of use of any existing property not included in the Work, due to fire or otherwise, however caused. Notwithstanding the foregoing, or any other provision of this Contract, to the contrary, no term or condition of this contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protection, or other provisions of the Colorado Governmental Immunity Act, Section 24-10-101, et seq., CRS, as now or hereafter amended. The parties understand and agree that liability for claims for injuries to persons arising out of negligence of the State of Colorado, its departments, institutions, agencies, boards, officials and employees is controlled and limited by the provisions of Section 24-10-101, et seq., CRS, as now or hereafter amended and the risk management statutes, Section 24-30-1501, et seq., CRS, as now or hereafter amended.

Notice of intent to file a claim under this clause shall be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except that in the case of claims by the Principal Representative involving warranties against faulty work or materials Notice shall be required only to the extent stipulated elsewhere in these General Conditions. Claims made to the Principal Representative involving extra cost or extra time arising by virtue of instructions to the Contractor to which Article 36, Claims, applies shall be made in accordance with Article 36. Other claims arising under the Contract involving extra cost or extra time which are made to the Principal Representative under this clause shall also be made in accordance with the procedures of Article 36, whether or not arising by virtue of instructions to the Contractor; provided however that it shall not be necessary to first obtain or request a written judgment of the Architect/Engineer.
Provided written Notice of intent to file a claim is provided as required in the preceding paragraph, nothing in this Article shall limit or restrict the rights of either party to bring an action at law or to seek other relief to which either party may be entitled, including consequential damages, if any, and shall not be construed to limit the time during which any action might be brought. Nothing in these General Conditions shall be deemed to limit the period of time during which any action may be brought as a matter of contract, tort, warranty or otherwise, it being the intent of the parties to allow any and all actions at law or in equity for such periods as the law permits. All such rights shall, however be subject to the obligation to assert claims and to appeal denials pursuant to Article 36, Claims, where applicable.

ARTICLE 48. STATE’S RIGHT TO DO THE WORK; TEMPORARY SUSPENSION OF WORK; DELAY DAMAGES

A. STATE’S RIGHT TO DO THE WORK
If after receipt of Notice to do so, the Contractor should neglect to prosecute the Work properly or fail to perform any provision of the Contract, the Principal Representative, after a second seven (7) days’ advance written Notice to the Contractor and the Surety may, without prejudice to any other remedy the Principal Representative may have, take control of all or a portion of the Work, as the Principal Representative deems necessary and make good such deficiencies deducting the cost thereof from the payment then or thereafter due the Contractor, as provided in Article 30, Correction Of Work Before Acceptance and Article 33, Payments Withheld, provided, however, that the Architect/Engineer shall approve the amount charged to the Contractor by approval of the Change Order.

B. TEMPORARY SUSPENSION OF WORK
The State, acting for itself or by and through the Architect/Engineer, shall have the authority to suspend the Work, either wholly or in part, for such period or periods as may be deemed necessary due to:

1. Unsuitable weather;
2. Faulty workmanship;
3. Improper superintendence;
4. Contractor’s failure to carry out orders or to perform any provision of the Contract Documents;
5. Loss of, or restrictions to, appropriations;
6. Conditions, which may be considered unfavorable for the prosecution of the Work.

If it should become necessary to stop work for an indefinite period, the Contractor shall store materials in such manner that they will not become an obstruction or become damaged in any way; and he or she shall take every precaution to prevent damage to or deterioration of the Work, provide suitable drainage and erect temporary structures where necessary.

Notice of suspension of work shall be provided to the Contractor in writing stating the reasons therefore. The Contractor shall again proceed with the work when so notified in writing.

The Contractor understands and agrees that the State of Colorado cannot predict with certainty future revenues and could ultimately lack the revenue to fund the appropriations applicable to this Contract. The Contractor further acknowledges and agrees that in such event that State may, upon Notice to the Contractor, suspend the work in anticipation of a termination of the Contract for the convenience of the State, pursuant to Article 50, Termination For Convenience of State. If the Contract is not so terminated the Contract sum and the Contract time shall be equitably adjusted at the time the Principal Representative directs the work to be recommenced and gives Notice that the revenue to fund the appropriation is available.

C. DELAY DAMAGES
The Principal Representative and the State of Colorado shall be liable to the Contractor for the payment of any claim for extra costs, extra compensation or damages occasioned by hindrances or delays encountered in the work only when and to the limited extent that such hindrance or delay is caused by an act or omission within the control of the Principal Representative, the Architect/Engineer or other persons or entities acting on behalf of the Principal Representative. Further, the Principal Representative and the State of Colorado shall be liable to the Contractor for the payment of such a claim only if the Contractor has provided required Notice of the delay or impact, or has presented its
claim for an extension of time or claim of other delay or other impact due to changes ordered in the work before proceeding with the changed work. Except as otherwise provided, claims for extension of time shall be Noticed and filed in accordance with Article 38, Delays and Extensions of Time, within three (3) business days of the beginning of the delay with any claim filed within seven (7) days after the delay has ceased, or such claim is waived. Claims for extension of time or for other delay or other impact resulting from changes ordered in the Work shall be presented and adjusted as provided in Article 35, Changes in the Work.

ARTICLE 49. STATE’S RIGHTS TO TERMINATE CONTRACT

A. GENERAL

If the Contractor should be adjudged bankrupt, or if he or she should make a general assignment for the benefit of his or her creditors, or if a receiver should be appointed to take over his affairs, or if he or she should fail to prosecute his or her work with due diligence and carry the work forward in accordance with the construction schedule and the time limits set forth in the Contract Documents, or if he or she should fail to subsequently perform one or more of the provisions of the Contract Documents to be performed by him, the Principal Representative may serve written Notice on the Contractor and the Surety on performance and payment bonds, stating his or her intention to exercise one of the remedies hereinafter set forth and the grounds upon which the Principal Representative bases his or her right to exercise such remedy.

In such event, unless the matter complained of is satisfactorily cleared within ten (10) days after delivery of such Notice, the Principal Representative may, without prejudice to any other right or remedy, exercise one of such remedies at once, having first obtained the concurrence of the Architect/Engineer in writing that sufficient cause exists to justify such action.

B. CONDITIONS AND PROCEDURES

1. The Principal Representative may terminate the services of the Contractor, which termination shall take effect immediately upon service of Notice thereof on the Contractor and his or her Surety, whereupon the Surety shall have the right to take over and perform the Contract. If the Surety does not provide Notice to the Principal Representative of its intent to commence performance of the Contract within ten (10) days after delivery of the Notice of termination, the Principal Representative may take over the Work, take possession of and use all materials, tools, equipment and appliances on the premises and prosecute the Work to completion by such means as he or she shall deem best. In the event of such termination of his or her service, the Contractor shall not be entitled to any further payment under the Contract until the Work is completed and accepted. If the Principal Representative takes over the Work and if the unpaid balance of the contract price exceeds the cost of completing the Work, including compensation for any damages or expenses incurred by the Principal Representative through the default of the Contractor, such excess shall be paid to the Contractor. If, however, the cost, expenses and damages as certified by the Architect/Engineer exceed such unpaid balance of the contract price, the Contractor and his or her Surety shall pay the difference to the Principal Representative.

2. The Principal Representative may require the Surety on the Contractor’s bond to take control of the Work and see to it that all the deficiencies of the Contractor are made good, with due diligence within ten (10) days of delivery of Notice to the Surety to do so. As between the Principal Representative and the Surety, the cost of making good such deficiencies shall all be borne by the Surety. If the Surety takes over the Work, either by election upon termination of the services of the Contractor pursuant to Section B(1) of this Article 49, State’s Right To Terminate Contract, or upon instructions from the Principal Representative to do so, the provisions of the Contract Documents shall govern the work to be done by the Surety, the Surety being substituted for the Contractor as to such provisions, including provisions as to payment for the Work, the times of completion and provisions of this Article as to the right of the Principal Representative to do the Work or to take control of all or a portion of the Work.

3. The Principal Representative may take control of all or a portion of the Work and make good the deficiencies of the Contractor, or the Surety if the Surety has been substituted for the Contractor, with or without terminating the Contract, employing such additional help as the Principal Representative deems advisable in accordance with the provisions of Article 48A, State’s Right To Do The Work; Temporary Suspension Of Work; Delay Damages. In such event, the Principal Representative shall be entitled to collect from the Contractor and his or
her Surety, or to deduct from any payment then or thereafter due the Contractor, the costs incurred in having such deficiencies made good and any damages or expenses incurred through the default of Contractor, provided the Architect/Engineer approves the amount thus charged to the Contractor.

If the Contract is not terminated, a Change Order to the Contract shall be executed, unilaterally if necessary, in accordance with the procedures of Article 35, Changes In The Work.

C. ADDITIONAL CONDITIONS

If any termination by the Principal Representative for cause is later determined to have been improper, the termination shall be automatically converted to and deemed to be a termination by the Principal Representative for convenience and the Contractor shall be limited in recovery to the compensation provided for in Article 50, Termination For Convenience Of State. Termination by the Contractor shall not be subject to such conversion.

ARTICLE 50. TERMINATION FOR CONVENIENCE OF STATE

A. NOTICE OF TERMINATION

The performance of Work under this Contract may be terminated, in whole or from time to time in part, by the State whenever for any reason the Principal Representative shall determine that such termination is in the best interest of State. Termination of work hereunder shall be effected by delivery to the Contractor of a Notice of such termination specifying the extent to which the performance of work under the Contract is terminated and the date upon which such termination becomes effective.

B. PROCEDURES

After receipt of the Notice of termination, the Contractor shall, to the extent appropriate to the termination, cancel outstanding commitments hereunder covering the procurement of materials, supplies, equipment and miscellaneous items. In addition, the Contractor shall exercise all reasonable diligence to accomplish the cancellation or diversion of all applicable outstanding commitments covering personal performance of any work terminated by the Notice. With respect to such canceled commitments, the Contractor agrees to:

1. settle all outstanding liabilities and all claims arising out of such cancellation of commitments, with approval or ratification of the Principal Representative, to the extent he or she may require, which approval or ratification shall be final for all purposes of this clause; and,
2. assign to the State, in the manner, at the time, and to the extent directed by the Principal Representative, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the State shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

The Contractor shall submit his or her termination claim to the Principal Representative promptly after receipt of a Notice of termination, but in no event later than three (3) months from the effective date thereof, unless one or more extensions in writing are granted by the Principal Representative upon written request of the Contractor within such three month period or authorized extension thereof. Upon failure of the Contractor to submit his or her termination claim within the time allowed, the Principal Representative may determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

Costs claimed, agreed to, or determined pursuant to the preceding and following paragraph shall be in accordance with the provisions of § 24-107-101, C.R.S., as amended and associated Cost Principles of the Colorado Procurement Rules as in effect on the date of this Contract.

Subject to the preceding provisions, the Contractor and the Principal Representative may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the termination under this clause, which amount or amounts may include any reasonable cancellation charges thereby incurred by the Contractor and any reasonable loss upon outstanding commitments for personal services which he or she is unable to cancel; provided, however, that in connection with any outstanding commitments for personal services which the Contractor is unable to cancel, the Contractor shall have exercised reasonable diligence to divert such commitments to other activities
and operations. Any such agreement shall be embodied in an Amendment to this Contract and the Contractor shall be paid the agreed amount.

The State may from time to time, under such terms and conditions as it may prescribe, make partial payments against costs incurred by the Contractor in connection with the termination portion of this Contract, whenever, in the opinion of the Principal Representative, the aggregate of such payments is within the amount to which the Contractor will be entitled hereunder.

The Contractor agrees to transfer title and deliver to the State, in the manner, at the time, and to the extent, if any, directed by the Principal Representative, such information and items which, if the Contract had been completed, would have been required to be furnished to the State, including:

a. completed or partially completed plans, Drawings and information; and,
b. materials or equipment produced or in process or acquired in connection with the performance of the work terminated by the Notice.

Other than the above, any termination inventory resulting from the termination of the Contract may, with written approval of the Principal Representative, be sold or acquired by the Contractor under the conditions prescribed by and at a price or prices approved by the Principal Representative. The proceeds of any such disposition shall be applied in reduction of any payments to be made by the State to the Contractor under this Contract or shall otherwise be credited to the price or cost of work covered by this Contract or paid in such other manners as the Principal Representative may direct. Pending final disposition of property arising from the termination, the Contractor agrees to take such action as may be necessary, or as the Principal Representative may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the State has or may acquire an interest.

Any disputes as to questions of fact, which may arise hereunder, shall be subject to the Remedies provisions of the Colorado Procurement Code, §§ 24-109-101, et seq., C.R.S., as amended.

ARTICLE 51. CONTRACTOR'S RIGHT TO STOP WORK AND/OR TERMINATE CONTRACT
If the Work shall be stopped under an order of any court or other public authority for a period of three (3) months through no act or fault of the Contractor or of any one employed by him, then the Contractor may on seven (7) days' written Notice to the Principal Representative and the Architect/Engineer stop work or terminate this Contract and recover from the Principal Representative payment for all work executed, any losses sustained on any plant or material, and a reasonable profit. If the Architect/Engineer shall fail to issue or otherwise act in writing upon any certificate for payment within ten (10) days after it is presented and received by the Architect/Engineer, as provided in Article 31, Applications For Payments, or if the Principal Representative shall fail to pay the Contractor any sum certified that is not disputed in whole or in part by the Principal Representative in writing to the Contractor and the Architect/Engineer within thirty (30) days after the Architect/Engineer’s certification, then the Contractor may on ten (10) days’ written Notice to the Principal Representative and the Architect/Engineer stop work and/or give written Notice of intention to terminate this Contract.

If the Principal Representative shall thereafter fail to pay the Contractor any amount certified by the Architect/Engineer and not disputed in writing by the Principal Representative within ten (10) days after receipt of such Notice, then the Contractor may terminate this Contract and recover from the Principal Representative payment for all work executed, any losses sustained upon any plant or materials, and a reasonable profit. The Principal Representative’s right to dispute an amount certified by the Architect/Engineer shall not relieve the Principal Representative of the obligation to pay amounts not in dispute as certified by the Architect/Engineer.

ARTICLE 52. SPECIAL PROVISIONS
A. CONTROLLER’S APPROVAL CRS 24-30-202(1)
This Contract shall not be deemed valid until it has been approved by the Colorado State Controller or designee.
B. **FUND AVAILABILITY CRS 24-30-202(5.5)**

Financial obligations of the State payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available.

C. **GOVERNMENTAL IMMUNITY**

No term or condition of this contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions, of the Colorado Governmental Immunity Act, CRS §24-10-101 et seq., or the Federal Tort Claims Act, 28 U.S.C. §§1346(b) and 2671 et seq., as applicable now or hereafter amended.

D. **INDEPENDENT CONTRACTOR 4 CCR 801-2**

Contractor shall perform its duties hereunder as an independent contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of the State. Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through the State and the State shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Unemployment insurance benefits will be available to Contractor and its employees and agents only if such coverage is made available by Contractor or a third party. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to this contract. Contractor shall not have authorization, express or implied, to bind the State to any agreement, liability or understanding, except as expressly set forth herein. Contractor shall (a) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law, (b) provide proof thereof when requested by the State, and (c) be solely responsible for its acts and those of its employees and agents.

E. **COMPLIANCE WITH LAW**

Contractor shall strictly comply with all applicable federal and State laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

F. **CHOICE OF LAW**

Colorado law, and rules and regulations issued pursuant thereto, shall be applied in the interpretation, execution, and enforcement of this contract. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. Any provision incorporated herein by reference which purports to negate this or any other Special Provision in whole or in part shall not be valid or enforceable or available in any action at law, whether by way of complaint, defense, or otherwise. Any provision rendered null and void by the operation of this provision shall not invalidate the remainder of this contract, to the extent capable of execution.

G. **BINDING ARBITRATION PROHIBITED**

The State of Colorado does not agree to binding arbitration by any extra-judicial body or person. Any provision to the contrary in this contract or incorporated herein by reference shall be null and void.

H. **SOFTWARE PIRACY PROHIBITION. Governor's Executive Order D 002 00**

State or other public funds payable under this contract shall not be used for the acquisition, operation, or maintenance of computer software in violation of federal copyright laws or applicable licensing restrictions. Contractor hereby certifies and warrants that, during the term of this contract and any extensions, Contractor has and shall maintain in place appropriate systems and controls to prevent such improper use of public funds. If the State determines that Contractor is in violation of this provision, the State may exercise any remedy available at law or in equity under this contract, including, without limitation, immediate termination of this contract and any remedy consistent with federal copyright laws or applicable licensing restrictions.

I. **EMPLOYEE FINANCIAL INTEREST/CONFLICT OF INTEREST CRS 24-18-201 & CRS 24-50-507**

The signatories aver that to their knowledge, no employee of the State has any personal or beneficial interest whatsoever in the service or property described in this contract. Contractor has no interest and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with the performance of Contractor's services and Contractor shall not employ any person having such known interests.
J. **VENDOR OFFSET CRS 24-30-202(1) & CRS 24-30-202.4**
Subject to CRS §24-30-202.4 (3.5), the State Controller may withhold payment under the State’s vendor offset intercept system for debts owed to State agencies for: (a) unpaid child support debts or child support arrearages; (b) unpaid balances of tax, accrued interest, or other charges specified in CRS §39-21-101, et seq.; (c) unpaid loans due to the Student Loan Division of the Department of Higher Education; (d) amounts required to be paid to the Unemployment Compensation Fund; and (e) other unpaid debts owing to the State as a result of final agency determination or judicial action.

K. **PUBLIC CONTRACTS FOR SERVICES. CRS §8-17.5-101.** [Not Applicable to agreements relating to the offer, issuance, or sale of securities, investment advisory services or fund management services, sponsored projects, intergovernmental agreements, or information technology services or products and services] Contractor certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform work under this contract and will confirm the employment eligibility of all employees who are newly hired for employment in the United States to perform work under this contract, through participation in the E-Verify Program or the Department program established pursuant to CRS §8-17.5-102(5)(c). Contractor shall not knowingly employ or contract with an illegal alien to perform work under this contract or enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract. Contractor (a) shall not use E-Verify Program or Department program procedures to undertake pre-employment screening of job applicants while this contract is being performed, (b) shall notify the subcontractor and the contracting State agency within three days if Contractor has actual knowledge that a subcontractor is employing or contracting with an illegal alien for work under this contract, (c) shall terminate the subcontract if a subcontractor does not stop employing or contracting with the illegal alien within three days of receiving the notice, and (d) shall comply with reasonable requests made in the course of an investigation, undertaken pursuant to CRS §8-17.5-102(5), by the Colorado Department of Labor and Employment. If Contractor participates in the Department program, Contractor shall deliver to the contracting State agency, Institution of Higher Education or political subdivision a written, notarized affirmation, affirming that Contractor has examined the legal work status of such employee, and shall comply with all of the other requirements of the Department program. If Contractor fails to comply with any requirement of this provision or CRS §8-17.5-101 et seq., the contracting State agency, institution of higher education or political subdivision may terminate this contract for breach and, if so terminated, Contractor shall be liable for damages.

L. **PUBLIC CONTRACTS WITH NATURAL PERSONS. CRS §24-76.5-101.**
Contractor, if a natural person eighteen (18) years of age or older, hereby swears and affirms under penalty of perjury that he or she (a) is a citizen or otherwise lawfully present in the United States pursuant to federal law, (b) shall comply with the provisions of CRS §24-76.5-101 et seq., and (c) has produced one form of identification required by CRS §24-76.5-103 prior to the effective date of this contract.

**ARTICLE 53. MISCELLANEOUS PROVISIONS**

A. **CONSTRUCTION OF LANGUAGE**
The language used in these General Conditions shall be construed as a whole according to its plain meaning, and not strictly for or against any party. Such construction shall, however, construe language to interpret the intent of the parties giving due consideration to the order of precedence noted in Article 2C, Intent of Documents.

B. **SEVERABILITY**
If any covenant, term, condition, or provision contained in these General Conditions is held by a court of competent jurisdiction to be invalid, illegal, or unenforceable in any respect, such covenant, term, condition, or provision shall be severed or modified to the extent necessary to make it enforceable, and the resulting General Conditions shall remain in full force and effect, and such invalidity or other failure shall not affect the validity of any other covenant, term or provision hereof. Provided the same does not work a substantial injustice, these General Conditions shall be construed as if such invalid portion had not been inserted.
C. SECTION HEADINGS
The section or paragraph headings contained within these General Conditions are inserted for convenience only and shall not be construed to vary or add to the meaning of this Contract.

D. AUTHORITY
Each person executing the Agreement and its Exhibits in a representative capacity expressly represents and warrants that he or she has been duly authorized by one of the parties to execute the Agreement and has authority to bind said party to the terms and conditions hereof.

E. INTEGRATION OF UNDERSTANDING
This Contract is intended as the complete integration of all understandings between the parties and supersedes all prior negotiations, representations, or agreements, whether written or oral. No prior or contemporaneous addition, deletion, or other amendment hereto shall have any force or effect whatsoever, unless embodied herein in writing. No subsequent novation, renewal, addition, deletion, or other amendment hereto shall have any force or effect unless embodied in a written Change Order or Amendment to this Contract.

F. VENUE
The parties agree that venue for any action related to performance of this Contract shall be an appropriate District Court of the State of Colorado.

G. NO THIRD PARTY BENEFICIARIES
Except as herein specifically provided otherwise, this Contract shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns. The enforcement of the terms and conditions of this Contract and all rights of action relating to such enforcement, shall be strictly reserved to the parties to the Agreement. Nothing contained in the Contract Documents shall give or allow any claim or right of action whatsoever by any other person or entity as beneficiary; all such non-parties shall be deemed incidental beneficiaries only.

H. WAIVER
The waiver of any breach of a term hereof shall not be construed as a waiver of any other term, of the same term upon subsequent breach.

I. INDEMNIFICATION
Contractor shall indemnify, save, and hold harmless the State, its employees and agents, against any and all claims, damages, liability and court awards including costs, expenses, and attorney fees and related costs, incurred as a result of any act or omission by Contractor, or its employees, agents, subcontractors, or assignees pursuant to the terms of this contract.

J. STATEWIDE CONTRACT MANAGEMENT SYSTEM
If the maximum amount payable to Construction Manager under this Contract is $500,000 or greater, either on the Effective Date or at anytime thereafter, this section shall apply.

Construction Manager agrees to be governed, and to abide, by the provisions of C.R.S. §24-102-205, §24-102-206, §24-103-601, §24-103.5-101, §24-105-101, §24-105-102, and §24-105-201 concerning the monitoring of vendor performance on state contracts and inclusion of contract performance information in a statewide contract management system.

Construction Manager understands that if the maximum amount payable to Construction Manager under this Contract is $500,000 or greater, either on the Effective Date or at anytime thereafter, the State shall have the additional responsibility to prepare a Contractor Performance Evaluation Report. This Report shall be maintained as part of the Contractor’s file and remain part of CMS for at least 5-years following the Report date.

Construction Manager’s performance shall be subject to Evaluation and Review in accordance with the terms and conditions of this Contract, State law, including C.R.S §24-103.5-101, and State Fiscal Rules, Policies and Guidance. Evaluation and Review of Construction Manager’s performance shall be part of the normal contract administration process and Construction Manager’s performance will be
systematically recorded in the statewide Contract Management System. Areas of Evaluation and Review shall include, but shall not be limited to quality, cost and timeliness. Collection of information relevant to the performance of Construction Manager’s obligations under this Contract shall be determined by the specific requirements of such obligations and shall include factors tailored to match the requirements of Construction Manager’s obligations. Such performance information shall be entered into the statewide Contract Management System at intervals established herein and a final Evaluation, Review and Rating shall be rendered within 30 days of the end of the Contract term. Construction Manager shall be notified following each performance Evaluation and Review, and shall address or correct any identified problem in a timely manner and maintain work progress.

Should the final performance Evaluation and Review determine that Construction Manager demonstrated a gross failure to meet the performance measures established hereunder, the Executive Director of the Colorado Department of Personnel and Administration (Executive Director), upon request by the [Insert Dept or IHE Acronym], and showing of good cause, may debar Construction Manager and prohibit Construction Manager from bidding on future contracts. Construction Manager may contest the final Evaluation, Review and Rating by: (a) filing rebuttal statements, which may result in either removal or correction of the evaluation (CRS §24-105-102(6)), or (b) under CRS §24-105-102(6), exercising the debarment protest and appeal rights provided in CRS §§24-109-106, 107, 201 or 202, which may result in the reversal of the debarment and reinstatement of Construction Manager, by the Executive Director, upon showing of good cause.

ARTICLE 54. OPTIONAL PROVISIONS AND ELECTIONS
The provisions of this Article 54 after the preceding Articles or enlarge upon them as indicated:
The Principal Representative and or the State Buildings Programs shall mark boxes and initial where applicable.

A. MODIFICATION OF ARTICLE 45. GUARANTEE INSPECTIONS AFTER COMPLETION
If the box below is marked the six month guarantee inspection is not required.

☐ _______ Principal Representative initial

B. MODIFICATION OF ARTICLE 27. LABOR AND WAGES
If the box is marked the Federal Davis-Bacon Act shall be applicable to the Project. The minimum wage rates to be paid on the Project shall be furnished by the Principal Representative and included in the Contract Documents.

☐ _______ Principal Representative initial

C. MODIFICATION OF ARTICLE 39. NON-BINDING DISPUTE RESOLUTION – FACILITATED NEGOTIATIONS
If the box is marked, and initialed by the State as noted, the requirement to participate in facilitated negotiations shall be deleted from this Contract. Article 39, Non-Binding Dispute Resolution – Facilitated Negotiations, shall be deleted in its entirety and all references to the right to the same where ever they appear in the contract shall be similarly deleted.
The box may be marked only for projects with an estimated value of less than $500,000.

☐ _______ Principal Representative initial

D. MODIFICATION OF ARTICLE 46. TIME OF COMPLETION AND LIQUIDATED DAMAGES
If an amount is indicated immediately below, liquidated damages shall be applicable to this Project as, and to, the extent shown below. Where an amount is indicated below, liquidated damages shall be assessed in accordance with and pursuant to the terms of Article 46, Time Of Completion And Liquidated Damages, in the amounts and as here indicated. The election of liquidated damages shall limit and control the parties right to damages only to the extent noted.

1. For the inability to use the Project, for each day after the number of calendar days specified in the Contractor’s bid for the Project and the Agreement for achievement of Substantial Completion, until the day that the Project has achieved Substantial Completion and the Notice of Substantial Completion is issued, the Contractor agrees that an amount equal to Seven
Hundred Fifty and no/100 Dollars ($750.00) shall be assessed against Contractor from amounts due and payable to the Contractor under the Contract, or the Contractor and the Contractor’s Surety shall pay to the Principal Representative such sum for any deficiency, if amounts on account thereof are deducted from remaining amounts due, but amounts remaining are insufficient to cover the entire assessment.

2. For damages related to or arising from additional administrative, technical, supervisory and professional expenses related to and arising from the extended closeout period, for each day in excess of the number of calendar days specified in the Contractor’s bid for the Project and the Agreement to finally complete the Project as defined by the issuance of the Notice of Final Acceptance) after the issuance of the final Notice of Substantial Completion, the Contractor agrees that an amount equal to One Hundred Fifty no/100 Dollars ($150.00) shall be assessed against Contractor from amounts due and payable to the Contractor under the Contract, or the Contractor and the Contractor’s Surety shall pay to the Principal Representative such sum for any deficiency, if amounts on account thereof are deducted from remaining amounts due but amounts remaining are insufficient to cover the entire assessment.

E. NOTICE IDENTIFICATION
All Notices pertaining to General Conditions or otherwise required to be given shall be transmitted in writing, to the individuals at the addresses listed below, and shall be deemed duly given when received by the parties at their addresses below or any subsequent persons or addresses provided to the other party in writing.

Notice to Principal Representative: _______________________________

With copies to: State Buildings Programs (or Delegate)

State of Colorado

Notice to Contractor: ___________________________________________

_________________________________________________________________

With copies to: __________________________________________

_________________________________________________________________
INDEX

24-30-1301(11), 3
38-26-107, 36
39-26-114(1)(d), 9
8-17-101, 2, 20
acceptance, 12, 15, 17, 19, 20, 23, 25, 33, 38
Agreement, 1, 2, 4, 5, 12, 24, 25, 27, 32, 38, 39,
45, 46, 47
American Society of Testing Materials, 14
approval, 3, 7, 11, 13, 14, 19, 20, 23, 24, 27, 31,
35, 40, 42, 43
Architect/Engineer, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,
12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25,
26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 39,
40, 41, 42, 43, 44
Beneficial Occupancy, 1, 2, 33, 34
Bids, 1, 38
Bonds, 1, 4
business days, 2, 6, 28, 29, 30, 33, 41
Change Order, 2, 4, 5, 10, 13, 14, 21, 24, 25, 26,
27, 29, 31, 32, 35, 38, 40, 46
claim, 31
Contract, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14,
15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28,
30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,
42, 43, 44, 45, 46, 47
contract sum, 10, 11, 13, 14, 20, 21, 24, 25, 26,
29, 30
contract time, 13
Contractor, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,
14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25,
26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38,
39, 40, 41, 42, 43, 47
correction, 21, 22, 34, 35, 37
default, 5, 7
drawings, 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 15,
16, 31, 33, 35, 43
final acceptance, 2, 16, 17, 19, 23, 35, 37, 38, 39
final payment, 23, 35, 36, 39
final settlement, 23, 36
guarantee, 17, 23, 37, 46
indemnify, 44
instructions, 7, 10, 14, 15, 16, 28, 29, 31, 35, 39,
41
insurance, 15, 18, 19, 20
manufacturer's warranty, 17
Notice, 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17,
18, 19, 20, 21, 23, 24, 28, 29, 30, 33, 34, 35,
36, 37, 38, 39, 40, 41, 42, 43, 47
observe, 6, 7, 22
occupancy, 1, 2, 33, 34, 35
owner, 2, 3
partnering plan, 5, 33, 35
payment, 1, 4, 20, 21, 23
precedence, 5, 45
principal representative, 1, 2, 3, 4, 5, 6, 7, 8, 9,
10, 11, 12, 14, 15, 16, 17, 19, 20, 21, 22, 23,
24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
36, 37, 38, 39, 40, 41, 42, 43, 46, 47
procurement officer, 2, 3, 25
Product Data, 3, 4, 10, 11, 12, 13
samples, 3, 4, 10, 11, 12, 13
SBP-01, 1, 33
SBP-05, 1, 35
SBP-B.I.R., 7
SC-6.13, 1, 2, 4, 27
SC-6.22, 4, 20
SC-6.221, 4, 20
SC-6.26, 38
SC-6.27, 1, 19
SC-6.31, 26
SC-6.312, 25
SC-7.2, 12, 22, 23
schedule, 10, 11, 12, 13, 21, 22, 24, 27, 30, 31,
34, 37, 41
Shop Drawings, 3, 4, 10, 11, 12, 13, 31
Specifications, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,
13, 14, 15, 16, 18, 22, 33, 34, 36, 37, 38
State Buildings Programs, 1, 6, 7, 8, 11, 12, 14,
15, 17, 18, 19, 20, 24, 25, 27, 30, 31, 33, 34,
35, 37
State Form, i, 2, 4, 10, 12, 13, 31
Subcontractor, 3, 9, 14, 15, 18, 19, 23, 34
substantial completion, 2, 4, 16, 34, 39
Substantial Completion, 1, 2, 4, 17, 33, 34, 35,
36, 37, 38, 47
substantially complete, 4, 33, 35, 38
Surety, 4, 20, 21, 23, 38, 40, 41, 42, 47
termination, 6, 41, 42, 43
testing, 7, 12, 14, 17, 34
time of completion, 30
warranties, 17, 23, 35, 36, 37, 39
weather, 17, 25, 30, 31, 40
work, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 17, 19, 22,
23, 24, 25, 27, 28, 30, 31, 33, 36, 37, 38, 39,
40, 41, 42
Supplementary General Conditions
University of Colorado at Boulder

1. GENERAL CONDITIONS, ARTICLE 23. F. SIGN – DELETE the entire section.

2. GENERAL CONDITIONS, ARTICLE 25 INSURANCE - DELETE the entire section and replace with the following:

The Contractor shall obtain and maintain, at its own expense and for the duration of the contract, the minimum insurance coverages set forth below. By requiring such minimum insurance, the University shall not be deemed or construed to have assessed the risk that may be applicable to the Contractor under this contract. The Contractor shall assess its own risks and if it deems appropriate and/or prudent, maintain higher limits and/or broader coverages. The Contractor is not relieved of any liability or other obligations assumed or pursuant to the Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration, or types.

COVERAGES

1. Commercial General Liability – ISO CG 00001 or equivalent. Coverage to include:
   • Premises and Operations
   • Explosions, Collapse and Underground Hazards
   • Personal / Advertising Injury
   • Products / Completed Operations
   • Liability assumed under an Insured Contract (including defense costs assumed under contract)
   • Broad Form Property Damage
   • Independent Contractors
   • Additional Insured—Owners, Lessees or Contractors Endorsement, ISO Form 2010 (2004 Edition or equivalent), if possible.
   • Additional Insured—Owners, Lessees or Contractors Endorsement, ISO CG 2037 (7/2004 Edition or equivalent), if possible.

2. Automobile Liability including all:
   • Owned Vehicles
   • Non-Owned Vehicles
   • Hired Vehicles

3. Excess/Umbrella Liability (Applies to projects totaling $10,000,000 or more)
   • Excess of Commercial General Liability, Automobile Liability, and Employers’ Liability.
   • Coverages should be as broad as primary.
   • Risk Management reserves the right to require higher limits.

4. Workers Compensation
   • Statutory Benefits (Coverage A)
   • Employers Liability (Coverage B)

5. Builder's Risk Completed Value (Applies to buildings additions and new buildings)
   • See Builders Risk section in this document.

6. Installation Floater
   • Special cause of loss
   • Theft
   • Faulty workmanship
   • Vandalism
   • Labor costs to repair damaged work
7. **Contractors Pollution Liability**

This section applies only to the following types of proposals:

- ASBESTOS/LEAD ABATEMENT Contracting Services

The University requires this coverage whenever work at issue under this contract involves potential pollution risk to the environment or losses caused by pollution conditions (including asbestos) that may arise from the operations of the Contractor described in the Contractor’s scope of services. Policy shall cover the Contractors completed operations. Such coverage shall include:

- Bodily Injury, sickness, disease, mental anguish or shock sustained by any person, including death.
- Property Damage including natural resource damages, physical injury to or destruction of tangible property including resulting loss of use, clean up costs, and the loss of use of tangible property that has not been physically injured or destroyed.
- Defense, including costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensatory damages.
- Cleanup costs, removal, storage, disposal, and or use of the pollutant; and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims.
- Coverage shall apply to sudden and gradual pollution conditions resulting from the escape of release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants (including asbestos). If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (or specify desired number) years beginning from the time that work under this contract is completed.
- On the Automobile Liability Coverage endorsements CA9948 and MCS-90 are required if the Contractor is transporting any type of hazardous materials.
- The Regents of the University of Colorado, a body corporate as “Additional Insured” for work that is being performed by the Contractor and as respects the Contractors Pollution Liability.

**LIMITS REQUIRED**

The Contractor shall carry the following limits of liability as required below:

**Commercial General Liability**

- General Aggregate $2,000,000
- Products/Completed Operations Aggregate $2,000,000
- Each Occurrence Limit $1,000,000
- Personal/Advertising Injury $1,000,000
- Fire Damage (Any One Fire) $50,000
- Medical Payments (Any One Person) $5,000

**Excess/Umbrella Liability (as required-See Coverages #3)**

- General Aggregate Limit $5,000,000
- Products/Completed Operations Aggregate $5,000,000

**Automobile Liability**

- Bodily Injury/Property Damage (Each Accident) $1,000,000
Workers’ Compensation
Coverage A (Workers’ Compensation) Statutory
Coverage B (Employers Liability) $100,000 Each Accident
$100,000 Disease Ea. Employ
$500,000 Disease-Policy Limit

Contractors Pollution Liability (as required-See Coverages #7)
Per Loss $1,000,000
Aggregate $1,000,000

Builder’s Risk (as required-See Coverages #5)
• This coverage is required for new buildings or additions to existing buildings.
• See the Builders Risk section (below) for required terms and conditions.

Installation Floater
This coverage is to cover materials and equipment to be installed in existing structures.
• Shall be written for 100% of the completed value (replacement cost basis)
• Deductible maximum is $10,000.00
• Waiver of Subrogation applies on Builders Risk

ADDITIONAL INSURANCE REQUIREMENTS
1. All insurers must be licensed or approved to do business within the State of Colorado, and unless otherwise specified, all policies must be written on a per occurrence basis.
2. The Contractor shall provide the University of Colorado a Certificate of Insurance Form evidencing all required coverages, prior to commencing work or entering University premises.
3. The Contractor shall name “The State of Colorado and The Regents of the University of Colorado, a body corporate” as an Additional Insured as respects General Liability.
4. Upon request by the University, Contractor must provide a copy of the actual insurance policy effecting coverage(s) required by the contract.
5. The University requires that all policies of insurance be written on a primary basis, non-contributory with any other insurance coverages and/or self-insurance carried by the University.
6. A Separation of Insureds Clause must be included in general liability policies.
7. The Contractor shall advise the University in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limit. At their own expense, the Contractor will reinstate the aggregate limits to comply with the minimum requirements and shall furnish to the University a new certificate of insurance showing such coverage is in force.
8. Contractor’s insurance carrier should possess a minimum A.M. Best’s Insurance Guide rating of A- VI.
9. Commercial General Liability Completed Operations policies must be kept in effect for up to three (3) years after completion of the project.
10. Contractors Pollution Liability policies must be kept in effect for up to three (3) years after completion of the project.
11. Provide a minimum of thirty (30) days advance written notice to the University for cancellation, non-renewal, or material changes to policies required under the contract.
12. Certificate Holder: University of Colorado, University Risk Management, 4001 Discovery Drive, Suite 230, Campus Box 587, Boulder, CO 80303

Failure of the Contractor to fully comply with these requirements during the term of the Contract may be considered a material breach of contract and may be cause for immediate termination of the Contract at the option of the University. The University reserves the right to negotiate additional specific insurance requirements at the time of the contract award.
Non-Waiver
The parties hereto understand and agree that The University is relying on, and does not waive or intend to waive by any provision of this Contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, 24-10-101 et seq., as from time to time amended, or otherwise available to the University or its officers, employees, agents, and volunteers.

Mutual Cooperation
The University and Contractor shall cooperate with each other in the collection of any insurance proceeds which may be payable in the event of any loss, including the execution and delivery of any proof of loss or other actions required to effect recovery.

Builder’s Risk Insurance
(As required—See Coverages #5)

Unless otherwise provided, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the project is located, Builder’s Risk Insurance in the amount of the initial contract amount as well as subsequent modifications for the entire project at the site on a replacement cost basis without voluntary deductibles. Such Builder’s Risk Insurance shall be maintained, unless otherwise provided in the contract documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the University has insurable interest in the property to be covered, whichever is earlier. The Builder’s Risk insurance shall include interests of the University of Colorado, the General Contractor, subcontractors and sub-tier contractors in the project.

Builders’ Risk Coverage shall be on a Special Covered Cause of Loss Form and shall include theft, vandalism, malicious mischief, collapse, false-work, temporary buildings and debris removal including demolition, increased cost of construction, architect’s fees and expenses, flood and earthquake, and all below and above ground structures, water and sewer mains. Other coverages may be required if provided in contract documents. Coverages shall be written for 100% of the completed value (replacement cost basis) of the work being performed. At the option of the University of Colorado, the University of Colorado may include Soft Costs (including Loss of Use)/Delay in Opening Endorsement under the builder’s risk policy. The University of Colorado agrees to provide the necessary exposure base information for quotation by the Builder’s Risk carrier. The University of Colorado agrees to pay the premium associated with the Soft Costs coverage, the University of Colorado decides to purchase this coverage.

The Builder’s Risk shall also include the follow amendments/provisions:

- Waiver of Subrogation against all parties named as insured, but only to the extent the loss is covered.
- Beneficial Occupancy Clause. The policy shall specifically permit partial or beneficial occupancy at or before substantial completion or final acceptance of the entire work. Partial occupancy or use of the work shall not commence until the insurance company or companies providing insurance have consented to such partial occupancy or use. The University of Colorado and Contractor shall take reasonable steps to obtain consent of the insurance company or companies and agree to take no action, other than upon mutual written consent, with respect to occupancy or use of the work that could lead to cancellation, lapse or reduction of insurance.
- Equipment Breakdown Coverage (a.k.a. Boiler & Machinery) required by the Contract Documents or by law, which shall specifically cover insured equipment during installation and testing (including hot testing).
- Deletion of Coinsurance Provisions
- Replacement Costs Basis - including modification of the valuation clause to cover all costs needed to repair the structure or work (including overhead and profits) and will pay based on the values figured at the time of rebuilding or repairing, not at the time of loss
• Deletion of any exclusions pertaining to Law, Ordinance or Regulation
• Deletion of exclusions for design errors & omissions
• Modification of the electrical apparatus breakdown exclusions and the mechanical breakdown exclusion so that it does not apply to subsequent loss or damage
• Modify exclusion pertaining to damage to interior of building caused by an perils insured against are covered
• Resultant Damage Extension including amendment of exclusion pertaining to design error
• Settling, cracking, shrinking or expansion (including coverage for loss resulting from settling, cracking, shrinking or expansion) of foundation walls, floors, or other parts of the structure
• Other coverages may be required if provided in Contract Documents
• The deductible shall not exceed $10,000 and shall be the responsibility of the Contractor except for losses that involve all Acts of God such as flood, earthquake, windstorm, tsunami, volcano, etc.
• The Policy shall be amended to show thirty (30) days notice of cancellation. Such notice shall be given to the University of Colorado and Contractor.
• Losses in excess of $10,000 insured shall be adjusted in conjunction with the University of Colorado. Any insurance payments/proceeds shall be made payable to the University of Colorado subject to requirements of any applicable mortgagee clause. The Contractor shall pay subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require subcontractors to make payments to their sub-subcontractors in similar manner.
• The University of Colorado shall have the authority to adjust and settle any losses in excess of $10,000 with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the University of Colorado exercise of this power. It is expressly agreed that nothing in this section shall be subject to arbitration and any references to arbitration are expressly deleted.

If requested, the Contractor shall file with the University of Colorado a copy of the policy that includes the insurance coverages required in this section. The policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to the Project.

If the Contractor does not intend to purchase such Builder's Risk Insurance required by the Contract and with all of the coverages in the amount described above, the Contractor shall so inform the University of Colorado as stated in writing prior to commencement of the work. The University of Colorado may then effect insurance that will protect the interests of the University of Colorado, the General Contractor, Subcontractors and sub-tier contractors in the project. Coverages applying shall be the same as stated above including other coverages that may be required by the University of Colorado. The cost shall be charged to the Contractor. Coverage shall be written for 100% of the completed value of the work being performed, with a deductible not to exceed $10,000 per occurrence for most projects.

All deductibles will be assumed by the Contractor. Waiver of Subrogation is to apply against all parties named as insureds, but only to the extent the loss is covered, and Beneficial Occupancy Endorsements are to apply.

If the University of Colorado is damaged by the failure or neglect of the Contractor to purchase or maintain insurance as described above, without so notifying the University of Colorado, then the Contractor shall bear all reasonable costs properly attributable thereto.

Contractors engaged in modifications of existing structures are required to secure a Beneficial Occupancy Endorsement that enables the University of Colorado to occupy the facility during construction.

Revised 02/20/06
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

CHANGE ORDER BULLETIN

Change Order Bulletin No: _______________ Date _______________
Contractor: _______________________________
Institution or Agency: University of Colorado at Boulder
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage
Description of Work: _______________________________

This bulletin is issued to define the scope of revision in drawings and/or specifications for a contemplated change order. The work called for by these revisions shall be in accordance with the requirements of the original contract documents.

Please prepare and submit a proposal for the changes described below. For pricing use State Form SC-6.312. A formal change order State Form SC-6.31 will be issued after approval of your proposal by the Principal Representative and the Architect. Your proposal shall include a statement as to the effect this change will have on the time for completion of the project.

This bulletin is NOT an authorization to proceed.

DESCRIPTION OF CHANGE:

SPECIFICATION REVISIONS:

STATUS OF EXISTING WORK:

PREPARED BY: _______________________________
ARCHITECT/ENGINEER OR CONTRACTOR

APPROVED BY: _______________________________
PRINCIPAL REPRESENTATIVE
(INSTITUTION or AGENCY)
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

CHANGE ORDER PROPOSAL

Change Order Proposal No.       Date       Reference

Change Order Bulletin No:       Date       Description of Work:

Contractor Description of Work:
University of Colorado at Boulder
Institution or Agency
PR 005283 / MUS – Room C112 – Lower Grusin Stage

Part No./Name

(Before completing this form, read instructions on reverse side.)

<table>
<thead>
<tr>
<th>PART I - WORK PERFORMED BY CONTRACTOR</th>
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<tbody>
<tr>
<td>Line 1. Direct Labor Costs</td>
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<tr>
<td>Line 2. Labor Overhead (Direct Labor</td>
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<td>Burdens) (_% X Line 1)</td>
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<td>Line 3. Total Contractor's Labor</td>
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<tr>
<td>Costs (Lines 1 and 2)</td>
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<td>Line 4. Direct Materials Costs</td>
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<td>Line 5. Materials Overhead (Delivery</td>
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<td>Costs &amp; Taxes) (_% X Line 4)</td>
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<td>Line 6. Total Materials Costs (Lines</td>
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<td>4 and 5)</td>
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<td>Line 7. Total Equipment Costs</td>
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<td>Line 8. PART I - TOTAL CONTRACTOR’S</td>
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<td>Part</td>
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<tr>
<td>L, M &amp; E COSTS (Lines 3, 6 and 7)</td>
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<thead>
<tr>
<th>PART II - WORK PERFORMED BY SUBCONTRACTOR</th>
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<tbody>
<tr>
<td>Line 9. Direct Labor Costs</td>
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<tr>
<td>Line 10. Labor Overhead (Direct Labor</td>
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<tr>
<td>Burdens) (_% X Line 9)</td>
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<tr>
<td>Line 11. Total Subcontractor's Labor</td>
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<tr>
<td>Cost (Lines 9 and 10)</td>
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<tr>
<td>Line 12. Direct Materials Costs</td>
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<tr>
<td>Line 13. Materials Overhead (Delivery</td>
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<tr>
<td>Costs &amp; Taxes) (_% X Line 12)</td>
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<tr>
<td>Line 14. Total Subcontractor's Materials</td>
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<td>Costs (Lines 12 and 13)</td>
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<td>Line 15. Total Subcontractor's</td>
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<tr>
<td>Equipment Costs</td>
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<td>Line 16. Total Subcontractor's L, M &amp;</td>
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<td>E Costs (Lines 11, 14 and 15)</td>
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<td>Line 17. Subcontractor's Overhead (</td>
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<td>Indirect Costs) (_% X Line 16)</td>
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<tr>
<td>Line 18. Subcontractor's Profit (_% X</td>
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<td>Line 16) or (2½% Deduct)</td>
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<tr>
<td>Line 19. PART II - TOTAL SUBCONTRACTOR’S</td>
<td>$</td>
<td>Part</td>
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<tr>
<td>COSTS (Lines 16, 17 and 18)</td>
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<tr>
<th>PART III - CONTRACTOR’S OVERHEAD &amp; PROFIT</th>
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<tbody>
<tr>
<td>Line 20. Contractor’s Overhead (Indirect</td>
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<tr>
<td>Costs) (_% X Part I Total)</td>
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<tr>
<td>Line 21. Contractor’s Profit (_% X Part</td>
<td>$</td>
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<tr>
<td>I Total)</td>
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<tr>
<td>Line 22. PART III - TOTAL CONTRACTOR’S</td>
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<tr>
<td>OVERHEAD &amp; PROFIT (Lines 20 and 21)</td>
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<tr>
<th>PART IV - CONTRACTOR’S MARKUP ON SU</th>
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<tbody>
<tr>
<td>Line 23. Contractor’s Commission on</td>
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<tr>
<td>Subcontractor (_% X Part II Total)</td>
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<tr>
<td>Line 24. Contractor’s Profit on</td>
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<td>Subcontractor (_% X Part II Total)</td>
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<tr>
<td>or (2½% Deduct)</td>
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<tr>
<td>Line 25. PART IV - TOTAL CONTRACTOR’S</td>
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<td>Part</td>
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<tr>
<td>MARKUP ON SUBCONTRACTOR (Lines 23 &amp;</td>
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<td>IV</td>
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<td>24)</td>
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<table>
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<tr>
<th>PART V - SUBTOTAL C.O. PROPOSAL</th>
<th>$</th>
<th>Part</th>
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<tbody>
<tr>
<td>(Parts I and II and III and IV)</td>
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<tr>
<td>PART VI - CONTRACTOR’S BOND COST</td>
<td>$</td>
<td>Part</td>
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<tr>
<td>(_____% X Part V)</td>
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<td>VI</td>
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<tr>
<td>PART VII - GRAND TOTAL CHANGE ORDER</td>
<td>$</td>
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<tr>
<td>PROPOSAL (Sum of Totals: Parts V and VI)</td>
<td>$</td>
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<tr>
<td>PART VIII - CONTRACT TIME</td>
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<td></td>
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<tr>
<td>COMPLETION DATE (IS) (IS NOT) EXTENDED</td>
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<tr>
<td>CALENDAR DAYS AS A RESULT OF THIS PROPOSAL</td>
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</tbody>
</table>

CONTRACTOR’S CERTIFICATE:
This is to certify that, to the best of my knowledge and belief, the cost/price data submitted in response to the listed C.O. Bulletin, are accurate, complete and current as of __________.  

<table>
<thead>
<tr>
<th>Firm:</th>
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<tbody>
<tr>
<td>Name &amp; Title:</td>
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<td>Signature:</td>
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<td>Date:</td>
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</table>

ARCHITECT/ENGINEER’S CERTIFICATE:
This is to certify that I have analyzed the proposal and find, to the best of my knowledge and belief, that the proposal represents current, fair, factual and competitive cost/price data.

<table>
<thead>
<tr>
<th>Firm:</th>
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<tbody>
<tr>
<td>Name &amp; title:</td>
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<td>Signature:</td>
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<td>Date:</td>
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</table>

*Date:          Date:          *The proposal shall remain in full force and effect for a period of ______ calendar days from date of signature.

PRINCIPAL REPRESENTATIVE
(Or Authorized Delegate):

<table>
<thead>
<tr>
<th>State Building Programs</th>
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<tbody>
<tr>
<td>(Institution or Agency)</td>
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<tr>
<th>PRINCIPAL REPRESENTATIVE</th>
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<td>(State Building Programs)</td>
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<td>(Or Authorized Delegate)</td>
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</table>

<table>
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<tr>
<th>Date</th>
<th>Date</th>
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</table>

Date: 09/01/06 (Rev.: 09/2006)
INSTRUCTIONS FOR COMPLETING “CHANGE ORDER PROPOSAL”
COST/PRICE DATA SUMMARY (STATE FORM SC-6.312)

BULLETIN NUMBER/DATED: Insert C.O. Bulletin No. and Date Issued
LEFT HAND BOX: Fill in Contractor’s Name; State Project Number and Title
RIGHT HAND BOX: Fill in Description of Changes from Bulletin, noting exceptions that are listed in the Bulletin but are excluded; i.e., not priced on this form.

PART I - WORK PERFORMED BY CONTRACTOR:
Line 1. Direct Labor Costs: Fill in subtotal of direct labor costs, which includes base rates plus applicable fringe benefits.
  
  On Contractor’s letterhead/spreadsheet show costs as follows:

<table>
<thead>
<tr>
<th>Trade</th>
<th>Rate</th>
<th>Hours</th>
<th>Extended Costs</th>
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</thead>
<tbody>
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</tbody>
</table>

Direct Labor Costs = $

Line 2. Labor Overhead (Direct Labor Burdens, etc.): Fill in as a percentage of Line 1.

Line 3. Total Labor Costs: Fill in total of Lines 1 and 2.


  On letterhead/spreadsheet, show direct materials costs as follows:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Extended Costs</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

Direct Materials Costs = $

Line 5. Materials Overhead: Fill in as percentage cost of Line 4. Overhead costs include delivery, taxes, insurance costs, etc. (As mutually agreed upon at contract signing)

Line 6. Total Materials Costs: Fill in total of lines 4 and 5.

Line 7. Total Equipment Costs: Fill in total equipment costs including indirect overhead costs in hourly rate - except indirect labor costs.

  On letterhead/spreadsheet show total equipment costs as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Hours</th>
<th>Extended Costs</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

Total Equipment Cost = $


PART II - WORK PERFORMED BY SUBCONTRACTOR:

Line 9. Direct Labor Costs: Fill in subtotal of direct labor costs, which includes base rates plus applicable fringe benefits.

  On Subcontractor’s letterhead/spreadsheet show costs by trade, rate, hours and extended costs. See Instructions for line 1.

Line 10. Labor Overhead (Direct Labor Burdens, etc.): Fill in as a percentage of Line 9.

Line 11. Total Subcontractor’s Labor Costs: Fill in total of lines 9 and 10.


  On letterhead/spreadsheet, show direct materials costs by materials, units, unit costs and extended costs. See Instructions for line 4.

Line 13. Materials Overhead: Fill in as a percentage cost of line 12. Overhead costs include delivery, taxes, insurance costs, etc.


Line 15. Total Subcontractor’s Equipment Costs: Fill in total equipment costs including indirect overhead costs in hourly rate - except indirect labor costs.

  On letterhead/spreadsheet show total equipment costs by description, rate, hours and extended costs. See Instructions for line 7.

Line 16. Total Subcontractor’s Labor, Materials and Equipment (L, M & E) Costs: Fill in total of lines 11, 14 and 15.

Line 17. Subcontractor’s Overhead (Indirect Costs): Fill in as percentage cost of line 16. See Article 35 of General Conditions.


PARTS III THROUGH VIII - Self-explanatory.

CERTIFICATIONS
A. The Contractor, who prepares this proposal form, certifies the cost/price data by signing, dating, and forwarding same to the Architect/Engineer (or Consultant) for further action.
B. The Architect/Engineer (or Consultant) reviews and analyzes the cost/price data for the requirements that these are: 1) currently prevalent, 2) reasonably fair, 3) factually applicable, and 4) equivalently competitive market selling prices. The Architect/Engineer (or Consultant) may negotiate—after receipt of the cost proposal—any or all of the cost elements of the proposal to support a recommendation of acceptance to the Principal Representative. Certification by the A/E (or Consultant) of the above requirements is made upon his signature. The Architect/Engineer (or Consultant) forwards the proposal with the supporting back-up to the Agency.
C. Authority for the Institution or Agency (usually the Principal Representative) reviews the proposal, signs, dates, and forwards to State Buildings Programs or Delegate for final action.
D. State Buildings Programs or Delegate reviews the cost proposal, with all supporting back-up, for technical and procedural requirements and, if in order, signs and dates the proposal.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

CHANGE ORDER

Change Order No: __________________________ Date ________________
Contractor: ______________________________________________________

Institution or Agency: University of Colorado at Boulder
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Your Change Order Proposal(s), dated ____________ is/are hereby being designated for approval of the following work:

(Note: If more space is needed for description of work, attach additional 8-1/2” x 11” sheets hereto.)

This change order was originated by the Contractor ☐, Architect/Engineer ☐, State ☐, and I/W e do hereby recommend acceptance and approval of the change to the Contractor’s Agreement Dated _____ which is by this reference, made a part hereof, and identified as Exhibit _____, with an increase ☐, a decrease ☐, no change ☐, of $_____.

Contract completion date is extended _____ days ☐, is not extended ☐. New completion date is (Month/Day/Year)

*Persons signing for Architect/Engineer/Contractor hereby swear and affirm that they are authorized to act on Architect/Engineer/Contractor’s behalf and acknowledge that the State is relying on their representations to that effect. Principal is not a recognized title and will not be accepted.

Architect/Engineer Firm
Name and Title (print) ______________________________________________________________________ Date ________________
Signature ____________________________________________________________________________________

Contractor (Name of Firm) Name and Title (print) ______________________________________________________________________ Date ________________
Signature ____________________________________________________________________________________

University of Colorado at Boulder
Institution or Agency __________________________________________________________________________ Date ________________

Principal Representative (Signature) __________________________________________________________________________

CONTRACT STATUS

Original Contract Value $ ______________________
Previous increases by CO/Amend $ ______________________
Previous decreases by CO/Amend $ ______________________
Value After Prior CO’s/Amend $ ______________________
This CO/Amend Increases ☐ Decreases ☐ $ ______________________

CURRENT CONTRACT VALUE $ ______________________

STATE BUILDINGS PROGRAMS (or Authorized Delegate)
Paul M. Leef, AIA, LEED™ AP
Campus Architect & Director, Planning, Design & Construction

STATE CONTROLLER (or Authorized Delegate)
Steve McNally, Associate Vice Chancellor & Controller

(Verification)

State Form SC-6.31
Rev. 4/2009 Page 1 of 1
REQUEST FOR INFORMATION
(RFI # 01)

Project No.: Project Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Date:
To:
From:
Sent Via:

Drawing Ref.: Spec. Ref.: 

Subject:

Proposed Solution:


Schedule Impact: # I

Cost Impact: Estimated Cost

Date Response Required: Sent Via: E-mail

Signature: Company: 

Response:

Response Date: Sent Via: 

Person Responding: Signature: 

Further Action Required:

Other Documents This RFI Refers to:

<table>
<thead>
<tr>
<th>Letters</th>
<th>RFP</th>
<th>PCO</th>
<th>CO</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
**ENVIRONMENTAL SITE ASSESSMENT FORM**

<table>
<thead>
<tr>
<th>Building &amp; Location</th>
<th>Job Description</th>
<th>Work Order/Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS C112D</td>
<td>renovate Gruen Hall for acoustic and lighting improvements</td>
<td>PR#005283</td>
</tr>
</tbody>
</table>

**Suspect Building Components, Materials, and Site Conditions:**
- Asbestos
  - Floor tiles, wall & ceiling plaster, drywall, pipe insulation, HVAC flex connectors.
- Environmental Compliance
  - Scheduling, Safety, MSDS, EH&S Contractor Environmental Responsibilities NOTICE.

**Follow-up required for:**
- Asbestos Materials
- Radioactive Materials
- Environmental Compliance
- Lead Materials
- Laser or X-Ray
- Hazardous Materials
- Other
- None

**Samples / Results:**
- Asbestos
  - Floor tiles and mastic tested positive for asbestos. Flex connectors are positive for asbestos in mechanical room 286. Asbestos pipe insulation is present in various locations of the MUSIC building. Pipe insulation in the attic of Gruen Hall, Mechanical rooms C166 & C266 is negative for asbestos. Wall & ceiling plaster and the drywall tested negative for asbestos.

**Required Action:**
- **ASBESTOS**
  - Per OSHA, Contractor(s) working in buildings that contain asbestos, must have, at a minimum, OSHA Class IV Asbestos Awareness Training.
  - Asbestos floor tiles and mastic (under the storage cabinets, east & south side of the stage) will require abatement. There is approximately 190 square feet of floor tile and mastic. Contact the EH&S Asbestos Manager for abatement requirements. Abatement will require permitting with the Colorado Department of Public Health & Environment (CDPHE). CDPHE permit has a 10 working day wait period.
  - This is a preliminary report only. Please forward construction documents and scope of work as they become available, additional asbestos inspections and assessments will be required.

- **ENVIRONMENTAL COMPLIANCE**
  - All work must be scheduled with the Building Proctor. Contractor(s) shall keep the work site safe and protect students and building occupants from construction activities. Comply with EH&S Contractor Environmental Responsibilities NOTICE. Protect the buildings interior air quality from Dust, Odor, and Chemical Vapors. Comply with new product MSDS.

**Inspector:** Mike Silva #7091  
**Date Inspected:** 12/3/2009

**EH&S Manager:** Michael Yanker #5731  
**Date Reviewed:** 12/4/2009

This report is based upon conditions, regulations, policies at time of inspection and is valid for 180 days (per ASTM 4527: 05). A change in the scope of work and/or expiration of this inspection will require re-inspection. If areas contain hazardous materials (asbestos, chemicals, gases, bio-hazards, radioactive materials or radiation) and/or involve laboratories, shops, haz exhausts, tanks, sewer drains or traps, storm or surface water, or other occupational hazards, work must be coordinated with the appropriate EH&S manager. No new materials containing asbestos may be used for any part of the construction for this project. Project must conform with all applicable codes & standards. Project Rep must submit to EH&S Env Compliance comprehensive haz mat environmental inventory used to determine additional requirements. Contractor and/or Project Rep must provide above information to employees, subcontractors and other relevant parties.

**University Representative:** Leon Palmer  
**Phone Number:** 303.492.0989

**Contractor Name:**  
**Phone Number:**

**Contractor Representative:** (signature)
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE TO PROCEED (DESIGN/BID/BUILD CONTRACT)

Date of Notice: ________________________________
   Date to be inserted by the Principal Representative

Date/Description of Contract Documents: ________________________________

Institution/Agency: University of Colorado at Boulder

Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Attach Notice of Code Compliance from Code Review Agent/Building Official for Documents Listed Above

To:

This is to advise you that your Performance Bond, Labor and Material Payment Bond, the requisite Builder’s Risk Insurance Policy or Certificate for same, and Certificates of Insurance have been received. Our issuance of this Notice does not relieve you of responsibility to assure that the bond and insurance requirements of the Contract Documents are met for the duration of the Agreement. The Agreement dated _______________ covering the above described work has been fully executed.

You are hereby authorized and directed to proceed within ten (10) days from date of this Notice as required in the Agreement. Any liquidated damages for failure to achieve substantial completion by the date agreed that may be applicable to this contract will be calculated using the date of this Notice for the date of the commencement of the Work.

**Actual on-site construction may not commence until all applicable building permits have been obtained by the Contractor.**

By ________________________________ Date ________________________________
   State Buildings Programs
   (or Authorized Delegate)
   Paul M. Leef, AIA, LEED™ AP
   Campus Architect &
   Director, Planning, Design & Construction

By ________________________________ Date ________________________________
   Principal Representative
   (Institution or Agency)
   Ronald L. Ried, Director
   Facilities Management Business Services

When completely executed, this form is to be sent by certified mail to the Contractor by the Principal Representative.
Institution/Agency:  University of Colorado at Boulder
Project No./Name:  PR 005283 / MUS – Room C112 – Lower Grusin Stage

A. CERTIFICATION STATEMENT  CRS 8-17.5-101 & 102 (HB 06-1343, SB 08-193)

The Vendor, whose name and signature appear below, certifies and agrees as follows:

1. The Vendor shall comply with the provisions of CRS 8-17.5-101 et seq. The Vendor shall not knowingly employ or contract with an unauthorized immigrant to perform work for the State or enter into a contract with a subcontractor that knowingly employs or contracts with an unauthorized immigrant.

2. The Vendor certifies that it does not now knowing employ or contract with an unauthorized immigrant who will perform work under this contract, and that it will participate in either (i) the “E-Verify Program”, jointly administered by the United States Department of Homeland Security and the Social Security Administration, or (ii) the “Department Program” administered by the Colorado Department of Labor and Employment in order to confirm the employment eligibility of all employees who are newly hired to perform work under this contract.

3. The Vendor shall comply with all reasonable requests made in the course of an investigation under CRS 8-17.5-102 by the Colorado Department of Labor and Employment. If the Vendor fails to comply with any requirement of this provision or CRS 8-17.5-101 et seq., the State may terminate work for breach and the Vendor shall be liable for damages to the State.

B. AFFIDAVIT  CRS 24-76.5-101 (HB 06S-1023)

4. If the Vendor is a sole proprietor, the undersigned hereby swears or affirms under penalty of perjury under the laws of the State of Colorado that (check one):

☐ I am a United States citizen, or
☐ I am a Permanent Resident of the United States, or
☐ I am lawfully present in the United States pursuant to Federal law.

I understand that this sworn statement is required by law because I am a sole proprietor entering into a contract to perform work for the State of Colorado. I understand that state law requires me to provide proof that I am lawfully present in the United States prior to starting work for the State. I further acknowledge that I will comply with the requirements of CRS 24-76.5-101 et seq, and will produce the required form of identification prior to starting work. I acknowledge that making a false, fictitious, or fraudulent statement or representation in this sworn affidavit is punishable under the criminal laws of Colorado as perjury in the second degree under CRS 18-8-503 and it shall constitute a separate criminal offense each time a public benefit is fraudulently received.

CERTIFIED and AGREED to this _____ day of ______________, 2010.

VENDOR:

______________________________  ______________________________
Vendor Full Legal Name  Signature of Authorized Representative

______________________________  ______________________________
BY:  Title
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE OF PARTIAL SUBSTANTIAL COMPLETION

Date of Partial Substantial Completion: __________________________

Date to be inserted by the Principal Representative

Institution/Agency: University of Colorado at Boulder

Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

TO: M. S. Leon Palmer, Project Manager
University of Colorado at Boulder
Department of Facilities Management
Campus Box 453 UCB
Boulder, CO 80309-0453
(Principal Representative)

and

Contractor

This is to advise you that the Work has been reviewed, inspected and determined, to the best knowledge, information and belief of the Architect/Engineer, to be substantially complete as of the date noted above in accordance with the criteria outlined in Article 41 of the General Conditions of the Construction Manager/General Contractor Agreement, including Exhibits and Amendments, and the Specifications, including without limitation a) suitable for occupancy, b) inspected for code compliance with Building Inspection Records signed by code officials for the State, Inspection Cards completely signed-off or a Temporary Certificate, or Certificate of Occupancy has been issued, c) determined to be fully and comfortably usable, and d) fully cleaned and appropriate for presentation to the public.

A punch list of work to be completed, work not in compliance with the Drawings or Specifications, and unsatisfactory work is attached hereto, along with the Contractor’s schedule for the completion of each and every item identified on the punch list specifying the Subcontractor or trade responsible for the work, and the dates the completion or correction will be commenced and finished within any period indicated in the Agreement for punch list completion prior to Final Acceptance.

Except as stated on the reverse side of this Notice of Partial Substantial Completion, all manufacturers’ warranties, other special warranties and the Contractor’s one-year obligation to perform remedial work, shall commence on the Date of Substantial Completion noted above.

This Notice of Partial Substantial Completion shall be effective and establish the Date of Substantial Completion only when fully executed on the reverse by the Contractor and the Principal Representative. The Principal Representative accepts the Work as substantially complete as of the Date of Substantial Completion herein noted. The Contractor agrees to complete or correct the Work identified on the attached punch list and to do so in accordance with attached punch list completion schedule.
The responsibilities of the Principal Representative and the Contractor for security, maintenance, heat, utilities, and insurance shall be as specified in the Contract Documents or as otherwise hereafter noted:

Exceptions, if any, to the commencement of warranties shall be:

The attached final punch list consists of _______ pages, and the attached Contractor’s schedule showing the dates of commencement and completion of each punch list item consists of _______ pages.

When completely executed, this form shall be sent to the Contractor and the Principal Representative with a copy to State Buildings Programs.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE OF SUBSTANTIAL COMPLETION

Date of Substantial Completion: ____________________________

Date to be inserted by the Principal Representative

Institution/Agency: University of Colorado at Boulder

Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

TO: M. S. Leon Palmer, Project Manager

University of Colorado at Boulder
Department of Facilities Management
Campus Box 453 UCB
Boulder, CO 80309-0453
(Principal Representative)

And

(Contractor)

This is to advise you that the Work has been reviewed, inspected and determined, to the best knowledge, information and belief of the Architect/Engineer, to be substantially complete as of the date noted above in accordance with the criteria outlined in Article 41 of The General Conditions of the Contract and the Specifications, including without limitation a) suitable for occupancy, b) inspected for code compliance with Building Inspection Records signed by code officials for the State, Inspection Cards completely signed-off or a Temporary Certificate, or Certificate, of Occupancy has been issued, c) determined to be fully and comfortably usable, and d) fully cleaned and appropriate for presentation to the public.

A punch list of work to be completed, work not in compliance with the Drawings or Specifications, and unsatisfactory work is attached hereto, along with the Contractor’s schedule for the completion of each and every item identified on the punch list specifying the Subcontractor or trade responsible for the work, and the dates the completion or correction will be commenced and finished within any period indicated in the Agreement for punch list completion prior to Final Acceptance.

Except as stated on the reverse side of this Notice of Substantial Completion, all manufacturers’ warranties, other special warranties and the Contractor’s one-year obligation to perform remedial work, shall commence on the Date of Substantial Completion noted above.

This Notice of Substantial Completion shall be effective and establish the Date of Substantial Completion only when fully executed on the reverse by the Contractor and the Principal Representative. The Principal Representative accepts the Work as substantially complete as of the Date of Substantial Completion herein noted. The Contractor agrees to complete or correct the Work identified on the attached punch list and to do so in accordance with attached punch list completion schedule.
The responsibilities of the Principal Representative and the Contractor for security, maintenance, heat, utilities, and insurance shall be as specified in the Contract Documents or as otherwise hereafter noted:

Exceptions, if any, to the commencement of warranties shall be:

The attached final punch list consists of ________ pages, and the attached Contractor’s schedule showing the dates of commencement and completion of each punch list item consists of ________ pages.

When completely executed, this form shall be sent to the Contractor and the Principal Representative with a copy to State Buildings Programs.
**PRE-ACCEPTANCE PUNCH LIST**

Institution/Agency: University of Colorado at Boulder  
Final Punch List Date ___________  
Architect/Engineer: Studio H:T, Inc.  
Contractor: ___________  
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

This form to be used after follow-up inspections have been made and punch list is worked down to less than ten items.

<table>
<thead>
<tr>
<th>Final Punch List Item</th>
<th>Disposition</th>
<th>Date</th>
<th>Remarks</th>
</tr>
</thead>
</table>

Architect/Engineer  
Studio H:T, Inc.  
Date

Contractor  
Date

State Buildings Programs  
(or Authorized Delegate)  
Paul M. Leef, AIA, LEED TM AP  
Campus Architect &  
Director, Planning, Design & Construction  
Date

Principal Representative  
(Institution or Agency)  
Ronald L. Ried, Director  
Facilities Management Business Services  
Date
NOTICE OF PARTIAL FINAL ACCEPTANCE

Date of Notice of Partial Acceptance: ____________________________

Institution/Agency: University of Colorado at Boulder
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Portion(s) of Project for which final acceptance is approved:

TO:

Notice is hereby given that the State of Colorado, acting by and through the Regents of the University of Colorado, a body corporate, hereinafter called the Principal Representative, accepts as complete* the above numbered project.

State Buildings Programs (or Authorized Delegate) Date Principal Representative Date
Paul M. Leef, AIA, LEED TM AP Ronald L. Ried, Director
Campus Architect Facilities Management Business
& Services
Director, Planning, Design &
Construction

*When completely executed, this form is to be sent by certified mail to the Contractor by the Principal Representative.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE OF FINAL ACCEPTANCE

Date of Notice of Acceptance: _________________________________

Date to be inserted by A/E after consultation with the Principal Representative

Institution/Agency: University of Colorado at Boulder

Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

TO:

Notice is hereby given that the State of Colorado, acting by and through the Regents of the University of Colorado at Boulder, accepts as complete* the above numbered project.

By / Paul M. Leef, AIA, LEED AP / Date Ronald L. Ried, Director
   Director, Planning, Design & Construction   Principal Representative
   State Buildings Programs (of Authorized Delegate)

By / / Date
   / Date
   Facilities Management Business Services (Institution or Agency)

*When completely executed, this form is to be sent by certified mail to the Contractor by the Principal Representative.
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

NOTICE OF PARTIAL CONTRACTOR’S SETTLEMENT

Institution/Agency: University of Colorado at Boulder
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Portion(s) of Project for which substantial completion is approved:

Notice is hereby given that on the ______ day of ____________, 2010 at Boulder, Colorado, final settlement will be made by the STATE OF COLORADO with_________________________, hereinafter called the “CONTRACTOR”, for and on account of the contract for the construction of a PROJECT described as MUS – Room C112 – Lower Grusin Stage

1. Any person, copartnership, association or corporation who has an unpaid claim against the said project, for or on account of the furnishing of labor, materials, team hire, sustenance, provisions, provender, rental machinery, tools, or equipment and other supplies used or consumed by such Contractor or any of his subcontractors in or about the performance of said work, may at any time up to and including said time of such final settlement, file a verified statement of the amount due and unpaid on account of such claim

2. All such claims shall be filed with Leon Palmer, Project Manager, University of Colorado at Boulder, Department of Facilities Management, Campus Box 453 UCB, Boulder, CO 80309-0453.

3. Failure on the part of a creditor to file such statement prior to such final settlement will relieve the State of Colorado from any and all liability for such claim

Dated at ________________, Colorado, this ______ day of ____________________, 2010.

Paul M. Leef, AIA, LEED™ AP
Campus Architect &
Director of Planning, Design & Construction
State Buildings Programs
(or Authorized Delegate)

Ronald L. Ried, Director
Facilities Management Business Services
Principal Representative
(Institution or Agency)

MEDIA OF PUBLICATION:

PUBLICATION DATES:
First:
Second: (At least ten (10) days prior to above settlement date)

NOTES TO EDITOR:
Transmit two (2) copies of the Affidavit of Publication, and invoice, to: Marsha Slepicka, University of Colorado at Boulder, Department of Facilities Management, Campus Box 453 UCB, Boulder, CO 80309-0453

State Form SBP-7.31
Rev. 9/2006
NOTICE OF CONTRACTOR’S SETTLEMENT

Institution/Agency: University of Colorado at Boulder
Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Notice is hereby given that on the day of , 2010 at Boulder, Colorado, final settlement will be made by the STATE OF COLORADO with , hereinafter called the "CONTRACTOR", for and on account of the contract for the construction of a PROJECT described as PR 005283 / MUS – Room C112 – Lower Grusin Stage

1. Any person, co-partnership, association or corporation who has an unpaid claim against the said project, for or on account of the furnishing of labor, materials, team hire, sustenance, provisions, provender, rental machinery, tools, or equipment and other supplies used or consumed by such Contractor or any of his subcontractors in or about the performance of said work, may at any time up to and including said time of such final settlement, file a verified statement of the amount due and unpaid on account of such claim.

2. All such claims shall be filed with Leon Palmer, project manager, Department of Facilities Management, Campus Box 453 UCB, Boulder, CO 80309-0453.

3. Failure on the part of a creditor to file such statement prior to such final settlement will relieve the State of Colorado from any and all liability for such claim.

Dated at Boulder, Colorado, this day of 2010.

Paul M. Leef, AIA, LEED ™ AP
Director of Planning, Design & Construction
State Buildings Programs
(Or Authorized Delegate)

Ronald L. Ried, Director
Facilities Management Business Services
Principal Representative
(Institution or Agency)

MEDIA OF PUBLICATION:

PUBLICATION DATE:

NOTES TO EDITOR:

Transmit one copy of the Affidavit of Publication, and invoice, to: Marsha Slepicka, University of Colorado at Boulder, Department of Facilities Management, Campus Box 453 UCB, Boulder, CO 80309-0453

State Form SBP-7.3
Rev. 9/2006
STATE OF COLORADO  
OFFICE OF THE STATE ARCHITECT  
STATE BUILDINGS PROGRAMS  

NOTICE OF APPROVAL OF OCCUPANCY/USE

Date of Occupancy: [Date to be inserted by the Architect/Engineer after consultation with Principal Representative]

Institution/Agency: University of Colorado at Boulder

Project No./Name: PR 005283 / MUS – Room C112 – Lower Grusin Stage

Portion(s) of project for which occupancy is approved:

Type of Occupancy: [ ] Total or [ ] Partial

The items identified below if applicable must be completed with before Occupancy is approved.

<table>
<thead>
<tr>
<th>Date Completed</th>
<th>A/E Signoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Notice of Substantial Completion has been issued and the Building Inspection Record is Cards are completely signed-off (or a Temporary Certificate, or Certificate, of Occupancy has been issued and copies attached.</td>
<td></td>
</tr>
<tr>
<td>2a. Notification has been made to the local Fire Department concerning which portion(s) of the building will be occupied and the date(s).</td>
<td></td>
</tr>
<tr>
<td>2b. Fire alarms, smoke detection systems and building fire sprinkler systems have been fully checked and are operable.</td>
<td></td>
</tr>
<tr>
<td>2c. The building’s fire connections must be installed and operable, if applicable.</td>
<td></td>
</tr>
<tr>
<td>3. Coordination for final utility and service connections and meters (water, gas, sewer, electricity and telecommunication) has been made and systems are in full operating order.</td>
<td></td>
</tr>
<tr>
<td>4. Sterilization of plumbing systems has been performed.</td>
<td></td>
</tr>
<tr>
<td>5. Operational test of systems and equipment has been performed as required.</td>
<td></td>
</tr>
<tr>
<td>6. Systems adjustments such as balancing, equipment operations, etc., have been performed. Reports have been submitted to the Architect/Engineer for approval.</td>
<td></td>
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<tr>
<td>7. Principal Representative furnished equipment and furnishings are coordinated and placed.</td>
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<td>---</td>
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<tr>
<td>8.</td>
<td>All elements left unfinished must be in such condition that there would be no hazard to the health or safety of the occupants.</td>
</tr>
<tr>
<td>9.</td>
<td>All restroom facilities must be fully functional and operable.</td>
</tr>
<tr>
<td>10.</td>
<td>All light fixtures must be installed and operable.</td>
</tr>
<tr>
<td>11.</td>
<td>All exit lights and emergency lighting systems have been checked and are operable.</td>
</tr>
<tr>
<td>12.</td>
<td>All windows have been glazed and hardware is available for ventilation purposes.</td>
</tr>
<tr>
<td>13.</td>
<td>All routes of egress must be clear of construction materials and debris at all times.</td>
</tr>
<tr>
<td>14.</td>
<td>There must be a means of pedestrian access to each building. Contractor must have sidewalks installed before occupancy and pedestrian barricades and other means of public protection as required.</td>
</tr>
</tbody>
</table>

Occupancy does not constitute acceptance of the project as being complete. It simply provides the Principal Representative the opportunity to occupy/use the project or the applicable portion thereof prior to final completion and acceptance. Occupants can expect to be impacted by the Contractor's efforts to complete the project. The Contractor would not repair any damage caused by the occupants.

<table>
<thead>
<tr>
<th>Architect/Engineer</th>
<th>Date</th>
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<tbody>
<tr>
<td>Studio H:T, Inc.</td>
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<th>Date</th>
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<tbody>
<tr>
<td>(Institution or Agency)</td>
<td></td>
</tr>
<tr>
<td>Ronald L. Ried, Director</td>
<td></td>
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<tr>
<td>Facilities Management Business Services</td>
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<td>Paul M. Leef, AIA, LEED TM AP</td>
<td></td>
</tr>
<tr>
<td>Campus Architect &amp; Director, Planning, Design &amp; Construction</td>
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</tbody>
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<tr>
<th>Contractor</th>
<th>Date</th>
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</table>

State Form SBP-01
Rev. 7/2008
After Contractor is satisfied that work is complete as per Notice of Substantial Completion Punch List, a date for final review is established. Architect/Engineer inspection is made with Contractor(s) and Principal Representative and State Buildings Programs (SBP) present. Forms are processed as required.

<table>
<thead>
<tr>
<th>Date Completed</th>
<th>A/E Signoff</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>DATE</td>
<td>A/E</td>
<td>REMARKS</td>
</tr>
<tr>
<td>1. The Notice of Approval of Occupancy/Use has been fully executed and the Inspection Cards are completely signed-off.</td>
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<tr>
<td>2. On the Pre-Acceptance Punch List (Form SBP-06) the final punch list items are noted by the Architect/Engineer.</td>
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<tr>
<td>3. Schedule for corrections, deficiencies, and items to be supplied are established by Contractor.</td>
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<tr>
<td>4. Final Change Orders are processed (must be completed prior to Notice of Acceptance).</td>
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<tr>
<td>5. The Principal Representative shall not authorize final payment until all items on the punch list have been completed, the Notice of Acceptance issued and the Notice of Contractor’s Settlement Date is published.</td>
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<tr>
<td>6. Permanent keying, keys and keying instructions have been performed.</td>
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<tr>
<td>7. Extra materials as per specifications are delivered to Principal Representative.</td>
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<tr>
<td>8. As-built drawings have been submitted to Architect/Engineer.</td>
<td></td>
<td></td>
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<tr>
<td>9. Guarantee/Warranty documentation requirements are met.</td>
<td></td>
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<tr>
<td>10. Removal of Contractor’s temporary work including cleanup and debris removal.</td>
<td></td>
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<tr>
<td>11. State personnel are instructed in system and equipment operations as required by contract.</td>
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</tr>
<tr>
<td>12. All Instructions, manuals, guides, and charts have been transmitted to Principal Representative.</td>
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</tbody>
</table>

Architect/Engineer
Studio H:T, Inc.

Contractor

State Buildings Programs
(or Authorized Delegate)
Paul M. Leef, AIA, LEED™ AP
Campus Architect &
Director, Planning, Design & Construction

Principal Representative
(Institution or Agency)
Ronald L. Ried, Director
Facilities Management Business Services
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS

CLOSING-OUT CHECKLIST*

<table>
<thead>
<tr>
<th>Institution or Agency:</th>
<th>University of Colorado at Boulder</th>
<th>Final Punch List Date</th>
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</thead>
<tbody>
<tr>
<td>Architect/Engineer:</td>
<td>Studio H:T, Inc.</td>
<td></td>
</tr>
<tr>
<td>Contractor:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project No./Name:</td>
<td>PR 005283 / MUS – Room C112 – Lower Grusin Stage</td>
<td></td>
</tr>
</tbody>
</table>

After Contractor or Construction Manager is satisfied that work is complete, a date for final review is established. Architect/Engineer inspection is made with Contractor(s) and Principal Representative and State Buildings Programs (SBP) present. Forms are processed as required.

1a. Final inspections have been made and permission to occupy Project is obtained through SBP Delegate. The **Building Inspection Cards are** completely signed off and attached.

1b. If Principal Representative wishes to occupy entire project or portions of Project before completion (Beneficial Occupancy) Project review of condition and responsibility is conducted and noted. (Fill out Form SBP-01 in addition to this form).

2. Notify the local fire department of the date the building will be occupied.

3. Coordination for final utility and service connections, meters, etc., has been made (water, gas, sewer, electricity and telecommunication) and in full operating order.

4. Sterilization of plumbing systems has been performed.

5. Operational tests of systems and equipment have been performed as required.

6. Systems adjustments, such as balancing, equipment operations, etc., have been performed. Reports have been submitted to Architect/Engineer and approved.

7. State personnel are instructed in system and equipment operations as required by contract.

8. Instructions, manuals, guides, charts, etc., are transmitted to Principal Representative.

9. Principal Representative furnish equipment and furnishing are coordinated and placed.

10. Review drawing, specifications, addenda, change orders, etc. for work to be done and note.

<table>
<thead>
<tr>
<th>DATE COMPLETED</th>
<th>SIGNOFF INITIALS</th>
<th>REMARKS</th>
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<tbody>
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</table>

State Form SBP-05
Rev. 9/2006
11. On the Contract Close-out Punch List (Form SBP-06) the final punch list items deficient or still required are made by the Architect and includes lists furnished by the consultants and promptly distributed to all parties.

12. Schedule for corrections, deficiencies, and items to be supplied is established by Contractor, Assistant Contractor and trades as to location of specific defects if necessary.

13. Final Change Orders are processed (must be completed prior to contract acceptance.

14. The Principal Representative shall not authorize final payment until all items on the punch lists have been completed, the Notice of Acceptance issued and the Notice of Contractor’s Settlement Date is published.

15. Permanent keying, keys and keying instructions have been performed.

16. Extra materials, spares, etc., are delivered to Principal Representative.

17. Record drawings (as-built) requirements have been submitted to A/E.

18. Guarantee/Warranty requirements are met.

19. All records, reports, files, documents, etc., of construction inspector are in order and turned over to Owner as arranged, and to SBP as applicable.

20. Removal of Contractor’s temporary work; cleanup and debris removal is understood and performed.

21. Post-contract maintenance conditions, such as equipment, landscaping, etc., are understood and arranged for.

* Verification, item by item, as applicable, to be submitted with Notice of Acceptance Form SC-6.27.

<table>
<thead>
<tr>
<th>DATE COMPLETED</th>
<th>SIGNOFF INITIALS</th>
<th>REMARKS</th>
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<tbody>
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</tbody>
</table>

Studio H:T, Inc.  
Architect/Engineer  

Date

Contractor  

Date

Paul M. Leef, AIA, LEED AP  
Campus Architect &  
Director, Planning, Design & Construction  
State Buildings Programs  
(or Authorized Delegate)  

Date

Ronald L. Ried, Director  
Facilities Business Services  
Principal Representative  
(Institution or Agency)  

Date
STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAMS
Contract Close-out Final Punch List

<table>
<thead>
<tr>
<th>Institution/Agency: University of Colorado at Boulder</th>
<th>Final Punch List Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor:</td>
<td></td>
</tr>
<tr>
<td>Project No./Name:</td>
<td></td>
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</tbody>
</table>

This form to be used after follow-up inspections have been made and punch list is worked down to less than ten items:

<table>
<thead>
<tr>
<th>Final Punch List Item</th>
<th>Disposition</th>
<th>Date</th>
<th>Remarks</th>
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<table>
<thead>
<tr>
<th>Contractor</th>
<th>Date</th>
<th>Architect/Engineer</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul M. Leef, AIA, LEED™ AP</td>
<td></td>
<td>Ronald L. Ried, Director</td>
<td></td>
</tr>
<tr>
<td>Campus Architect &amp; Director, Planning, Design &amp; Construction</td>
<td></td>
<td>Facilities Business Services Principal Representative</td>
<td></td>
</tr>
<tr>
<td>State Buildings Programs (or Authorized Delegate)</td>
<td></td>
<td>(Institution or Agency)</td>
<td></td>
</tr>
</tbody>
</table>
Post Construction Warranty Report

Project: ________________________________________________________________
Warranty Contractor: __________________________________________________________
Date Warranty Begins: ___________ Date Warranty Expires: ___________

Facilities Management (F/M) FAX No. 303-492-4082 Reported By: _________________________
Campus Box 453 UCB, Boulder, CO 80309-0453 F/M Rep. Informed: _______________________

Date Reported: _______________________________ Taken By: __________________________

Extended Warranty Item:

Description of Warranty Item:

Date Reported to Contractor: ________________________________________________

Contractor Response:

Date of Resolution: _____________________________________________

Note:

Post construction warranty rpt
NOTICE to Contractors:

Practically all construction on the UCB campus requires technology that is designed to minimize or prevent impact on the environment. Contractors working on the UCB campus are required to comply with all applicable University, City, State and Federal environmental regulations and safety standards. Hazardous and regulated materials must be managed and disposed of properly. Work sites must control dust, debris and run-off, and pay special attention to preventing any pollutants from entering the storm sewer or surface water collection systems. These systems ultimately drain into our creeks and waterways.

Please do your part to promote awareness and compliance! On the reverse side of this flyer you will find examples of the kinds of environmental and safety issues and practices that often require attention at construction sites.

Questions, Comments or Concerns? – Please Contact: Environmental Health and Safety 303-492-6025.
PRE-ACCEPTANCE PUNCH LIST

Institution/Agency: University of Colorado at Boulder   Final Punch List Date
Architect/Engineer: Studio H:T, Inc.
Contractor:
Project No./Name: Pr 005283 / MUS - RM C112 - Lower Grusin Stage

This form to be used after follow-up inspections have been made and punch list is worked down to less than ten items.

<table>
<thead>
<tr>
<th>Final Punch List Item</th>
<th>Disposition</th>
<th>Date</th>
<th>Remarks</th>
</tr>
</thead>
</table>

Architect/Engineer: Studio H:T, Inc.  Date
Contractor:  Date

State Buildings Programs (or Authorized Delegate)  Date
Paul M. Leef, AIA  Ronald L. Ried, Director
Campus Director  Facilities Management Business Services
Director, Planning, Design & Construction  

State Form SBP-06
Rev. 7/2008
**CERTIFICATE FOR CONTRACTOR'S PAYMENT**

<table>
<thead>
<tr>
<th>PAY APPLICATION #:</th>
<th>FROM:</th>
<th>TO:</th>
<th>P.O. NO:</th>
<th>FEIN:</th>
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</thead>
<tbody>
<tr>
<td>CONTRACTOR:</td>
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<td>AGENCY/INSTITUTION:</td>
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<td>PROJECT #:/TITLE:</td>
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</tbody>
</table>

**AMENDMENTS/CHANGE ORDER SUMMARY**

<table>
<thead>
<tr>
<th>Prior amendments / Change Orders CO#s:</th>
<th>Deductions (L)</th>
<th>Additions (M)</th>
<th>Total</th>
</tr>
</thead>
</table>

Application is made for Progress for work completed and in place and stored on site on the above Project. As indicated on the following page(s).

**TOTALS**

<table>
<thead>
<tr>
<th>ORIGINAL CONTRACT SUM (K/E)</th>
<th>$0.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET CHANGE FROM AMENDMENTS/CHANGE ORDERS (L + M/E)</td>
<td>$0.00</td>
</tr>
<tr>
<td>PRESENT CONTRACT TOTAL (N/E)</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**Current to Date Total Amount Earned (Due to Date (!))**

<table>
<thead>
<tr>
<th>Current to Date Payment Less Retainage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.00</td>
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</tbody>
</table>

**Prior Payments Total Amount Earned**

<table>
<thead>
<tr>
<th>Prior Payments Less Retainage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.00</td>
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</tbody>
</table>

**This Payment Total Amount Earned**

<table>
<thead>
<tr>
<th>This Payment Less Retainage</th>
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<tbody>
<tr>
<td>$0.00</td>
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</tbody>
</table>

**Warrant Amount**

| $0.00 |

Contractor certifies that all work and materials included in this estimate complies with the terms and conditions of the conditions construction contract and authorized changes thereto.

**ARCHITECTS/ENGINEER'S CERTIFICATION**

In accordance with the Contract and this Application for Payment, the above Contractor is entitled to a payment of: $0.00

---

State Form SBP-7.2
Rev. 9/2006
Page 1 of 1
## CONTRACTOR'S APPLICATION FOR PAYMENT

### Detail of Schedule of Values

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description of Work</th>
<th>Material</th>
<th>Labor and Other</th>
<th>Totals (C + D)</th>
<th>Materials On-Site But Not In Place</th>
<th>WORK IN PLACE</th>
<th>Total Amount Due to Date (F+G+H)</th>
<th>% Complete and in Place (I / E)</th>
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</table>

### Totals of Work Completed and Stored to Date

| (K) ORIGINAL CONTRACT TOTALS (SUM) | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | #DIV/0! |
| (L) AMENDMENTS/CHANGE ORDER DEDUCTIONS | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | #DIV/0! |
| (M) AMENDMENTS/CHANGE ORDER ADDITIONS | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | #DIV/0! |
| (N) PRESENT CONTRACT TOTALS | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | #DIV/0! |

State Form SBP-7.2
Rev. 9/2006
Page 1 of 1
### Project Submittal Log

**Notes:**

a. The Submittal Log lists the specification section that requires submittals. It is the Contractor's responsibility to reference the appropriate subsection of the specification section for specific individual submittal requirements and to submit accordingly.

b. The Submittal Log does not necessarily list all specification sections that require submittals. The Contractor is responsible for any additional submittals that may be called for and required on drawings in the individual schedules and notes.

| Spec. Section No. | Sub No. | Contr No. | Description | Contr/ SUB Contr | Submit Date | Date Rec From Contr | No. of Copies Rec A R T H U C R | Date Returned to Architect | Action | Date Returned to Contractor | Distribution copies-Trans C O I L O W T O N H | DAYS OUT TO Architect | DAYS OUT TO Contractor |
|-------------------|---------|-----------|-------------|------------------|-------------|---------------------|---------------------------------|---------------|---------------------------|---------------------------------|------------------------|-------------------------|

**Legend:**
- **NE:** No Exception taken
- **MCN:** Make corrections noted
- **R&R:** Revise & Resubmit
- **RE:** Re-submit Properly
- **NR:** Not Reviewed
SECTION 010000 - GENERAL

1.01 CONDITIONS AND REQUIREMENTS

Division 1 - General Requirements shall govern work under all Divisions of the Specifications.

1.02 SPECIFICATION LANGUAGE EXPLANATION

Specifications are of abbreviated, simplified or streamlined type and include incomplete sentences. Omissions of words or phrases such as "the Contractor shall," "in conformity therewith," "shall be," "as noted on the Drawings," "a," "the" are intentional. Supply omitted words or phrases by inference in same manner as they are when "NOTE" occurs on Drawings. Supply words "shall be" or "shall" by inference when colon is used within sentences or phrases. Supply words "on the Drawings" by inference when "as indicated" is used with sentences or phrases.

Where reference is made to specifications, societies, institutes, or associations or manufacturer's directions, they are, except as may be inconsistent herewith, made part of specifications, to same extent as if written out in full herein. Use latest edition, at time of bidding, if a date is not given.

1.03 SUBMITTALS

A. Prepare data for use by the University of Colorado, Facilities Management personnel.

B. Format:
   1. Submit electronically in Portable Document Format (PDF) format as one document, OCR (Optical Character Recognition) searchable, bookmarked according to the Construction Specifications Institute (CSI) standards.
   2. Title shall be "SPECIFICATIONS", and shall include:
      a. Name of project and submittal stage and date of submittal (month, day, and year).
      b. University of Colorado Project number (Include on cover and in header or footer of each page)

1.04 CONTENT OF MANUAL

A. An electronically-written table of contents shall be provided for each volume, arranged according to CSI standards. Include the following:
   1. Name of responsible installing principal contractor, address, and telephone number.

1.05 ABBREVIATIONS

References in Contract Documents to trade associations, technical societies, recognized authorities and other institutions include following organizations, which are sometimes referred to only by corresponding abbreviations:

AA Aluminum Association
AAMA Architectural Aluminum Manufacturer's Association
ACI  American Concrete Institute
ACI  American Concrete Institute
AIMA  Acoustical and Insulating Materials Association (successor to AMA and AIBI)
AISC  American Institute of Steel Construction
AISI  American Iron and Steel Institute
AITC  American Institute of Timber Construction
AMA  Acoustical Materials Association
ANSI  American National Standards Institute (successor to USASI and ASA)
APA  American Plywood Association
ASHRAE  American Society of Heating, Refrigerating and Air Conditioning Engineers
ASTM  American Society for Testing Materials
AWI  Architectural Woodwork Institute
AWPA  American Wood Preservers Association
AWS  American Welding Society
CDA  Copper Development Associations, Inc.
CM/GC  Construction Manager/General Contractor
CRA  California Redwood Association
CRSI  Concrete Reinforcing Steel Institute
CS  Commercial Standard (U.S. Department of Commerce)
DFPA  Douglas Fir Plywood Association
EPA  Environmental Protection Agency
FGMA  Flat Glass Marketing Association
FIA  Factory Insurance Association
FM  Factory Mutual Engineering Division
FS  Federal Specification
MIA  Marble Institute of America
MIL  Military Specification
MILMA  Metal Lath Manufacturer's Association
NAAMM  The National Association of Architectural Metal Manufacturers
NBFU  National Board of Fire Underwriters
NBS  National Bureau of Standards
NCMA  National Concrete Masonry Association
NEC  National Electric Code (of NBFU)
NEMA  National Electrical Manufacturers' Association
NFPA  National Fire Protection Association
NOSCH  National Institute of Occupational Safety and Health
NMWIA  National Mineral Wool Insulation Association
NPVLMA  National Paint, Varnish and Lacquer Manufacturers' Association
NTMA  The National Terrazzo and Mosaic Association
OSHA  Occupational Safety and Health Administration
PCA  Portland Cement Association
PCI  Prestressed Concrete Institute
PEI  Porcelain Enamel Institute
PS  Product Standard (U.S. Department of Commerce)
SCPI  Structural Clay Products Institute
SDI  Steel Deck Institute
SJI  Steel Joist Institute
SMACNA  Sheet Metal and Air Conditioning Contractor's National Association
SPA  Southern Pine Association
SPI  The Society of Plastic Industry, Inc.
SPR  Simplified Practice Recommendation (U.S. Department of Commerce)
SSPC  Steel Structures Painting Council
SWI  Steel Window Institute
1.04 LAYING OUT WORK

The Contractor will furnish reference bench mark and maintain bench mark and all other grades, lines, and levels and dimensions as indicated in the Contract Documents. Report any errors or inconsistencies in above to Owner before commencing work.

Except as delegated by subcontract or normal trade practice, the Contractor will be responsible for all lines, elevations, and measurements of work indicated.

1.05 EXAMINATION OF SITE

Failure to visit the site will in no way relieve any Contractor from the necessity of furnishing materials or performing work that may be required to complete work in accordance with the Contract Documents without additional cost to Owner.

END OF SECTION
SECTION 011000 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 SCHEDULE OF DRAWINGS, SPECIFICATIONS AND ADDENDA

The following Drawings, Project Manual, and Addenda from the Contract Documents.

A. Set(s) of Drawings & project manuals dated February 2010. Drawing list is as follows:
   A0 Cover
   A1 Code Analysis and Notes
   A2 Lower Floor
   A3 Main Floor
   A4 Reflected Ceiling Plans
   A5 Interior Elevations
   A6 Stage Back Wall Details
   A7 Stage Back Wall Details
   A8 Sections
   A9 Details
   A10 Details / Elevations
   A11 Details / Elevations
   A12 Details / Elevations
   A13 Fan Room 2 and Attic Photo Documentary
   A14 Fan Room 3 Photo Documentary
   AA1 Add Alternates
   AA2 Add Alternates
   FP1 Fire Protection
   E10 Electrical Plans
   E20 Electrical Plans
   S1 Stage Plan and Gen. Notes
   S2 Stage Plan and Details
   S3 Details


C. Addenda: All Addenda issued prior to bidding.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Work covered: Work under this contract includes all materials, equipment and labor necessary to complete the work indicated on the drawings, described in specifications, addenda or reasonably inferred.

1.03 CONTRACTORS

All work will be executed under one prime construction contract between the Owner and the Contractor.

Except as indicated otherwise, all work under this contract will be under the direction of the prime contractor.
1.04 JOB CONDITIONS

A. Areas of the building immediately adjacent to areas under construction will be occupied by the public during the work of this project. Limit construction operations to those methods and procedures which will not adversely and unduly affect the Owner's occupied spaces inclusive of parking facilities.

B. Do not interrupt building access and use, except as permitted by the Owner.

Provide eight (8) work days notice to the Owner of construction activities which will severely impact the occupancy and use of adjacent areas.

C. Provide temporary barriers and/or partitions as required to protect the occupants of the building and the general public from injury due to the work of this project; and/or to protect adjacent areas of the building from the spread of dust and dirt caused by the work or this project.

Remove temporary barriers and partitions upon completion of the Project.

1. Temporary partitions shall be constructed of 1/2" plywood on the construction face nominal 2" X 4" wood studs and 1/2" gypsum wallboard on the public occupied face.

D. Do not interrupt power, lighting, plumbing, telephone and HVAC services to occupied areas without Owner's approval. Such interruptions must be scheduled at least eight (8) work days in advance and have Owner's approval.

1.05 PROTECTION OF WORK AND ADJACENT PROPERTY

A. Buildings and property adjacent to work included in this project may be subject to damage due to construction operations.

Prior to the start of the work included in this Contract engage the services of a photographer to record the existing condition of adjacent structures and property. Contractor shall provide one set on disk to the Owner and retain negatives and one set of prints for their records. Sufficient photos with adequate detail to thoroughly document the conditions surrounding the work shall be provided.

B. At the completion of the project, Contractor shall restore existing buildings, landscaping, parking facilities and property to same condition as prior to the start of the work.

C. In addition to the requirements of the General Conditions of the Contract for Construction, the Contractor shall:

1. Notify, in writing, the Owner of University or private property which interferes with the work and arrange with them for disposition of such property.

2. Provide and maintain proper shoring and bracing to prevent earth from caving or washing into excavation. Provide temporary protection around openings through and at floors, roofs, and other openings.

3. Provide and maintain proper shoring and bracing for existing underground utilities, sewers, etc., encountered during excavation work, to protect them from collapse or other type of damage until such time as they are to be removed, incorporated into the work of this project, or can be properly back-filled upon completion of new work.
4. Weather Protection: Provide protection against rain, snow, wind, ice, storms, or heat so as to maintain work, materials, apparatus, and fixtures free from injury or damage. At the end of each day's work, cover new work likely to be damaged.

5. Provide and maintain adequate protection of the work from damage due to freezing, especially freezing earth and soils. Risk of proceeding with the work on or with freezing or frozen materials will be the sole responsibility of the Contractor.

6. Water Protection: Provide protection from damage at all times from rain water, ground water, backing up of drains or sewers, and other water. Provide pumps and equipment enclosures to provide this protection.

7. The Contractor will maintain free of obstructions and debris, all designated corridors and emergency exits, handicap access ramps and sidewalks to building. Provide temporary directional handicapped signage for routing to the nearest accessible facilities.

1.06 EXISTING FURNITURE AND EQUIPMENT

The Owner will remove or relocate existing movable furniture and equipment from the areas in which the Contractor is working. Notify the Owner not less than three days prior to starting work in areas where furniture and equipment require moving.

1.07 CONTRACTOR'S ACCESS PARKING AND STAGING AREAS

A. Work included in this project will need to be performed within the limitations of available access at the site. The University shall limit the area available for staging and parking due to the additional number of construction projects planned during the execution of this contract. Contractor shall adjust the means and methods of construction to allow for the restrictions surrounding the site.

B. All parking on campus except for some one-hour zones on city streets and a few metered spaces is under control and authority of the Parking and Transportation Services (PTS) of the University. All University parking is by permit only.

C. Types of parking and staging are defined as follows:

General Staging Areas are approved areas adjacent to the site when available or in University designated group staging yards. General Staging Areas may be used for any purpose, including employee parking, on a space available basis, but must be coordinated through the UCB Project Manager and PTS. Vehicles may not park outside of general staging areas except in areas coordinated and approved by PTS.

Restricted Staging Areas are approved areas near the site for the construction dumpster, off-loading of equipment, contractor’s work trailer, and materials that are soon to be incorporated into the work. No vehicles shall park in a restricted staging area for more than 20 minutes between the hours of 8:00 a.m. and 5:00 p.m. weekdays.

Contractor Employee Parking are areas for workers needing parking on campus. Coordinate through UCB Project Manager and PTS.

Prohibited Parking are areas designated in the Contract Documents as No Parking areas. The contractor shall not allow any parking in areas so designated under any circumstance.
D. The restrictions in this Section are in addition to any other restrictions or rules provided by PTS. Fees shall be assessed for the use of any PTS facility for staging and construction activities.

E. The designated staging area for this project shall be: The loading dock area of Music. Access to the dumpster and to the drive north of the loading dock shall not be impeded.

F. Vehicles parked on sidewalks or in landscape areas outside the designated staging areas cause damage to University property. The contractor shall reimburse the University $25.00 per vehicle per occurrence for vehicles parked outside the designated staging areas. This amount shall be in addition to any fines which might be levied by PTS.

1.08 OCCUPANCY REQUIREMENTS

A. Owner may occupy designated areas for the purpose of storage of furnishings and equipment and installation of equipment.

B. Execute Certificate of Substantial Completion for each designated portion of work prior to Owner occupancy. Contractor shall allow:
   1. Access for Owner personnel.
   2. Use of parking facilities.
   3. Operation of HVAC and electrical systems.

C. On occupancy, Owner will provide, for occupied areas:
   1. Operation of HVAC and electrical systems.

1.09 CONSTRUCTION AND SEQUENCE SCHEDULE:

A. In order to accommodate the uninterrupted operation of the existing building during the various phases of construction, the sequence of construction operations shall be as follows:
   1. The sequence concept is to: (1) prepare the existing facility to function during renovation through completion; (2) thence occupy the newly remodeled portion; and (3) upon completion, finally reoccupy the remodeled portions.
   2. Utilizing this concept break down the Schedule into broad scope categories augmented by “Owner Action” and “Contractor action” columns that indicate coordination tasks which define the various phases of the work.
   3. The intent of the categorization is to generally summarize the nature and extent of work to be performed without in any way limiting specific requirements of the Contract Documents.
   4. Some overlapping between the several construction operations will occur, and where possible, permission may be granted to start certain portions of the work before the previous operations were completed in their entirety. Such detail scheduling shall be done as the work progresses, provided that the Owner’s operations remains uninterrupted, but in all cases must receive Owner approval.
   5. Where it may not be possible to complete certain mechanical and electrical services in connection with making the work complete and ready for occupancy, temporary services as directed and as approved shall be installed to permit occupancy by the Owner at the earliest possible date.
6. The construction sequence schedule and related drawings are intended to aid the Contractor in bidding and in the preparation of a specific construction schedule. Deviations of sequence may be made upon approval of the Owner and the Architect. The preparation of a specific construction schedule remains the responsibility of the Contractor.

1.10 TEMPORARY ELECTRIC SERVICE

A. Connect to existing power service. Power consumption shall not disrupt owners need for continuous service. Owner to pay for power consumed. Provide power outlets for construction operations, branch wiring, distribution boxes, and flexible power cords as required.

END OF SECTION
SECTION 011010 - SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Remodel Work scheduling.
   2. Construction sequence scheduling.

B. Related Sections:
   1. Division 01 Section “Temporary Facilities.”

1.02 SYSTEM DESCRIPTION

A. An essential condition of this Contract shall be the scheduling and conduct of all phases of construction operations in such a manner that the Owner's operations and use of the existing buildings and campus shall be uninterrupted at all times, except for such limited interruption as is required and approved by the owner.

B. Contractor shall repair at his own expense all damage done to Owner's property, unknown utilities and adjoining public property as a result of Contractor's construction activities.

1.03 PROJECT/SITE CONDITIONS

A. Access and use of site:
   1. Contractor shall use the designated site access for construction offices and material storage in such a manner that access to existing buildings and campus remain accessible at all times for use.
   2. Confine operations to as limited a use of the existing building and campus as possible. A route of access to and from the work for employees shall be agreed upon and it shall be the Contractor's responsibility to see that the agreed route is maintained in order to prevent unwarranted or unnecessary traffic through the existing buildings or site.

B. Owner notice and approval:
   1. All arrangements and scheduling in connection with the work of this Contract shall be made with and subject to the approval of the Consultant and the Owner.
   2. All work under this Contract which will require interruption of service of the existing building shall be scheduled to suit the need and convenience of the Owner's operation, and arrangements shall be made with the Owner and the Architect at least eight (8) working days in advance of the start of such work.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 REMODELING
A. Construction activities of all areas to be constructed in existing facilities shall be completely separated from the rest of the building by dust-proof enclosures erected by Contractor.

B. All surfaces in existing facilities not indicated to be remodeled, or removal of existing items by any Contractor, shall be repaired by the responsible Contractor to match existing adjoining similar surfaces.

3.02 CLEAN-UP

A. All areas within existing facilities, which are not within enclosed areas to be constructed used for access to work areas shall be completely cleaned of all debris and made "broom-clean" at the end of each day's work.

B. Dust, which permeates areas of existing facilities because of improperly constructed dust-proof barriers, shall be the responsibility of the Contractor. The Contractor shall employ the services of a professional cleaning company to clean any area outside of the designated construction dust barriers that are contaminated by Contractor's operations. Completely clean all such areas to the satisfaction of the Owner at no additional cost.

END OF SECTION
SECTION 011020 - ADMINISTRATION AND SUPERVISION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including General and Supplementary Conditions and other Division 1 Specification sections, apply to work of this section.

1.02 SURVEYS, LAYOUTS, AND LEVELS

A. General: Working from lines and levels established by the existing building, and as shown in relation to the work, establish and maintain bench marks and other dependable markers to set the lines and levels for the work of construction as needed to properly locate every element of the work of the entire project. Calculate and measure required dimensions as shown (within recognized tolerances if not otherwise indicated); do not scale the drawings to determine dimensions. Continuously advise tradesmen performing the work of the marked lines and levels provided for use in the layout of work.

1.03 PROJECT RECORD DOCUMENTS

A. Maintain at job site, one copy of:
   1. Contract Drawings
   2. Specifications
   3. Addenda
   4. Reviewed Shop Drawings
   5. Change Orders
   6. Other Modifications to Contract
   7. Field Test Records
   8. As-Built Drawings

B. Maintain documents in clean, dry, legible condition and do not use record documents for construction purposes. Make documents available at all times for inspection by the Consultant and Owner.

C. Label each document "Project Record" in 1" or larger printed letters.

D. Record drawing information in colored pencil with different colors for the various systems and defined by color legend.

E. Record drawings and specifications shall include the following:
   1. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure. Location of concealed valves, dampers, controls, balancing devices, junction boxes, clean-outs, and other items requiring access or maintenance.
   2. Field changes of dimension and detail, changes made by Change Order or Field Order and details not on original contract drawings.
   3. Fire protection and alarm systems shop drawings.

F. Submit all record drawings to the Consultant at the completion of the project.

1.04 CLEANING
A. Cleaning and Protection Work: At the time each unit of work or element of the construction is completed (substantially) in each area of the Project, clean the unit or element to a condition suitable for occupancy and use (as intended), and restore minor or superficial damage. Replace units and elements which are damaged beyond successful restoration. Clean and restore adjoining surfaces and other work which was soiled or damaged (superficially) during the installation; replace other work damaged beyond successful restoration. Where the performance of subsequent work could possibly result in damage to the complete unit or element, provide protective covering or other provisions to minimize possible damage. Repeat cleaning and protection operations during remainder of construction period, wherever work might otherwise be damaged by sustained soiling or exposure.

B. During Construction: Oversee cleaning and ensure that building, grounds, and public properties are maintained free from accumulation of waste materials and rubbish. At reasonable intervals during daily progress of work, clean up site and access and dispose of waste materials, rubbish, and debris. Vacuum clean interior building areas when ready and continue vacuum cleaning on an as-needed basis until building is ready for acceptance or occupancy.

1.05 PROJECT SIGN

Erect no project sign or job-site sign of any kind, except warning signs as specified in Section 01500, without written authorization of the Owner.

1.06 COORDINATION

A. The Contractor shall coordinate the work so as not to interfere with the building custodian's normal cleanup activities.

B. The Contractor shall be responsible for coordinating all the work of the project. The Contractor shall coordinate the efforts of all subcontractor(s) and the deliveries of suppliers so that the work progresses in an orderly fashion without delay towards timely completion of a complete project in accordance with the drawings and specifications.

C. The Contractor shall note that concurrent with his work, other contractors, suppliers, and the Owner's facilities and maintenance personnel may be working in relatively close proximity. The Contractor will be solely responsible for coordinating his work with that of other contractors and will make no claims for failure to do so.

1.08 METHODS OF CONSTRUCTION

A. The procedure and method of construction is the prerogative and the responsibility of the Contractor. If professional assistance is required to safely implement method of construction, the Contractor shall, on his own, employ professional help.

END OF SECTION
SECTION 011021 - HAZARDOUS MATERIAL PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

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

1.02 SUMMARY:

A. Section Includes:
   1. General administrative requirements and procedures for Hazardous Communication Program.

B. Related Sections:
   1. Division 01 Section “Summary of Work.”

1.03 WORK BY OWNER:

A. Asbestos:
   1. The Owner has completed an Environmental Site Assessment to identify asbestos containing materials and other immediate Health and Safety items. Do not begin work until Form Exhibit A (copy following the Supplementary General Conditions) has been executed. Where asbestos materials or other hazardous conditions are known to exist in locations affected by this project, remediation measures will be taken by the Owner under separate contract. The Contractor shall coordinate his sequence and schedule with that of the environmental remediation work.
   2. In the event that the Contractor encounters any material on the site which is reasonably believed hazardous, which has not been rendered harmless, the Contractor shall:
      a. Stop work immediately in affected areas.
      b. Report the condition in writing to the Department of Facilities Management Project Administrator.
      c. Report the condition in writing to the Architect.
      d. Resume work only under the provisions of this section.

1.04 SUBMITTALS:

A. Material Safety Data Sheets (MSDS):
   1. Copies of all material safety data sheets for all applicable products, including but not limited to; paint, adhesives, mastics, solvents, and finishes, etc., shall be retained on site by the Contractor for all applicable products used during the construction and/or remodeling work. Furnish copies of all MSDS’s to the Owner and Architect and include in the Project Record Document submittal.

1.05 QUALITY ASSURANCE:

A. Asbestos containing materials may exist within the general project area where such materials are not expected to be disturbed during the work. The Contractor shall review the Environmental Health and Safety Environmental Site Assessment Form at the project site and become familiar with known asbestos and hazardous containing materials in the work areas.
1.06 PROJECT/SITE CONDITIONS:

A. Hazard Communication Requirements:

1. All Contractors are responsible for compliance with mandatory federal rules and regulations concerning Hazard Communication, including, but not limited to those regulations contained in 29 CFR 1910.1200 Hazard Communication, 1910.146 Confined Space, 1910.147 Lock-out Tag-out, 1910.1101 Asbestos, and 1926.62 Lead. Contractor and all subcontractors working at sites under the control of the Owner shall make available to the Architect, upon request, copies of the Hazard Communication Program used by their firm. In addition to this requirement, all regulations related to Multi-employer workplaces shall be adhered to. These regulations are found in 29 CFR 1910.1200, (e) (2) (I) through (e) (4) specifically:

(e) (2) Multi-employer workplaces. Employers who produce, use, or store hazardous chemicals at workplace in such a way that employees of other employer(s) may be exposed (for example, employees of a construction contractor working on site) shall additionally ensure that the hazard communication programs developed and implemented under paragraph (e) include the following:

(e) (2) (i) The methods the employer will use to provide the other employer(s) with a copy of the material safety data sheet, or to make it available at a central location in the workplace, for each hazardous chemical the other employer(s)’ employees may be exposed to while working;

(e) (2) (ii) The methods the employer will use to inform the other employer(s) of any precautionary measures that need to be taken to protect employees during the workplace’s normal operating conditions and in foreseeable emergencies; and,

(e) (2) (iii) The methods the employer will use to inform the other employer(s) of the labeling system used in the workplace.

(e) (3) The employer may rely on an existing hazard communication program to comply with these requirements, provided that it meets the criteria established in this paragraph (e).

(e) (4) The employer shall make the written hazard communication program available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director, in accordance with requirements of 29 CFR 1910.20 (e).

2. The referenced regulations were excerpted from 29 CFR 1910.1200. This excerpt shall not be relied upon for compliance with mandatory federal, state and local regulations. The Contractor shall comply with all such regulations and shall be solely liable for insuring that all requirements under applicable regulations are met.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 EXAMINATION:

A. Asbestos and Hazardous Materials Discovery:
1. The Contractor is cautioned to be alert to the possibility that his work may uncover asbestos-containing or hazardous materials. If suspected materials are found, the Contractor shall notify the Owner and stop all work in the area immediately. If the suspected materials prove to contain asbestos or hazardous materials, the Owner will arrange to have the materials abated in a timely manner.

3.02 HAZARDOUS MATERIALS/EQUIPMENT REMOVAL:

A. Definition:
1. Removal of hazardous materials/equipment is extremely dangerous. Hazardous materials/equipment is defined to include, but not limited to the following:
   a. Fume hoods
   b. Hood exhaust duct work
   c. Exhaust fans
   d. Laboratory casework and equipment
   e. PCB ballast's
   f. Mercury and Sodium Vapor Lights
   g. Adjacent material that could come in contact with workers or public.

B. Protection:
1. Hazardous materials/equipment removal shall include the protection of personnel, material, environment and safe legal disposal of the equipment; and further includes the following:
   a. Notification of Project Administrator and appropriate Environmental Health and Safety Unit
   b. Proper protective clothing for personnel involved in the removal.
   c. Appropriate emergency and first aid facilities.
   d. Removal procedures shall be accomplished during minimal occupancy of the remainder of the building on the weekends or at night.

C. Disposal:
1. All equipment related to the use, storage or processing of hazardous materials/equipment shall be removed and properly disposed of under the direct, full-time supervision of a qualified Laboratory Specialist fully conversant with the chemistry and properties of the material/equipment involved. Certification is required. Contractors are responsible for the removal of all hazardous materials/equipment and chemicals from the work site as well as proper disposal of all hazardous waste generated by their project.

2. Hazardous waste disposal must include prior notification to the Department of Environmental Health and Safety in order to verify that the appropriate procedures and documentation are used. Copies of all paperwork for shipping and disposing of these materials (hazardous waste manifests, land disposal restrictions, etc.) will be provided by the Contractor to the Department of Environmental Health & Safety (303) 492-6025. Where appropriate, the Main Campus EPF ID COD007431505 will be used for these shipments.

3. Hazardous chemicals, waste, and other pollutants may not be discharged to the sanitary or storm sewer systems at anytime. Releases to the environment must be reported to CUPD/EH&S immediately.

3.03 ENVIRONMENTAL RESPONSIBILITIES
A. Environmental and Safety Issues and Practices.

Contractors working on the UCB campus are required to comply with all applicable University, City, State and Federal environmental regulations and safety standards. Hazardous and regulated materials must be managed and disposed of properly. Work sites must control dust, debris and run-off, and pay special attention to preventing any pollutants from entering the storm sewer or surface water collection systems. These systems ultimately drain into our creeks and waterways.

B. Contractor will be required to sign an Environmental Responsibilities form. The contractor is responsible for notifying all subcontractors of the responsibilities identified on the form. A copy of this form must be posted, throughout the duration of the project, in a visible area for all workers to see.

END OF SECTION
SECTION 011060 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:
   A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 - Specification sections, apply to work of this section.

1.02 SUMMARY:
   A. Section Includes:
      1. General administrative requirements and procedures and related applicable codes.

1.03 APPROVAL AND RECOMMENDATION AGENCIES:
   A. The University of Colorado at Boulder has jurisdiction for the interpretation and enforcement of code requirements for construction of projects.

1.04 CODES:
   A. All Contractors shall comply with all applicable codes, ordinances and regulations in effect at the time of bid openings.

APPROVED STATE BUILDING CODES

The following approved building codes and standards have been adopted by State Buildings Programs (SBP) as the minimum requirements to be applied to all state-owned buildings and physical facilities including capital construction and controlled maintenance construction projects.

The 2006 edition of the International Building Code (IBC)
(as adopted by the Colorado State Buildings Program as follows: Chapters 2-35 and Appendices C and I)

The 2006 edition of the International Mechanical Code (IMC)
(as adopted by the Colorado State Buildings Program as follows: Chapters 2-15 and Appendix A)

(as adopted by the Colorado State Buildings Program)

The 2008 edition of the National Electrical Code (NEC)
(National Fire Protection Association Standard 70) (as adopted by the Colorado State Electrical Board)

The 2006 edition of the International Plumbing Code (IPC)
(as adopted by the Colorado Examining Board of Plumbers as follows: Chapter 1 Section 101.2, 102, Chapters 2-13 and Appendices B, D, E, F and G)

The 2006 edition of the International Fuel Gas Code (IFGC)
(as adopted by the Colorado Examining Board of Plumbers as follows: Chapter 1 Section 101,102, Chapters 2-8 and Appendices A, B, C and D)

The National Fire Protection Association Standards (NFPA)
The 2004 edition of the ASME Boiler and Pressure Vessel Code
(as adopted by the Department of Labor and Employment/Boiler Inspection Section as follows: sections I, IV, VIII-Divisions 1 and 2 and 3, X and B31.1)

The 2004 edition of the National Boiler Inspection Code (NBIC)
(as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2004 edition of the Controls and Safety Devices for Automatically Fired Boilers CSD-1
(as adopted by the Department of Labor and Employment/Boiler Inspection Section)

(as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2007 edition of ASME A17.1 Safety Code for Elevators and Escalators
(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The 2005 edition of ASME A17.3 Safety Code for Existing Elevators and Escalators
(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The 2005 edition of ASME A18.1 Safety Standard for Platform Lifts and Stairway Chairlifts
(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The current edition of the Rules and Regulations Governing the Sanitation of Food Service Establishments
(as adopted by the Department of Public Health and Environment/Colorado State Board of Health)

(as adopted by the Colorado General Assembly as follows: CRS 9-5-101, as amended, for accessible housing)

Note: Additional codes, standards and appendices may be adopted by the state agencies and institutions in addition to the minimum codes and standards herein adopted by State Buildings Programs.

1. The 2006 edition of the IBC became effective on July 1 of 2007. Consult the state electrical and plumbing boards and the state boiler inspector and conveyance administrator and the Division of Fire Safety for adoption of current editions and amendments to their codes.

2. Projects should be designed and plans and specifications should be reviewed based upon the approved codes at the time of A/E contract execution. If an agency prefers to design to a different code such as a newer edition of a code that State Buildings Programs has not yet adopted, the agency must contact SBP for approval and then amend the A/E contract with a revised Exhibit D, Approved State Building Codes. Please note that the state plumbing and electrical boards enforce the editions of their codes that are in effect at the time of permitting not design.

3. The state’s code review agents, or the State Buildings Programs approved agency building official, shall review all documents for compliance with the codes stipulated herein. Note: The
Department of Public Health and Environment, Division of Consumer Protection will review drawings for food service related projects.

4. This policy does not prohibit the application of various life safety codes as established by each agency for specific building types and funding requirements. NFPA 101 and other standards notwithstanding, approved codes will supersede where their minimum requirements are the most restrictive in specific situations. If a conflict arises, contact State Buildings Programs for resolution.

5. It is anticipated that compliance with the federal Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) and Colorado Revised Statutes Section 9-5-101 will be met by compliance with the 2006 International Building Code and ICC/ANSI A117.1. However, each project may have unique aspects that may require individual attention to these legislated mandates.

6. The 2003 edition of the International Building Code (IBC) is to be applied to factory-built nonresidential structures as established by the Division of Housing within the Department of Local Affairs.

A. Appendices

Appendices are provided to supplement the basic provisions of the codes. Approved IBC Appendices are as follows:

1. Mandatory
   IBC Appendix Chapter C - Agricultural Buildings
   IBC Appendix Chapter I - Patio Covers

2. Optional
   Any non-mandatory appendix published in the International Building Code may be utilized at the discretion of the agency. Use of an appendix shall be indicated in the project code approach.

B. Amendments

None

C. Referenced Codes

1. While not adopted in entirety, portions of the following codes are referenced in the International Building Code (IBC), the International Mechanical Code (IMC), the International Energy Conservation Code (IECC) the International Plumbing Code (IPC), and the International Fuel Gas Code (IFGC). These following codes would be applied as reference standards.

   2006 International Fire Code (IFC)
   2006 International Existing Building Code (IEBC)

D. Referenced Standards

The IBC, IMC, IECC, IPC and IFGC standards shall be utilized to provide specific, or prescriptive, requirements on how to achieve the requirements established in the code. These standards may be
unique to the code or may be derived from other established industry standards. Recognized standards may also be used to show compliance with the standard of duty established by the code.

1.05 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA):

A. The Contractor shall have sole responsibility for compliance on the job site to all applicable portions of the Occupational Safety and Health Act. The Contractor is responsible for other regulatory requirements as they relate to occupational Health and Safety requirements. For example, NIOSH, ANSI, and MSA.

B. Protection of life, health and public welfare as it relates to the execution of the construction contract is the responsibility of the Contractor. The Owner’s Representative may, at their discretion, observe, inspect, or comment on plans, procedures, or actions employed at the project as they relate to safety of life, health or public welfare. If conditions are imposed by the Owner which interfere with, or imply actions detrimental to safety, written notice shall be returned to the Owner for action prior to affecting any unsafe conditions.

C. Contractors shall use OSHA Lock Out / Tag Out procedures when working with energized equipment.

D. All contractors entering confined spaces owned by CU or while conducting work under contract with CU shall develop a written program and utilize procedures that, at a minimum, comply with all federal, state and local confined space standards and all applicable regulatory requirements. Contractors shall, independent of the University, monitor the space to obtain their own data to ensure a safe entry and exit. Any data generated by a contractor’s confined space entry, should be provided to the Facilities Management confined Space Program Manager.

E. When contractors perform work that may involve Facilities Management controlled permit required confined spaces, Facilities Management will:
   1. Inform contractors of permit required confined spaces and that entry is allowed only after compliance with the confined space entry standard;
   2. Require contractors planning to enter a confined space to provide the Facilities Management Confined Space Program Manager in charge of that space, 48-hour advance notice of such planned entry. The contractors entry will be in accordance with the current Occupational Safety and Health Administration confined space entry standard and a signed document stating such, shall be provided to the FM Confined Space Program Manager prior to entry.

F. The FM Confined Space Program Manager, following receipt of notice of contractor planned entry, will:
   1. Apprise contractor of the hazards identified in the confined space and of any prior experience that is documented on the space;
   2. Appraise the contractor of any precautions or procedures that CU has implemented for the protection of workers in or near the confined space;
   3. Coordinate entry operations with the contractor when both Facilities Management and contractor personnel are working in or around the confined space;
   4. Debrief the contractor at the end of the entry operations regarding hazards confronted or created.

1.06 HOT WORK PERMITS
A. All contractors shall be required to obtain a Hot Work Permit, three (3) working days in advance, for work that involves welding, heat treating, grinding, thawing pipe, hot riveting, soldering and brazing, power driven fasteners and similar activities involving spark, flame or heat. Compliance with the requirements of the applicable fire code, the International Building Code, and NFPA Standard 51B are mandatory and all contractors performing hot work activities shall read and understand these code requirements. To obtain a current Hot Work Permit, go to website: http://fm.colorado.edu/firesafety/hotwork.htm

B. Contractors shall read and comply with the procedures and requirements for Fire Watch, Fire Alarm Interruption and Fire Suppression Interruption as found on the following websites:

Fire Watch Procedures: http://fm.colorado.edu/firesafety/firewatch.html

Fire Alarm and Detection System Interruption/Outage: http://fm.colorado.edu/firesafety/firealarmdetectsys.html

Fire Suppression System Interruption/Outage: http://fm.colorado.edu/firesafety/firesuppressionsystems.html

C. No hot work shall be conducted in any campus facility without a hot work permit. Any person or firm who conducts hot work without a permit shall be fined one thousand dollars ($1,000) for each occurrence and their non-permitted activities shall be stopped immediately until they obtain a hot work permit. Contractor shall be responsible for any damages caused as a result of improper hot work activities or the work stoppage.

D. Individuals or firms who obtain a permit shall fully read, understand and implement the requirements of the permit. Any person or firm who conducts hot work without the full implementation of the permit requirements shall be fined five hundred dollars ($500) the first time and one thousand dollars ($1,000) for subsequent occurrences. When the requirements of the hot work permit are not being implemented, the improper activities shall be stopped immediately until a hot work permit is obtained. Contractor shall be responsible for any damages caused as a result of improper hot work activities or the work stoppage. Any contractor who is found to be in non-compliance a third time, will not be allowed to work on campus until further notice by Facilities Management.

E. The campus inspectors, project managers and fire marshal shall have the authority to stop improper or non-permitted hot work activities.

F. The Contractor shall notify the CU Fire Alarm Supervisor to deactivate all smoke alarms in the vicinity of the work prior to any demolition and construction work activity. Failure of the Contractor to comply with the smoke alarm deactivation requirement and cause a false alarm and arrival of the Boulder Fire Department shall be a $400 fine per occurrence.

1.07 PERMITS

A. The contractor must obtain a no fee building permit prior to starting work from Office Manager, Facilities Management at (303) 492-2904 in the Planning, Design and Construction Office, Research Laboratory No. 2, 1540 30th Street, Boulder, Colorado. Building permits are required on all projects except the following:

1. Fences not over 6 feet high & general landscape work
2. Retaining walls which are not over 4 feet in height, unless supporting a surcharge of impounding Class I, II or III-A liquids
3. Platforms, walks and driveways not more than 30 inches above grade and not over any basement or story below.
4. Painting, papering, and similar finish work that meet the requirements of chapter 8 of UBC. (Uniform Building Code).
5. Temporary motion picture, television and theater stage sets and scenery. Review for fire-safety issues is required.

B. The contractor must post the permit(s) in a prominent location at the jobsite including all inspection reports. The contractor shall have an updated set of contract documents available at the jobsite for all inspections.

1.08 INSPECTIONS

A. The Contractor must schedule all required inspections 48 hours in advance by calling (303) 492-2922. CU or their designated inspectors will complete these inspections within 48 hours with the exception of weekends and state holidays.

B. The contractor is required to arrange for the following inspections:
   1. Required inspections: General. Reinforcing steel or structural framework of any part of any building of structure shall not be covered or concealed without first obtaining the approval of the building official.
   2. Lath or gypsum board inspection: To be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.
   3. Final inspection: To be made after finish grading and the building is completed and ready for occupancy.
   4. Special inspection: Special inspection may be required on special projects and special types of construction.
   5. Re-inspections: A re-inspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

C. The Contractor will be responsible for all cost related to re-inspections and will be billed at a rate of $50.00 per hour for CU re-inspections and at the testing agency bill-out rate for other re-inspections.

1.09 UNIVERSITY OF COLORADO SEXUAL HARASSMENT POLICY

A. Contractors should be aware of and review the University of Colorado at Boulder's policies that prohibit discrimination and harassment on the basis of race, color, national origin, sex, age, disability, creed, religion, sexual orientation or veteran status. These policies are located on the web at: http://www.colorado.edu/odh/. Contractor personnel must adhere to these policies and conduct themselves in a manner that does not discriminate or harass as a result of interacting with an around the University of Colorado faculty, staff and students and visitors.

1.10 FIRE ALARM INTERRUPTION

A. Contractor shall contact CU Fire Alarm Systems Supervisor at 303-492-0633 prior to all interruptions or shutdowns of fire alarm systems. Interruptions or shutdowns shall be scheduled three (3) working days in advance with CU Fire Alarm Systems Shop, CU Project Manager and building proctor. Contractor shall provide a fire watch as directed by CU Fire Alarm Systems Shop during interruption or shutdown.
B. The Contractor shall be responsible for preventing nuisance alarm due to activities at their work site. Common sources of nuisance alarms are:

1. Smoke (soldering, welding, cooking, etc.)
2. Grinding
3. Dust (drilling, sweeping, canister vacuums, sand blasting, etc.)
4. Water leaking (plumbing leaks, overflows)
5. Water sprayed on or near detectors (pressure washing or cleaning with water)
6. Popcorn or other food burning in microwaves
7. Static electricity (covering or uncovering detectors)
8. Changing filters on air handling units (dust)
9. Steam (leaks, pressure pop-offs)
10. Broken or frozen sprinkler heads
11. Sprinkler drain valves turned by mistake
12. Vandalism

Precautions to prevent nuisance alarms are:

1. During construction projects, treat all buildings, except totally new construction, as though they were occupied buildings with live systems.
2. Do not assume that all detectors are in plain sight. Contact University personnel for verification.
3. Maintain dust control measures per UCB Standards:
   a. Maintaining barriers
   b. Covering air returns
   c. Asking CU personnel to cap or disable smoke detectors (Note any capping or disabling of fire safety devices is to be done ONLY by CU personnel, not contractors.)
   d. Avoiding recirculation of dust or smoke through the building air handling system.
4. Follow campus hot work procedures. Refer to paragraph 1.06.
3. Do not expose fire alarm devices to water or extreme temperatures.
4. Contact Fire Systems Group for any actions that affect fire detection, alarm, and suppression systems.

1.11 STORMWATER MANAGEMENT PLAN (SWMP)

A. Stormwater Management Plan (SWMP): Prior to any construction activity disturbing one acre of land or more, an approved SWMP and a Stormwater Permit for Construction Activity application from the Colorado Department of Public Health and Environment (CDPHE) are required. The SWMP shall be prepared in accordance with the CDPHE requirements for “Contents of the Stormwater Management Plan” and the UDFCD’s Urban Storm Drainage Criteria Manual, Volume 3, “Best Management Practices” (UDFCD Drainage Criteria Manual). Stormwater quality management and erosion control measures are to be constructed and maintained in accordance with the SWMP and the UDFCD Drainage Criteria Manual.

1.12 UTILITY LOCATES

Contractor MUST CALL 811 (or 1-800-922-1987) for utility locates BEFORE DIGGING on any project at the University of Colorado at Boulder. This includes even small projects such as, but not limited to, planting trees or shrubs, sidewalk removal/installation or fence post installation. Digging without calling can disrupt service to the campus or surrounding neighborhoods and potentially result in fines and repair costs.

END OF SECTION
SECTION 011075 - SPECIFICATION SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

A. Work Included:
   1. Specification system format.
   2. Grammar (syntax) description.

1.02 DESCRIPTION

A. These specifications have been derived from automated specification systems, and include minor deviations from format and traditional writing forms. Such deviations must be recognized as a normal result of this production technique, and no other meaning will be implied or permitted.

B. Imperative language of the technical sections is directed to the Contractor. The term "provide" used repeatedly in the text is defined to mean..."furnish and install, complete, in place and ready for operation and use unless specifically indicated otherwise."

C. Specifications are of abbreviated, simplified or streamlined type and include incomplete sentences. Omissions of work or phrases such as "the Contractor shall", "in conformity therewith," "shall be," "as noted on the Drawings", "A", "The", are intentional. Supply omitted words or phrases by inference in same manner as they are when "Note" occurs on Drawings. Supply words "on the Drawings" by inference when "as indicated" is used with sentences or phrases.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION
SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
1. Schedule of allowances.
2. Selection of products.
3. Adjustment of costs.

1.02 ALLOWANCES FOR PRODUCTS

A. The amount of each allowance shall include:
1. The cost of the Product to the Contractor.
2. Delivery to the site.
3. Applicable taxes.
4. Handling at the site.
5. Protection.
7. Contractor's and Subcontractor's overhead and profit.
8. Other expenses required to complete the installation.

1.03 SELECTION OF PRODUCTS UNDER ALLOWANCES

A. Contractor's Duties:
1. Assist Owner in determining qualified suppliers or installers.
2. Obtain proposals from suppliers and installers.
3. Make appropriate recommendations.

1.04 ADJUSTMENT OF COSTS

A. Should the net cost be more or less than the specified amount of the allowance, the Contract Sum will be adjusted accordingly by Change Order.
1. The amount of the Change Order will recognize:
   a. Any changes in handling costs at the site.
   b. Labor.
   c. Installation costs.
   d. Overhead and profit.
   e. Other expenses caused by the selection under the allowance.

B. Submit any claims for anticipated additional costs at the site.

C. At contract close-out, reflect all approved changes in contract amounts in the final statement of accounting.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.01 SCHEDULE OF ALLOWANCES
END OF SECTION
SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.01 GENERAL ALTERNATE REQUIREMENTS

A. General: The description for each alternate is recognized to be incomplete and abbreviated but implies that each change must be complete for the scope of work affected. Refer to applicable sections and to applicable drawings for the specific requirements of the owner, whether or not references are so noted in the description of each alternate. Modify surrounding work as required to integrate with the work of each alternate.

1.02 SPECIFIC ALTERNATES

A. Add Alternates:

1. Side wall diffusers in seating area
2. Skim coat brick in seating area
3. Replace sconces on side walls in seating area
4. Line source LED lighting at perimeter of seating area side wall diffusers
5. Paint mechanical diffusers and light trims over the seating area to match the adjacent ceiling.
6. Add new fluorescent on/off fixtures over the seating area.

END OF SECTION
SECTION 013100 - PROJECT COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

A. General Contractor is responsible for all of the work of this contract.
   1. Assign and subcontract portions of the work as required to assure that all work is constructed in compliance with these documents.
   2. Coordinate the work of the several subcontractors for the project.
   3. Coordinate work of this contract with work by separate contractors.

B. Each subcontractor shall:
   1. Coordinate work of his own employees and subcontractors.
   2. Expedite his work to assure compliance with schedules.
   3. Coordinate his work with that of other subcontractors and work by separate contractor.
   4. Comply with orders and instructions of owner.

C. Related Requirements
   1. All Division 01 Sections.

1.02 CONSTRUCTION ORGANIZATION AND START-UP

A. Establish on-site lines of authority and communications.
   1. Attend pre-construction meeting with subcontractors upon commencement of the project.
   2. Establish procedures for intra-project communications.
      a. Submittals.
      b. Reports and records.
      c. Recommendations.
      d. Coordination Drawings.
      e. Schedules.
      f. Resolution of conflicts.
      a. Consult with Architect to obtain interpretation.
      b. Assist in resolution of questions or conflicts which may arise.
      c. Transmit written interpretations to subcontractors, and to other concerned parties.
   4. Assist in obtaining permits and approvals.
      a. Obtain building permits and special permits required for work or for temporary facilities.
      b. Verify that subcontractors have obtained inspections for work and for temporary facilities.
   5. Control the use of site.
      a. Supervise field engineering and site layout.
      b. Allocate space for each subcontractor’s use for field offices, sheds, work and storage areas.
      c. Establish access, traffic and parking allocations and regulations.
      d. Monitor use of site during construction.

1.03 CONTRACTOR DUTIES
A. Construction Schedules.
   1. Coordinate schedules with several subcontractors.
   2. Monitor schedules as work progresses.
      a. Identify potential variances between schedules and probable completion 
         dates for each phase.
      b. Recommend adjustments in schedule to meet required completion 
         dates.
      c. Adjust schedules of subcontractors as required.
      d. Document changes in schedule.
   3. Observe work of each subcontractor to monitor compliance with schedule.
      a. Verify that labor and equipment are adequate for the work and the 
         schedule.
      b. Verify that product procurement schedules are adequate.
      c. Verify that product deliveries are adequate to maintain schedule.

B. Process Shop Drawings, Product Data and Samples.
   1. Review for compliance with Contract Documents.
      a. Field dimensions and clearance dimensions.
      b. Relation to available space.
      c. Relation to other trades, equipment and systems.
      d. Submit to Architect.

C. Monitor the use of temporary utilities.
   1. Verify that adequate services are provided and maintained.

D. Inspection and Testing.
   1. Inspection work to assure performance in accord with requirements of Contract 
      Documents.
   2. Administer special testing and inspections of suspected work.
   3. Reject work which does not comply with requirements of Contract Documents.
   4. Coordinate testing laboratory services.
      a. Verify that required laboratory personnel are present.
      b. Verify that tests are made in accordance with specified standards.
      c. Review test reports for compliance with specified criteria.
      d. Recommend and administer required retesting.

E. Monitor contractor’s periodic cleaning.
   1. Enforce compliance with specifications.
   2. Resolve any conflicts.

F. Coordinate changes.
   1. Recommend necessary or desirable changes.
   2. Assist owner in negotiating change orders.
   3. Promptly notify all subcontractors of pending changes.

G. Maintain Reports and Records at Job Site available to Architect and Subcontractors.
   1. Log progress of work of each subcontractor.
   2. Records
      a. Contracts.
      b. Purchase orders.
      c. Materials and equipment records.
d. Applicable handbooks, codes and standards.

3. Obtain information from subcontractors and maintain file of Project Record Documents.

4. Assemble documentation for handling of claims and disputes.

H. Coordinate work of this Contract and requirements of this section with work by Separate Contract including but not limited to:
   1. Removal of asbestos containing materials by separate contract.

1.04 CONTRACT CLOSEOUT

A. Coordinate equipment start-up.
   1. Provide seven days notification prior to start-up of each item.
   2. Ensure that each piece of equipment or system is ready for operation.
   3. Execute start-up under supervision of responsible persons in accordance with manufacturer’s instructions.
   4. Perform required testing and balancing.
   5. Record dates of start of operation of systems and equipment. Submit written report that equipment or system has been properly installed and is functioning correctly.
   6. Provide written notice of beginning of warranty period for equipment put into service.

B. Demonstration and Instructions
   1. Demonstrate operation and maintenance of products to Owner’s personnel two weeks prior to Substantial Completion.
   2. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, seasonal operation, and shutdown of each item of equipment.

C. At completion of work of each Section, conduct an inspection to assure that
   1. Specified cleaning has been accomplished.
   2. Temporary facilities have been removed from site.

D. At completion
   1. Conduct an inspection to list work to be completed or corrected.
   2. Supervise correction and completion of work as established in Certificate of Completion.

E. When a portion of the Project is occupied prior to final completion, coordinate established responsibilities of each subcontractor.

F. Final completion.
   1. When each Subcontractor determines that work is finally complete, conduct an inspection to verify completion of work.
   2. Assist owner and architect in inspection.

G. Administer contract closeout.
   1. Receive and review Subcontractor’s final submittals.
   2. Transmit to architect with recommendation for action.

END OF SECTION
PART 1 - GENERAL

1.01 SUMMARY

A. Carefully coordinate the interface between Division 23 (Mechanical) and Division 26 (Electrical) before submitting any equipment for review or commencing installation.

B. Responsibility: Unless otherwise indicated, all motor and controls for Division 23 equipment shall be furnished, set in place and wired in accordance with the following schedule:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>FURNISHED UNDER</th>
<th>SET IN PLACE UNDER</th>
<th>POWER WIRING UNDER</th>
<th>CONTROL WIRING UNDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment Motor</td>
<td>23</td>
<td>23</td>
<td>26</td>
<td>-</td>
</tr>
<tr>
<td>Automatically Controlled</td>
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<tr>
<td>Starter/contractors:</td>
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<tr>
<td>Separate</td>
<td>23</td>
<td>26</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>Factory Mounted &amp; Wired In Motor Control Centers</td>
<td>23</td>
<td>23</td>
<td>26</td>
<td>23</td>
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<tr>
<td>Manually Controlled</td>
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<tr>
<td>Starter/Contractors:</td>
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<td>Separate</td>
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<tr>
<td>Factory Mounted &amp; Wired In Motor Control Centers</td>
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<td>26</td>
<td>23</td>
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<tr>
<td>Motor Speed Controllers</td>
<td>23</td>
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<tr>
<td>Disconnect (Note 1) Switches</td>
<td>26</td>
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<tr>
<td>Contactors</td>
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<tr>
<td>Thermal Overload (Note 1) Switches</td>
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<td>26</td>
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<tr>
<td>Manual Operation (Note 2)</td>
<td>26</td>
<td>26</td>
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<tr>
<td>Switches</td>
<td>26</td>
<td>26</td>
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<td>-</td>
</tr>
<tr>
<td>Control Relays (Note 2)</td>
<td>23</td>
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<td>Control Transformers</td>
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<td>Control Circuit Outlets</td>
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<tr>
<td>Thermostats (Note 2)</td>
<td>23</td>
<td>23</td>
<td>-</td>
<td>23</td>
</tr>
<tr>
<td>ITEM</td>
<td>FURNISHED UNDER</td>
<td>SET IN PLACE UNDER</td>
<td>POWER WIRING UNDER</td>
<td>CONTROL WIRING UNDER</td>
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<td>Time Switches (Note 2) Not in Control Panel</td>
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<tr>
<td>Push Button Stations, Pilot Lights</td>
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<tr>
<td>Thermostats (Note 2) Controls: Integral with Equipment or Directly Applied to Ducts, Pipes, etc.</td>
<td>23</td>
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<td>23</td>
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<tr>
<td>Valve Motors, Damper Motors, Solenoid Valves, etc.</td>
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<td>-</td>
<td>23</td>
</tr>
<tr>
<td>EP Valves or Switches, P.E. Switches, etc.</td>
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<td>23</td>
<td>-</td>
<td>23</td>
</tr>
<tr>
<td>Control Circuit Outlets</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>-</td>
</tr>
<tr>
<td>Fire Alarm Systems</td>
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<td>Fire Sprinkler Alarm</td>
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<tr>
<td>Firestats</td>
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<tr>
<td>Smoke Detectors Including Relays for Fan Control</td>
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<td>26</td>
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<tr>
<td>Control Air Compressor</td>
<td>23</td>
<td>23</td>
<td>26</td>
<td>23</td>
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<tr>
<td>Refrigerated Air Dryer</td>
<td>23</td>
<td>23</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>Equipment Interlocks</td>
<td>23</td>
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<td>23</td>
</tr>
<tr>
<td>Boiler and Water Heaters</td>
<td>23</td>
<td>23</td>
<td>26</td>
<td>23</td>
</tr>
</tbody>
</table>

NOTES:
1. If furnished as part of factory wired equipment furnished and set in place under Division 23, wiring and connections under Division 26.
2. If float switches, line thermostats, P.E. switches, time switches, or other controls carry the FULL LOAD CURRENT to any motor, they shall be furnished under Division 23, but they shall be set in place and connected under Division 26 except that where such items are an integral part of the mechanical equipment, or directly attached to ducts, piping, or other mechanical equipment, they shall be set in place under Division 23 and connected under Division 26. If they do not carry
the FULL LOAD CURRENT to any motor, they shall be furnished, set in place and wired under Division 23.

C. Control Wiring: Consists of wiring in pilot circuits of contact or starters, sensors, controllers, and relays, and wiring for valve and damper operators.
   1. Connections: Connections to all controls directly attached to ducts, piping and mechanical equipment shall be made with flexible connections.

D. Starters: Provide magnetic starters for all three phase motors and equipment complete with:
   1. Control transformers.
   2. 120V holding coils.
   3. Integral hand-off-auto switch.
   4. Auxiliary contacts required for system operation plus one (1) spare.

E. Remote Switches and Push Button Stations: Provide all remote switches and/or push button stations required for manually operated equipment (if no automatic controls have been provided) complete with pilot lights of an approved type lighted by current from load side of starter.

F. Special Requirements: Motors, starters and other electrical equipment installed in moist areas or areas of special conditions, such as explosion proof, shall be designed and approved for installation in such areas with appropriate enclosure.

G. Identification: Provide identification of purpose for each switch and/or push button station furnished. Identification may be either engraved plastic sign or permanent mounting to wall below switch, or stamping on switch cover proper. All such identification signs and/or switch covers in finished areas shall match other hardware in the immediate areas.

H. Control Voltage:
   1. Maximum allowable control voltage 120V. Fully protect control circuit conductors in accordance with National Electrical Code.
   2. Provide 20A breakers in emergency panels under Division 26 as required for Building Management System Air Temperature Controls (BMS/ATC). Provide all control transformers, control wiring and connections to circuits under Division 23.

I. Related Requirements
   1. Division 26 Section “Electric Motors.”
      a. Coordinate with efficiency requirements.

J. Contractor must review all concrete embedded items (including conduit) with owner prior to placement.

PART 2 - PRODUCTS

2.01 MOTOR HORSEPOWER

A. In general, all motors 1/2 HP and above shall be three phase, all motors less than 1/2 HP shall be single phase.
B. Voltage and phase of motors as scheduled on the electrical drawings shall take precedence in the case of a conflict between the mechanical and electrical drawings or General Condition 2.01 A., above.

C. Work under Division 23 includes coordinating the electrical requirements of all mechanical equipment with the requirements of the work under Division 26, before ordering the equipment.
   1. If motor horsepower is changed under the work of Division 23, without a change in duty of the motor's driven device, coordination of additional electrical work (if any) and additional payment for the work (if any) shall be provided under the section of Division 23 initiating the change. Increases or decreases in motor horsepower from that specified shall not be made without written approval from the Engineer.

PART 3 - EXECUTION

NOT USED.

END OF SECTION
SECTION 013120 - PROJECT MEETINGS

PART 1 - GENERAL

1.01 REQUIREMENTS

A. The types and minimum requirements for project meetings are included but are not necessarily limited to the following categories:

Pre-construction meeting
Progress and Coordination meetings
Specially called meetings

B. The pre-construction meeting will be scheduled within fifteen days after date of Notice to Proceed, at a central site location designated by the Owner and convenient for all parties.

1. Attendance:
   a. Owner's Representative
   b. Consultant and his sub-consultants, as applicable
   c. Contractor's Superintendent
   d. Major Subcontractor(s)
   e. Others as appropriate

2. Suggested Agenda:
   a. Distribution and discussion of:
      i. List of major subcontractors and suppliers
      ii. Projected construction schedules
      iii. Critical work sequencing
      iv. Major equipment deliveries and priorities
      v. Project Coordination
      vi. Designation of responsible personnel
   b. Procedures and processing of:
      i. Field decisions
      ii. Proposal requests
      iii. Submittals
      iv. Change Orders
      v. Applications for Payment
   c. Adequacy of Distribution of Contract Documents
   d. Procedure for Maintaining Record Documents
   e. Inspections
   f. Stormwater Management Plan (SWMP)

C. The Architect/Engineer will: Record the minutes; including significant proceedings and decisions.

D. The Contractor shall schedule and administer subcontractor and vendor pre-construction meetings throughout progress of the work. He will:

1. Prepare agenda for meetings.
2. Distribute written notice of each meeting four days in advance of meeting date.
3. Make physical arrangements for meetings.
4. Preside at meeting.
5. Record the minutes; including significant proceedings and decisions.
6. Representatives of Contractors, Subcontractors, and Suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

7. Use of Premises:
   Office, work, staging and storage areas
   Owner’s requirements

8. Temporary construction Facilities, Utilities, Controls and Construction Aids

9. Safety, First-aid, Security and Housekeeping Procedures

10. Administrative Procedures and Documents as Required by Owner

1.02 PROGRESS AND COORDINATION MEETING

The Contractor will schedule and administer job progress and coordination meeting at the site.

A. Attendance:
   1. Owner as needed
   2. Consultant and his sub-consultants as needed
   3. Subcontractor as appropriate to the agenda
   4. Suppliers as appropriate to the agenda
   5. Others

B. Suggested Agenda:
   1. Review of work progress since previous meeting.
   2. Field observations, problems and conflicts.
   3. Problems which impede Construction Schedule.
   4. Review of off-site fabrication and delivery schedules.
   5. Corrective measures and procedures to regain projected schedule.
   6. Revisions to Construction Schedule.
   7. Coordination of schedules.
   8. Progress and schedule during succeeding work period.
   9. Review submittal schedules and expedite as required.
   11. Pending changes and substitutions.
   12. Review proposed changes for:
       a. Effect on Construction Schedule and on completion date.
       b. Effect on other contracts of the Project.

C. The Architect/Engineer shall record and distribute the minutes of all progress meetings throughout the construction period and shall visit the site a minimum of once every two weeks. The Architect/Engineer shall average one visit per week during construction.

   The structural engineer shall visit the site immediately prior to every major structural concrete slab pour; every major foundation wall pour; at least twice for each major segment of work [i.e., caissons, columns, steel roof joists, etc].

END OF SECTION
SECTION 013300 - SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Submit shop drawings, product data and samples as required by various sections of the specifications.

1.02 QUALITY ASSURANCE

A. Shop Drawings:
   1. Drawings shall be presented in a clear and thorough manner.
   2. Details shall be identified by reference to sheet, detail, schedule, or room numbers shown on drawings.

B. Product Data:
   1. Preparation:
      a. Clearly mark each copy to identify pertinent products or models.
      b. Show performance characteristics and capabilities.
      c. Show dimensions and clearances required.
      d. Show wiring or piping diagrams and controls.
   2. Manufacturer's standard schematic drawings and diagrams.
      a. Modify drawings and diagrams to delete information that is not applicable to the work.
      b. Supplement Standard information to provide information specifically applicable to the work.

C. Samples:
   1. Office samples shall be of sufficient size and quantity to clearly illustrate:
      a. Functional characteristics of the product with integrally related parts and attachment devices.
      b. Full range of color, texture and pattern

D. Mock-ups:
   1. Provide complete mock-up of exterior materials to be incorporated into the work.
      a. Mock-up shall include a sample of all materials used in exterior construction, whether specified elsewhere or not in these documents, including but not limited to, masonry, stone, window systems, precast concrete, roof systems, flashing, sealants, masonry paving, paint and other readily visible materials.
      b. Secure Owner approval of mock-ups prior to ordering and placement of materials. Modify mock-ups as directed by the Architect or Owner until acceptable.
      c. Confirm exact mock-up(s) required by Owner prior to fabrication of mock-up(s).
   2. Remove mock-up at the conclusion of the project or when directed by the Architect.
      a. Restore or finish site to finish condition indicated on the Drawings.

E. Responsibilities of the Contractor:
   1. Review shop drawings, product data, samples and project record drawings for specification performance prior to submission.
2. **Determine and Verify:**
   a. Field measurements
   b. Field construction criteria
   c. Catalog numbers and similar data
   d. Conformance with specifications

3. Coordinate each submittal with requirements of the work and of the Contract Documents.

4. Notify the Consultant in writing, at the time of submission, of any deviations in the submittals for requirements of the Contract Documents.

5. Begin no fabrication or work that requires submittals until return of submittals with Consultant's acceptance.

6. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Consultant's review of submittals.

7. Contractor shall stamp, sign or initial, and date each submittal to show compliance with the Contract Documents prior to submittal to the Consultant.

1.03 **SUBMITTALS**

A. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the work.

B. **Number of Submittals Required:**
   1. **Shop Drawings:** Submit one reproducible transparency and four opaque reproductions. Three copies will be retained by the Consultant.
   2. **Product Data:** Submit seven copies, three of which will be retained by the Consultant.
   3. **Samples:** Submit the number stated in each specification section.

C. Submittals shall contain:
   1. Date of the submission and dates of any previous submissions.
   2. Project title and number.
   4. Names of:
      a. Contractor and Subcontractor(s), if applicable.
      b. Supplier
      c. Manufacturer
   5. Identification of product with the specification section number.
   6. Field dimensions, clearly identified as such.
   7. Relation to adjacent or critical features of the work or materials.
   8. Applicable standards, such as ASTM or Federal specification numbers.
   10. Identification of revisions on resubmittals.
   11. An 8"x3" blank space in lower right-hand corner for review stamps.

D. **Resubmission Requirements:**
   1. Make any corrections or changes in the submittals required by the Consultant and resubmit until accepted.
   2. **Shop drawings and product data:**
      a. Revise initial drawings or data and resubmit as specified for initial submittal.
b. Indicate any changes that have been made, other than those requested by the Consultant.

3. Samples: Submit new samples as required for initial submittal.

E. Distribution:
1. Distribute reproductions of approved shop drawings and copies of product data to affected subcontractors and retain one copy for use at the job-site.
2. Distribute approved samples as directed.

F. Consultant's Duties:
1. Review submittals with reasonable promptness and in accordance with schedule.
2. Review of separate item does not constitute review of an assembly in which item functions.
3. Affix stamp and initials or signature, and indicate requirements for resubmittal or acceptance of submittal.
4. Return submittals to the Contractor for distribution or for resubmission.

G. Schedule of Values and pay applications:
1. Submit typed schedule on State Form SC7.2; Contractor's standard form or media-driven printout will be considered on request.
2. Format: Table of Contents of this Project Manual.
3. Include in each line item a directly proportional amount of Contractor's overhead and profit.

H. Schedule of Submittals: The Contractor shall submit the submittals required by the specifications. The Contractor shall develop a submittal schedule that confirms the submittals and the time frame for review by the consultants.

I. Construction Schedule:
1. The Contractor shall submit a critical-path method (CPM) construction schedule prior to start of construction activities. The CPM schedule shall include notice to proceed, submittal activities, construction activities, change order work (when applicable), close-out, testing, demonstration, and acceptance. The CPM shall correlate specifically to the schedule of values line items and be cost loaded.

Float, slack time, or contingency within the schedule (i.e., the difference in time between the project's early completion date and the required contract completion date), and total float within the overall schedule, is not for the exclusive use of either the principal representative or the Contractor, but is jointly owned by both and is a resource available to and shared by both parties as needed to meet contract milestones and the contract completion date.

The Contractor will be required to submit an as-built progress CPM schedule with each progress billing. This CPM schedule will be the basis for making progress payments. The level of detail and quantity of work activities in the CPM schedule should be negotiated with the principal representative prior to starting construction.

J. Progress Photos
1. The Contractor shall submit up to 12 - 3x4 inch progress photos with each progress payment. The photos should demonstrate the work in place and be dated with a short description of the photographed item.
K. Coordination Drawings:
   1. The Contractor shall submit coordination drawings with all mechanical, electrical, fire protection, and building monitoring systems prior to the Consultant review of any shop drawings or submittals for work in those trades. Approval of required shops and submittals must be obtained prior to starting work, and must be obtained prior to approval of pay applications of the work. The drawings shall be created to include all trades on a particular level of the building on one drawing. Identify conflicts between the systems or between the systems and architectural elements such as ceiling heights, ceiling types, or walls. Conduit routing for electrical, mechanical, energy management system, and security trades shall be included. Identify potential solutions to the conflicts for the Consultant and Owner to review during the submittal process. Revise the coordination drawings to show any comments made during the submittal review process, and reissue for use by all affected trades, Owner and Consultant.

   2. The Coordination drawings shall include sectional coordination documents. Identify elevations of systems A.F.F. (above finish floor) and component dimensions. Show elevations whenever component changes height.

L. Daily Reports
   1. The contractor shall submit daily reports, due by 5 p.m. the following day. The report should include weather, equipment, manpower count, subcontractors on site, short description of work for that day, inspections, visitors, items that may affect progress or quality of project.

M. Request for Information (RFI):
   1. The Contractor will be responsible for submitting RFIs on AIA form G716 or similar. The RFI should identify in writing any unclear, inconsistent, or conflicting item in the documents that could not be answered by thorough review by the Contractor or subcontractors. The RFI should include a description of the item and a proposed solution. The RFI should indicate schedule or cost impact, if any. Contractor shall be required to submit cost or schedule impact within seven days of receipt of the RFI response. Each RFI shall be numbered in sequence.

N. Weekly Logs:
   1. The Contractor shall provide an updated RFI, change request, and submittal logs at weekly construction meetings. Contractor shall provide a 2-week detailed construction schedule at the weekly construction meeting.

PART 2 - MATERIALS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION
SECTION 014000 - QUALITY CONTROL

PART 1 - GENERAL

1.01 SUPPLEMENTAL TESTING

If required, the following testing shall be performed at the expense of the contractor installing the material being tested:

A. Material Substitution: Any tests of basic material or fabrication equipment offered as a substitute for specified item on which a test may be required in order to prove its compliance with the specifications.

B. Mechanical/Electrical: Tests on mechanical and electrical systems required to insure their proper installation and operation.

C. Any test that fails shall be paid for by the installing contractor subject to the following conditions:
   1. Quantity and nature of tests will be determined by the Consultant.
   2. All test shall be done in the presence of the Owner or his representative.
   3. Proof of noncompliance will make the installing contractor liable for any corrective action which the Owner feels is prudent including complete removal and replacement of defective material.

Nothing contained herein is intended to imply that the installing contractor does not have the right to have tests performed on any material at any time for his own information and job control so long as the Consultant or Owner does not assume responsibility for costs or for giving them consideration when appraising quality of materials.

D. The Consultant shall determine the type and number of tests to be performed on the project.

1.02 TEST REPORTS

Reports of all tests made by testing laboratories shall distributed by the testing laboratory as follows:
   1 copy - Contractor
   1 copy - Applicable supplier or subcontractor
   1 copy - Owner
   1 copy - Consultant
   Other copies - as directed

1.03 QUALITY CONTROL SYSTEM

A. General: The contractor shall establish a quality control system to perform sufficient inspection and tests of all items of work, including that of all subcontractors, to ensure conformance to the Contract Documents for materials, workmanship, construction, finish, functional performance and identification. This control shall be established for all construction except where the Contract Documents provide for specific compliance tests by testing laboratories or Consultants employed by the Owner.
The quality control system is the means by which the Contractor assures that construction complies with the requirements of the Contract Documents. Controls shall be adequate to cover all construction operations and should be keyed to the proposed construction schedule.

B. The Contractor shall designate a quality control representative on staff to review the work to insure compliance with the contract documents by weekly jobsite visits for observation. The designated employee shall not be involved in the performance of the work. The quality control representative shall review the work and make necessary corrections to bring the work into compliance prior to scheduling the Architect for the final punchlist review.

C. Records: The Contractor shall maintain correct records on an appropriate form for all inspections and tests performed, instructions received from the Owner and actions taken as a result of those instructions. These records shall include evidence that the required inspections or tests have been performed (including type and number of inspections or tests, nature of defects, causes for rejection, etc.) proposed or directed remedial action, and corrective action taken. The Contractor shall document inspections and tests as required by each Section of the Specifications.

1.04 INDEPENDENT TESTING AGENCY SERVICES

A. The Owner will employ and pay for the services of an independent Testing Agency to perform the Inspections, special inspections, tests and other services when required by sections of the specification. Services shall be performed in accordance with requirements of governing authorities and with specified standards.

1. Contractor shall cooperate with Testing Agency personnel and shall furnish tools, sample of materials, design mixes, equipment and assistance as requested.

2. Contractor shall provide and maintain, for the sole use of the Testing Agency, adequate facilities for the safe storage and proper curing of concrete testing cylinders on the project site for the first 24 hours after casting as required by ASTM C 31, Method of Making and Curing Concrete Test Specimens in the field.

3. Contractor shall notify Testing Agency sufficiently in advance of operations to allow for completion of initial tests and proper assignment of inspection personnel.

4. Contractor shall notify the testing agency sufficiently in advance of cancellation of required testing operations. The Contractor shall assume responsibility for costs incurred due to the failure to provide such notice.

END OF SECTION
SECTION 015000 - TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF REQUIREMENTS

A. This section of the General Requirements outlines the basic requirements for temporary services, utilities, and facilities which will indirectly enable adequate construction progress and processes, and will accommodate other necessary activities at the project site except as otherwise indicated, the costs of providing and using temporary services are included in the Contract Sum.

1.03 QUALITY ASSURANCE

A. Comply with governing regulations and utility company regulations and recommendations for the construction of temporary facilities, including but not necessarily limited to, code compliance, permits, inspections, testing, and health and safety compliance.

1.04 SITE CONDITIONS

A. Provide Temporary facilities and services at the time first needed at the site and maintain, expand, and modify the facilities as needed throughout the construction period and do not remove until no longer needed.

PART 2 - EXECUTION

2.01 GENERAL

A. Use qualified tradesmen for the installation of temporary facilities. Locate facilities where they will serve the total project construction work adequately and result in minimum interference with performance of the work. Relocate, modify, and extend facilities as required during the course of the work to properly accommodate the entire work of the project.

2.02 TEMPORARY FACILITIES

A. Temporary Water: Connect to existing water source as designated by the Owner for construction operations.

B. Temporary Telephone: Provide, maintain and pay for telephone service to field office at time of project mobilization. If a mobile phone is designated as the field office phone then it shall be a local number.

C. Sanitary Facilities: Comply with governing regulations, including safety and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install sanitary facilities in available locations which will best serve the needs
of personnel at the project site. Toilet rooms in existing buildings or in new construction may not be used without written approval of the Owner.

D. Temporary Heat and Ventilation: Provide such OSHA approved heat and fuel, heating units, equipment as necessary to provide the required environmental conditions and to protect the work from damage due to cold. Maintain equipment in a clean, safe condition.

E. Fire Extinguisher:
1. Except as otherwise indicated or required, comply with the applicable recommendations of NFPA No. 10 "Portable Fire Extinguisher" for each area of each construction activity whenever combustible materials, flammable liquids, and similar exposures to possible fires are present.
2. Locate extinguisher where most convenient and effective for the intended purposes. Store combustible materials in recognized fire-safe locations and containers.

F. Protection
1. Barricades, Warning Signs, and lights: Comply with recognized standards and code requirements for the erection of substantial and structurally adequate barricades wherever needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the general public where exposure exists of the hazard being protected. Provide lighting where appropriate and needed for the recognition of the facility, including flashing red lights where appropriate.

G. Temporary Enclosure: Wherever required, provide temporary enclosure of materials, equipment, work in progress, and completed portions of work, so as to afford protection for both the work and employees.

H. Miscellaneous Facilities:
1. Provide ladders, ramps, and temporary stairs for access to all levels of the construction for general access by all trades, individual contractors and subcontractors shall furnish their own stepladders, scaffolds, staging, work platforms, and other facilities for use of their workmen and as necessary for safety of all personnel.

I. Field Office:
1. The Contractor shall provide and maintain a suitable temporary field office for his own use. Offices and all other temporary structures shall be removed from the site upon completion of the work.
2. Temporary structures or storage used for storage and offices for contractors shall be located on the site in an orderly manner as determined by the Owner.

2.03 OPERATIONS AND TERMINATIONS

A. Supervision: Enforce strict discipline in the use of temporary facilities at the project site. Limit availability of facilities to essential and intended uses, so as to minimize waste and possibility of abuses and the resulting unsanitary and hazardous or dangerous conditions.
B. Maintenance: Operate and maintain temporary facilities in good operating condition through the time of use and until removal is authorized. Protect from damage by freezing temperatures and similar elements at the site.

C. Termination and removal: At the time the need has ended for each temporary facility, or when it has been replaced by authorized use of a permanent facility, or at the time of Substantial completion, promptly remove the facility unless requested by the Consultant to be retained for a longer period of time. Complete or restore permanent work which may have been delayed or otherwise affected by the temporary facility. Replace work which cannot be satisfactorily restored. Except as otherwise indicated, the materials and equipment of temporary facilities remain the property of the contractors.

END OF SECTION
SECTION 016000 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Products.
   2. Transportation and Handling.
   4. Manufacturer's Instructions.
   5. Product Options.
   6. Products List.
   7. Substitutions.

B. Related Sections:
   1. Division 01 Section “Quality Control.”
   2. Division 01 Section “Operation and Maintenance Data.”

1.02 QUALITY ASSURANCE

A. Conform to applicable specifications and standards.

B. Comply with size, make, type and quality specified, or as specifically approved in writing by the Consultant.

C. Manufactured and Fabricated Products:
   1. Two or more items of the same kind shall be identical, by the same manufacturer.
   2. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.

1.03 TRANSPORTATION AND HANDLING

A. Arrange deliveries of products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.

B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

1.04 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer’s instruction, with seals and labels intact and legible.

B. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.

1.05 MANUFACTURER’S INSTRUCTIONS

A. When Contract Documents require that installation of work shall comply with manufacturer’s printed instructions, obtain and distribute copies of such instructions to...
parties involved in the installation, including one copy to the Consultant and one copy to
the Contractor.

B. Perform work in accord with manufacturer's instructions. Do not omit any preparatory
step or installation procedure unless specifically modified or exempted by Contract
Documents.

1.06 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product
meeting those standards.

B. Products Specified by Naming One or More Manufacturers with a Provision for
Substitutions: Submit a request for substitution for any manufacturer not specifically
named.

C. Consultant will review requests for substitutions with reasonable promptness, and notify,
by Addendum, of the decision to accept or reject the requested substitution.

1.07 PRODUCT LIST

A. Within 15 days after signing of agreement, submit complete list of major products
proposed for use, with name of manufacturer, trade name, and model number of each
product.

1.08 SUBSTITUTIONS

A. Will only be considered prior to bid or in the event that Equipment is not
available.

1.09 SYSTEMS DEMONSTRATION

A. Prior to final inspection, demonstrate operation of each system to Consultant and Owner.

B. Instruct Owner's personnel in operation, adjustment, and maintenance of equipment and
systems, using the operation and maintenance data as the basis of instruction.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION
SECTION 017310 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included: This section establishes general requirements in addition to those indicated in the General Conditions of the Contract for Construction pertaining to cutting, fitting, and patching of the work required to:
   1. Make the several parts fit properly.
   2. Uncover work to provide for installation, inspection, or both, of ill-timed work.
   3. Remove and replace work not conforming to requirements of Contract Documents.
   4. Patch new construction into existing construction.

B. Related Work:
   1. In addition to requirements specified, upon the Consultant's request, uncover work to provide for inspection of covered work, and remove samples of installed materials for testing.
   2. Do not cut or alter work performed under separate contract without the Consultant's written permission.

1.02 QUALITY ASSURANCE

A. Perform all cutting and patching in strict accordance with pertinent requirements of the Specifications and, in the event no such requirements are determined, in conformance with the Consultant's written direction.
   1. Use skilled workmen to perform all cutting and patching work.
   2. Use methods least likely to damage existing surfaces and materials to remain, while providing proper surfaces to receive installation of repair, patching, and/or new work.

B. Visual Quality:
   1. Do not cut and patch work exposed to public view, and the exterior and/or interior of the building in a manner that will result in an unacceptable appearance as determined by the Consultant.
   2. Do not cut and patch work in a manner that will result in obvious appearance that cutting and patching work was done.
   3. When cutting existing structural concrete, do not extend saw cuts beyond the corners of the required opening on either side of the opening.

1.03 EXISTING CONSTRUCTION

A. Where cutting and patching of existing construction is required; prior to start of work, inform Owner of existing construction to be disturbed. Owner will determine if elements of existing construction contain asbestos. Do not proceed with work until after Owner has examined areas to be disturbed. Refer to Exhibit A, Project Pre-Inspection for Possible Presence of Asbestos for additional information concerning the possible presence of materials containing asbestos.
1.04 SUBMITTALS

A. Submit proposed cutting and patching procedures in writing for the following categories of work prior to proceeding with this work:
   1. Cutting new openings in existing structural concrete walls, parapets, and suspended slabs.
   2. Cutting new openings in existing roofs and roofing materials.

B. Submittals shall comply with Division 01 Section “Submittals, Shop Drawings, Product Data and Samples.”

PART 2 - PRODUCTS

2.01 MATERIALS

A. Except as otherwise indicated in pertinent sections of these specifications, or as directed by the Consultant, use materials which are identical to existing materials in workmanship, appearance, and performance.

B. If identical materials are not available, match existing as closely as possible, especially existing visual characteristics.

PART 3 - EXECUTION

3.01 INSPECTION

A. Before proceeding, inspect existing conditions, including elements subject to movement or damage during cutting, excavating, backfilling, and patching.

B. After uncovering the work, inspect conditions affecting installation of new work.

C. If uncovered conditions are not as anticipated or if existing construction is not as indicated on the Drawings, immediately notify the Consultant for further instructions.

3.02 PREPARATION

A. Provide shoring, bracing, and support as required to maintain structured integrity of the project.

B. Take all necessary action required to protect adjacent existing surfaces from damage due to the work of this section.

C. Take all precautions necessary to protect existing surfaces and materials, new work, and the work of this section from damage due to adverse weather conditions.

D. Provide temporary support of work to cut and adjacent work to prevent failure or damage due to the work of this section.

E. Properly prepare substrate surfaces exposed during cutting as required to receive the work of this or other sections of these specifications in strict compliance with manufacturer’s recommendations and these specifications.
3.03 EXECUTION

A. Perform all required cutting and patching as required or reasonably implied under pertinent sections of these specifications.

B. Perform cutting and demolition by methods which will prevent damage to other portions of the work and will provide proper finished installation complying with the specified tolerances and finishes.

3.04 PERFORMANCE

A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs and new work. Saw-cut and otherwise isolate areas to be demolished.

B. Repair or otherwise rebuild and/or construct all surfaces affected by cutting and demolition. Execute fitting and adjustment of products to provide totally finished installation to comply with tolerances, finishes, and profiles of adjacent surfaces, whether new or existing.

C. Restore work which has been cut or exposed by demolition; install new construction in compliance with specifications for type of new work to be done or as required to match existing adjacent surfaces. In no case shall any exposed existing surface be left in a raw, marred, or unfinished surface.

D. Refinish entire surfaces as necessary to provide an even finish.
   1. Continuous Surfaces: To nearest intersections.

END OF SECTION
SECTION 017700 - CONTRACT CLOSE-OUT

PART 1 - GENERAL

1.01 SUBSTANTIAL COMPLETION AND FINAL INSPECTION

A. The Contractor shall comply with procedures stated in the General Conditions of the Contract for Notice of Completion, Final Inspection, Notice of Substantial Completion and Notice of Acceptance.

B. Should the Architect/Engineer or the Principle Representative determine that the work is not substantially complete, or the punch list items exceed 25, he will immediately notify the Contractor, in writing, stating reasons. After Contractor completes work, he shall resubmit certification and request for final inspection. The Contractor will be responsible for all costs beyond two Architect/Engineer walk-throughs.

C. Owner may occupy designated portions of the Project under provisions stated in the General Conditions of the Contract.

1.02 CLOSE-OUT FORMS

The Architect/Engineer will complete the Notice of Approval of Beneficial Occupancy, Closing-out Checklist and Contract Close-out forms and forward them to the Contractor. Comply with procedures stated in General Conditions of the Contract.

1.03 FINAL SETTLEMENT AND PAYMENT

A. Contractor shall comply with procedures stated in the General Conditions of the Contract before final settlement and payment are made.

B. The Contractor shall also submit the following prior to the final application for payment:
   1. Contractor’s Affidavit of Payment of Debit and Claims: AIA G706.
   2. Contractor’s Affidavit of Release of Liens (claims): AIA G706A, with:
      a. Consent of Surety to final payment: AIA G707
      b. Contractor’s release of waivers of claims.
      c. Separate release of waivers of claims for subcontractors, suppliers and others with claim rights, against property of owner, together with list of those parties.

1.04 GUARANTEE INSPECTION

A. The Contractor shall comply with procedures stated in the General Conditions of the Contract for Guarantee Inspections after completion of the work.

1.05 WARRANTIES AND SPECIAL GUARANTEES

The Contractor shall comply with procedures and criteria outlined in the General Conditions of the Contract for all warranties and special guarantees of the work.

1.06 OPERATING AND MAINTENANCE DATA

A. Refer to Division 01 Section “Operating and Maintenance.”
B. Mechanical - By Mechanical Contractor: See Division 23.

C. Electrical - By Electrical Contractor: See Division 26.

1.07 DEMONSTRATIONS

A. Refer to Division 01 Section “Operating and Maintenance.”

B. Mechanical - By Mechanical Contractor: See Division 23

C. Electrical - By Electrical Contractor: See Division 26.

1.08 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, and maintenance materials in quantities specified in each Section, in addition to that used for construction of work. Coordinate with Owner, deliver to Project site and obtain receipt prior to final payment.

B. At the completion of the project, all loose keys for hose bibs; adjustment keys and wrenches for door closers and panic hardware; and keys for electric switches, electrical panels, etc., shall be accounted for by the Contractor and turned over to the Owner.

END OF SECTION
SECTION 017710 - CLEANING

PART 1 - GENERAL

1.01 CLEANING

A. Clean-up During Construction: Each contractor shall keep the building and premises free from all surplus material, waste material, dirt and rubbish caused by his employees or work, and at the completion of his work he shall remove all such surplus material, waste material, dirt and rubbish, as well as his tools, equipment and scaffolding, and shall leave his work clean and spotless, unless more exact requirements are specified. In case of dispute, the owner may remove all such items and charge the cost of such removal to the contractor.

Each sub-contractor shall perform his clean-up daily and shall transport his rubbish to an on-site location designated by the Contractor who will arrange for its removal.

B. Cleaners: With the exception of clean-up of the site and cleaning specifically assigned to Contractors under various sections of the specifications, all final clean-up of exterior and interior of the building shall be done by professional cleaners.

C. Final Clean-up:
   1. Exterior: In addition to items specified below, any new surfaces on exterior, concrete, metal, etc., shall be carefully and thoroughly cleaned.
   2. Glass: Both sides of all glass in work areas shall be carefully and thoroughly cleaned by professional window cleaners and left absolutely clean and free from paint, grease, dirt, etc.
   3. Hardware: Clean and polish all hardware and leave clean and free from paint, grease, dirt, etc.
   4. Plumbing: Clean and polish all plumbing fixtures, fittings, and exposed plated piping. Leave clean and free from paint, grease, dirt, etc. Remove all labels.
   5. Electrical: Clean and polish all electric fixtures, including glassware, switch plates, etc. and leave clean and free from paint, grease, dirt, etc.
   6. Equipment: Carefully and thoroughly clean all items of equipment, mechanical, electrical, cabinets, ductwork, etc.
   7. Floors: Thoroughly clean all floors. Vacuum and clean carpeting. Shampooing of pre-existing carpet is required once project is complete. Contractor is responsible for this.
      a. Contractors are responsible for cleaning (stripping floors if necessary) then applying the required two coats of sealer and three coats of finish before releasing the building for occupancy. Facilities Management will provide a contact person for help concerning campus standards free of charge. Or Custodial floor care services may be sub-contracted out through Facilities Management’s work order system.
      b. Facilities Management Approved Sealers and Finishes for Vinyl Tile Flooring:

CU requires floor care products to be from the same product line. (Different brands may interact disastrously).

All of these products may be ordered through Construction Stores, but these products not stocked at Stores, please place orders at least two weeks in advance.
Strippers: JohnsWax Butchers: Airkeim
Full Impact Time Buster Air Strip

Sealers: Over & Under Sealer Iron Stone Laser, Gemini Technique

Finishes: Show Place MainStay Laser, Gemini Above

Campus safety standards require at least TWO (2) coats of Sealer be applied to a cleaned floor, and at least THREE (3) coats of Finish must be applied on top of the sealer.

c. Floor Cleaning Procedures:
1. Sweep floor clean of debris
2. Cord off area if necessary
3. Put up Caution signs
4. Mix Stripper or Cleaning solution according to label
5. Apply solution to floor
6. Start setting up equipment
7. Place RED abrasive pad on buffer (buffer less than 300 rpms)
8. Begin stripping or cleaning floor working with buffer moving it side to side across the floor.
9. Use HEPA filtered water vacuum to begin to suck up slurry*
   *use of HEPA filtered water vacuum is required on existing floor tile which contains asbestos.
10. Apply additional coats of water and re-vacuum up floor
11. Mop floor with clean water, change rinse water often
12. Mop floor a second time
13. Mop floor to dry completely
14. Clean up equipment
15. Wash red pad with clean water.

d. Sealing Procedures:
1. Using a new mop head or clean wax mop and clean bucket, apply first coat of approved sealer to floor
2. Allow floor to dry completely (at least 20 minutes)
3. Apply second coat of sealer
4. Allow floor to dry
5. Apply third coat of sealer
6. Allow floor to dry completely (at least 30 minutes)
7. Wash mop and bucket with clean water
8. If floor is dry - remove caution signs and open area up

e. Finishing (Waxing) Procedures:
1. Using a clean wax mop and bucket apply first coat of approved finish (wax)
2. Allow floor to dry completely (at least 20 minutes)
3. Apply second coat of finish (wax)
4. Allow floor to dry completely (at least 20 minutes)
5. Apply third coat of finish (wax)
6. Allow floor to dry completely (at least 30 minutes)
7. Wash mop and bucket with clean water
8. If floor is dry - remove caution signs and open area up

f. Burnishing Procedures:
The next working day
1. Sweep floor clean of debris
2. Spot mop floor to remove spots and dirt
3. Set up High Speed Burnisher to make for a safe environment
4. Start Burnishing. Walk forward in a straight line
5. At end of row, turn around and start forward again
6. Repeat steps 5 & 6 until finished
7. Clean up equipment and pad.

E. Completion: The entire work inside and out, and the entire premises shall be in first-class, clean condition upon completion before being accepted by the Owner.

END OF SECTION
SECTION 017823 - OPERATING AND MAINTENANCE

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Compile product data and related information appropriate for the University of Colorado's maintenance and operation of products furnished.

B. Prepare operating and maintenance data as specified in this section and as referenced in other pertinent sections of specifications.

C. Instruct the University of Colorado, Facilities Management personnel in the maintenance of PRODUCTS and in the operation of equipment and systems.

1.02 QUALITY ASSURANCE

A. Preparation of data shall be done by personnel:
   1. Trained and experienced in maintenance and operation of the described products.
   2. Completely familiar with requirements of this section.
   3. Skilled as a technical writer to the extent required to communicate essential data.
   4. Skilled as a draftsman competent to prepare required drawings.

1.03 SUBMITTALS

A. Prepare data in the form of an instructional manual for use by the University of Colorado, Facilities Management personnel. Quantities are listed in Part 1.07.

B. Format:
   1. Submit electronically in Portable Document Format (PDF) format as one document, OCR (Optical Character Recognition) searchable, bookmarked according to the Construction Specifications Institute (CSI) standards.
   2. Title shall be "OPERATING AND MAINTENANCE INSTRUCTIONS", and shall include:
      a. Name of project and date of completion (month and year).
      b. Project number.
      c. Identify of general subject matter covered in the manual (e.g., Architectural, Mechanical, Electrical and/or Civil).

1.04 CONTENT OF MANUAL

A. An electronically-written table of contents shall be provided for each volume, arranged according to CSI standards.
   Include the following:
   1. Name of responsible installing principal contractor, address, and telephone number.
   2. A list of each product being included, indexed to the content of the volume.
   3. List with each product, the name, address, and telephone number of:
      a. Maintenance contractor, as appropriate.
      b. Identity of the area of responsibility of each.
4. Identify each product by product name and other identifying symbols.
B. Product Data:
1. Local source of supply for parts and replacement.
2. Include only those sheets that are pertinent to the specific product, with the following information.
   a. Clearly identify the specific product or part installed.
   b. Clearly identify the data applicable to the installation.
   c. Delete references to inapplicable information.

C. Drawings:
1. Supplement product data with drawings as necessary to clearly illustrate:
   a. Relations of component parts of equipment and systems.
   b. Control and flow diagrams.
2. Coordinate drawings with information in project record drawings to ensure correct illustration of completed installation.
3. Do not use project record drawings as maintenance drawings.

D. Provide written text, as required, to supplement product data for the particular installation:
1. Organize in a consistent format under separate headings for different procedures.
2. Provide a logical sequence of instructions for each procedure.

E. Provide a copy of each warranty, bond, and service contract issued. Provide information sheets for the University of Colorado, Facilities Management's personnel and give:
1. Proper procedures in the event of failure.
2. Instances that might affect the validity of warranties or bonds.

1.05 MANUALS FOR ARCHITECTURAL MATERIAL AND FINISHES

A. Submit copies (per schedule shown in paragraph 1.07) of complete manual in final form.

B. Content for architectural products include applied materials and finishes.
1. Manufacturer's data, giving full information on products.
   a. Catalog number, size, and composition.
   b. Color and texture designations.
   c. Information required for reordering special manufactured products.
2. Instructions for care and maintenance:
   a. Manufacturer’s recommendation for types of cleaning agents and methods.
   b. Cautions against cleaning agents and methods that are detrimental to the product.
   c. Recommended schedule for cleaning and maintenance.

C. Content for moisture-protection and weather-exposed products:
1. Provide manufacturer's data, giving fully information on products.
   a. Applicable standards
   b. Chemical composition
   c. Details of installation
2. Provide instructions for inspection, maintenance, and repair.

1.06 MANUAL FOR NON-ARCHITECTURAL EQUIPMENT AND SYSTEMS
A. Submit copies (per schedule) of complete manual in final form.

B. Content for each unit of equipment and system, as appropriate shall contain:
   1. Description of unit and component parts (Consultant-approved submittals).
      a. Function, normal operating characteristics, and limiting conditions.
      b. Performance curves, engineering data, and tests.
      c. Complete nomenclature and Commercial number of all replaceable parts.
   2. Operating Procedures:
      a. Start-up, break-in, routine, and normal operating instructions.
      b. Regulation, control, stopping, shutdown, and emergency instructions.
      c. Summer and winter operating instructions.
      d. Special operating instructions.
   3. Maintenance Procedures:
      a. Routine operations.
      c. Disassembly, repair, and reassembly.
      d. Alignment, adjustment, and checking.
   4. Servicing and Lubrication Schedule, including a list of lubricants required.
   5. Manufacturer's operating and maintenance instructions.
   6. Description of sequence of operation by control manufacturer.
   7. Original manufacturer's parts list, illustrations, assembly drawings, and diagrams
      required for maintenance and replacement.
      a. Predicted life of parts subject to wear.
      b. Items recommended to be stocked as spare parts.
   8. List of original manufacturer's spare parts, manufacturer's current prices, and
      recommended quantities to be maintained in storage.

C. Content for each electric and electronic system, as appropriate, shall contain:
   1. Description of system and component parts:
      a. Function, normal operating characteristics, and limiting conditions.
      b. Performance curves, engineering data, and tests.
      c. Complete nomenclature and Commercial number of replaceable parts.
   2. Operating Procedures:
      a. Routing and normal operating instructions.
      b. Sequences required.
      c. Special operating instructions.
   3. Maintenance Procedures:
      a. Routing operations.
      c. Disassembly, repair, and reassembly.
      d. Adjustment and checking.
      e. Manufacturer's printed operating and maintenance instructions.
      f. List of original manufacturer's spare parts, manufacturer's current prices,
         and recommended quantities to be maintained in storage.

D. Prepare and include additional data when the need for such data becomes apparent
   during instruction of the University of Colorado, Facilities Management's personnel.

1.07 OPERATION & MAINTENANCE MANUAL
A. Operations and Maintenance Manuals – all disciplines – submit electronically in Portable Document Format (PDF) format as one document, OCR (Optical Character Recognition) searchable, bookmarked according to the Construction Specifications Institute (CSI) standards.

1.08 SUBMITTAL SCHEDULE

A. Submit one electronic copy to the Consultants and one to the University of draft of proposed formats and outlines of contents upon completion of the submittal process. The Consultants and the University staff will review the draft and will submit comments through the consultants.

B. Submit electronic copies of complete manual(s) in final form 15 days prior to final inspection or acceptance. Comments will be submitted after final inspection.

C. Submit specified number of CDs or DVDs of approved data in final form prior to acceptance.

1.09 INSTRUCTION OF UNIVERSITY OF COLORADO, FACILITIES MANAGEMENT PERSONNEL

A. Fully instruct the University of Colorado, Facilities Management personnel's designated operating and maintenance personnel in the operation, adjustment, and maintenance of all products, equipment, and systems as required elsewhere in the specification.

B. Operating and Maintenance manual may be required as the basis of instruction.

PART 2 - MATERIAL

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION
SECTION 017839 - PROJECT RECORD DOCUMENT

PART 1 - GENERAL

1.01 SUMMARY
A. This section describes the definitions, recording and maintenance requirements and the submittal requirements for record documents.

1.02 DEFINITIONS
A. The Project Record Documents are intended to indicate all changes and deviations from the original contract documents and permanently record the “as-built” condition of material, equipment and structure. The project record documents shall include the contract drawings, project manual, addenda, change orders, modifications and clarifications, field directives, approved shop drawings, approved product data, manufacturer’s certificates and project test results.

1.03 SUBMITTALS
A. Submit the project record documents in conformance with Division 01 Section “Contract Closeout” and prior to the final applications for payment. The final application for payment will not be approved prior to the submittal of record documents.

1.04 QUALITY ASSURANCE
A. The project record documents shall be updated at a minimum on a weekly basis and shall be readily available for inspection by the owner and consultants. Maintain a separate set of complete documents for exclusive use of record documents and protect the documents from damage in a clean, dry location. Note: Progress applications for payment will not be approved if record documents are not current.

B. The record documents shall contain a clear, legible record of all detail and dimensional changes and locate all concealed work including, but not limited to:

1. Interior and Exterior Utilities
2. Valves
3. Dampers
4. Controls
5. Junction Boxes
6. Clean-outs
7. Access Doors

C. The project manual (specifications) shall indicate all manufacturers’ products complete with catalogue number and trade name of products installed. All changes and corrections to the project manual shall be clearly indicated.

END OF SECTION
SECTION 019113 - COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Prepare commissioning process based on the Commissioning Checklists found in the UCB Standards website:

http://fm.colorado.edu/construction/standards/

B. Coordinate the requirements of Project Closeout and Operating and maintenance sections that are part of Division 1.

C. Schedule the required commissioning activities with the University of Colorado Facilities Department and their consultants at least 72 hours prior to conducting Commissioning activities.

PART 2 - MATERIALS

Not Used.

PART 3 - EXECUTION

NOT USED

END OF SECTION
SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 SUBMITTALS

A. Predemolition Photographs or Video: Submit before Work begins.
B. Schedule: Submit schedule indicating proposed methods and sequence of operations for selective demolition work.

1.4 FIELD CONDITIONS

A. Occupancy:

1. University personnel will be continuously occupying areas of the building immediately adjacent to areas of selective demolition. Verify with CU project manager whether building will be occupied or vacated during expected work activities.
2. Conduct selective demolition work in manner that will minimize the need for disruption of normal operations if building remains occupied.
3. Provide minimum of 72 hours advance notice of demolition activities and utility outages.

B. Condition of Structures:

1. The University assumes no responsibility for actual condition of items or structures to be demolished.
2. Conditions existing at time of commencement of contract will be maintained insofar as practical. A copy of the environmental site assessment will be available for inspections at the CU project manager’s office.

C. Protection of Persons and Property: Provide temporary barricades, traffic control, and other forms of protection as required. Contractor to comply fully with OSHA requirements.

D. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Clean-up is required daily as work progresses.

E. Explosives: Use of explosives will not be permitted.

F. Utility Services:

1. Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations. Maintain fire-protection facilities in service during selective demolition operations.

2. Coordinate utility outages with Department of Facilities Management, affected utility companies, and affected users.

G. Environmental Controls:

1. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with the Department of Environmental Health and Safety requirements pertaining to environmental protection. Comply with Colorado Department of Health requirements regarding debris control.

2. Keep dust and dirt from migrating to occupied building areas.

H. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

1. Before selective demolition, Owner will remove the following items:

   a. Risers.
   b. Demountable shell.
   c. Organ.
   d. A/V equipment.
   e. Contents of storage cabinets,
   f. Piano(s).
   g. Chairs.
   h. Stands.
   i. All other portable items.

I. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

J. Hazardous Materials:

1. Hazardous materials will be removed by Owner before start of the Work.

2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
PART 2 - PRODUCTS

2.1 SALVAGE:

A. The Owner reserves first salvage rights including:
   1. Items of historic or archaeological significance or value.
   2. Construction material and products.
   3. Mechanical, electrical equipment and components.

B. The Contractor shall notify the Owner for review of material to be stored or selected for salvage.

C. Coordinate with the Department of Facilities Management. Items indicated to be removed but of salvageable value to Contractor may be removed in a timely manner from structure as work progresses, if such items are not claimed by the Owner.

D. Transport salvaged items from site as they are removed.

E. Storage or sale of removed items on site will not be permitted.

PART 3 - EXECUTION

3.1 PREPARATION:

A. Provide interior and exterior shoring, bracing, or support, as required.

B. Cover and protect furniture, equipment and fixtures, if not removed by Owner.

C. Erect and maintain dust-proof and weatherproof partitions and closures as required.

D. Locate, identify, stub-off and disconnect utility services that are indicated to be removed.

E. Request inspection by Department of Facilities Management and applicable utility companies:
   1. When utilities are uncovered.
   2. Prior to covering-up or concealing utilities.

3.2 SELECTIVE DEMOLITION:

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Demolish concrete and masonry in small, manageable sections. Do not overload structure with debris.
   2. Cut concrete and masonry using power-driven masonry saw or hand tools; do not use powder-driven impact tools in buildings.
   3. Locate demolition equipment throughout structure to avoid imposing excessive loads on supporting walls, floors or framing.
4. Construct chutes as required to conduct debris safely to grade disposal areas. Comply with Environmental Health and Safety and Colorado Department of Health dust control and safety requirements.

5. Do not cut or alter any structural member without authorization of the Architect.

6. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

7. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

8. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Removed and Salvaged Items:

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. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.3 REUSED MATERIALS:

A. Items for Owner Salvage:

B. Items for Reuse or Reinstallation:

3.4 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove debris, rubbish and other materials resulting from demolition operations from building site and off the campus.

B. Under no circumstances should the University's dumpsters be used for disposal of demolished materials.
C. Transport and dispose of non-recyclable or non-salvageable materials off site in legal manner.

D. Burning of removed materials is not permitted on project site.

3.5 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119
SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section specifies cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Slabs-on-grade.
2. Suspended slabs.

1.3 DEFINITIONS


1.4 SUBMITTALS

A. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

1. Indicate amounts of mixing water to be withheld for later addition at Project site.
2. Submit substantiating data for each concrete mix design contemplated for use to the Architect/Engineer not less than two weeks prior to first concrete placement. Data for each mix shall, as a minimum, include the following:

   a. Mix identification designation (unique for each mix submitted).
   b. Statement of intended use for mix.
   c. Mixture proportions and descriptions.
   d. Water/cementitious materials ratio.
   e. Total air content.
   f. Design slump.
   g. Intended method of placement in field.

B. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

1. Show all reinforcing, top and bottom profile of concrete element, supports below, and concrete walls, grade beams, joists, etc. framing into the element.
2. Show locations of approved construction joints, locations of shrinkage pour strips, splices of reinforcing, type of splice used and splice location, grade of all reinforcement used and specifically identify all ASTM A706 reinforcing.
C. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Form materials and form-release agents.
4. Steel reinforcement and accessories.
5. Curing compounds.
6. Vapor retarders.
7. Repair materials.

D. Placement notification: Advance notification of concrete placement, submit notification at least 24 hours in advance.

E. Proposed location of saw cut joints.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
3. Concrete reinforcing steel shall be inspected by personnel experienced in concrete construction and acceptable to the Architect/Engineer. Personnel currently certified as an ACI Concrete Construction Inspector will be accepted.

D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.

E. Formwork: Design and engineering of formwork shall be the responsibility of the Contractor. Design of formwork and preparation of formwork drawings shall be under the supervision of a professional engineer registered in Colorado.

F. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:


G. Pre-installation Conference: Conduct conference at Project site prior to placing concrete.
1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:

   a. Contractor’s superintendent.
   b. Independent testing agency responsible for concrete design mixtures.
   c. Ready-mix concrete manufacturer.
   d. Concrete subcontractor.
   e. Owner’s testing/inspection agency.

2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semi-rigid joint fillers, forms and form removal limitations, shoring and re-shoring procedures, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

3. Minutes of the meeting shall be recorded, typed, and printed by the Contractor and distributed by him to all parties concerned within 5 days of the meeting. The minutes shall include a statement by the concrete contractor indicating that the proposed mix design, and placing, finishing and curing procedures can produce the concrete quality required by these specifications.

H. Record of Work: Maintain a record listing the time and date of placement of all concrete for the structure. Retain batch tickets for all concrete. Such record shall be kept until the completion of the project and shall be available to the Architect for examination at any time.

I. Pre-placement Inspection: Formwork installation, reinforcing steel placement, and installation of all items to be embedded or cast into concrete shall be verified by the Contractor prior to placement.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.

2.2 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints using a panelized forming system with metal panel facing.
B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.3 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

B. Low-Alloy-Steel Reinforcing Bars: where welding of reinforcement or field bending is noted on the drawings ASTM A 706/A 706M, deformed.

2.4 REINFORCEMENT ACCESSORIES

A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete.

2.5 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project.
   1. Portland Cement: ASTM C 150, Type I/II gray. Supplement with the following:
      a. Fly Ash: ASTM C 618, Class C or F.

B. Normal-Weight Aggregates: ASTM C 33, coarse aggregate or better, graded. All coarse and fine aggregates shall be tested per ASTM C295 or ASTM C1260 (or ASTM C 1293) in accordance with Section 5.1 of "Guide Specification for Concrete Subject to Alkali-Silica Reactions" (2007 Portland Cement Association) Provide aggregates from a single source.


2.6 ADMIXTURES


B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
   1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
   2. Retarding Admixture: ASTM C 494/C 494M, Type B.
   3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
   4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
   5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.7 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows

1. Fly Ash: 25 percent

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.

D. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

2.8 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116, and furnish batch ticket information.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117. Concrete adjacent to elevators shall be installed within the tolerances required by the elevator manufacturer.

C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
2. Class B, 1/4 inch for rough-formed finished surfaces.
3. The permissible irregularity is a cumulative value due to all sources of error including, but not limited to, layout, plumbness, member sizes, formwork offsets, joints, and member levelness. The permissible irregularity shall also apply between adjacent concrete surfaces on opposite sides of a construction joint, expansion joint, or shrinkage pour strip.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

F. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

G. Chamfer exterior corners and edges of permanently exposed concrete unless specifically noted on the Architectural drawings.

H. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

I. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

J. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

K. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 REMOVING FORMS

A. General: Formwork for sides of walls and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.

3.3 SHORES AND RESHORES

A. Comply with ACI 318 (ACI 318M) and ACI 301 for design, installation, and removal of shoring and reshoring.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain specified concrete cover. Do not tack weld crossing reinforcing bars.

D. Size, length, number, and placing of supports shall be sufficient to hold reinforcing in the proper position within specified tolerances during construction traffic and concrete placement.

E. On vertical formwork, use approved bar chairs or spacers as required to maintain proper concrete cover and bar position. Do not staple or use any other metallic fastener to secure bolsters, chairs, etc. to formwork for concrete surfaces exposed to the exterior.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

3. Interior Slabs-On-Grade: Unless noted otherwise on the drawings, locate construction joints on column centerlines. Locate control joints where shown on the drawings. If not shown, provide control joints at column centerlines and at intervals not more than 15 feet each way.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.

2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time...
necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

D. Deposit and consolidate concrete for slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

3.7 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, and other areas defined in the Architectural drawings.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.8 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and re-straighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces indicated on the Architectural drawings, and areas exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
2. Finish troweled surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
   a. Slabs-on-grade: specified overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 20.
b. Suspended slabs: specified overall values of flatness, F(F) 35; and of levelness, F(L) 20; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 15.

3.9 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.10 CONCRETE CURING/PROTECTION: Protect completed slab from damage during construction and cure as required to minimize shrinkage cracking.

3.11 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect’s approval.

3.12 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Inspections:

1. Steel reinforcement placement, embedments, and mechanical connectors.
   a. Inspect all reinforcing, verifying type of reinforcing, bar sizes, spacings, number of bars, concrete cover to bars, bar locations, splices including splice location and lap splice length or mechanical connector, in place condition of coated bars, and method of support of reinforcing.
   b. Inspect partially embedded reinforcement, which is field bent, or field straightened. Verify that procedures specified in ACI-301-99 Section 3.3.2.8 – “Field Bending or Straightening” are followed. Inspect all field bent bars not bent in accordance with ACI 301 using visual and magnetic particle methods after bending is complete.

2. Verification of use of required design mixture.

3. Concrete placement, including conveying and depositing. Inspect the first concrete placement of footings, stemwalls/grade beams, slab-on-grade, and slab-on-metal deck. Inspect each truck for correct mix design, addition of water to each truck and subsequent mixing, cleanliness of forms, concrete vibration, concrete finishing, and concrete curing.

4. Verification of concrete strength before removal of shores and forms from beams and slabs.

5. Temperature of In-Place Concrete: Testing Agency shall measure and report maximum/minimum temperature of in-place concrete during curing period when concreting in cold weather.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 50 cubic yards or fraction thereof of each concrete mixture placed each day. Obtain one sample for each 5000 square feet of slabs.

   a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change. Determine slump of concrete for each truck (at beginning of load) prior to placing drilled piers.

3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample at point of placement, but not less than one test for each day's pour of each concrete mixture.

   a. Where concrete will be exposed to deicing salts, air content tests will be made on samples from the first three batches in the placement and until three consecutive batches have air contents within the range specified, at which time every fifth batch will be tested. This test frequency will be maintained until a batch is not within the range specified, at which time testing of each batch will be resumed until three consecutive batches have air contents within the range specified. These air content tests may be taken on composite samples or on samples from the batch at any time after discharge of two cubic feet of concrete.

4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.

5. Unit Weight: ASTM C 567, fresh unit weight of structural concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

6. Compression Test Specimens: ASTM C 31/C 31M.

   a. Cast and laboratory cure four standard cylinder specimens for each composite sample.

7. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at 7 days and one set of two specimens at 28 days. Hold one cylinder and test at 56 days if 28-day strength is not achieved.

   a. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).

9. Test results shall be reported in writing by the Testing Agent to the Architect, Structural Engineer, concrete suppliers, Building Official and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests, concrete supplier & mix ID number. Also include amount of water added at site prior to sampling, ambient air temperature, and concrete wet unit weight. Include time concrete was batched and time when placement was finished.
10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.

12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION 033000
SECTION 036000 - GROUTING

PART 1 - GENERAL

1.1 SUMMARY
A. Section includes cementitous, non-shrink grout as patching mortar at new and existing mechanical room wall penetrations.

1.2 SUBMITTALS
A. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Manufacturer's printed installation instructions for each product.

1.3 DELIVERY, STORAGE & HANDLING
A. Materials must be delivered in original, unopened containers with the manufacturer's labels including product name and batch numbers.
B. Store material in a dry area, above ground. Protect cement from moisture and humidity.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. US MIX Co.
   2. ProSpec

2.2 MATERIALS
A. Non-Shrink Grout:
   1. US Mix Co.; MP Grout (Basis-of-Design)
   2. Application: Patching mortar for use on vertical and overhead surfaces, trowel or hand apply for repairs of interior and above grade areas.
   3. Description: Cement based, non-shrink, non-corrosive, non-metallic, fast-setting grout.
B. Cementitious Backer Boards:
   1. Cementitious backer boards installed as substrates for grout.
2. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. C-Cure; C-Cure Board 990.
   b. Custom Building Products; Wonderboard.
   c. FinPan, Inc.; Util-A-Crete Concrete Backer Board.
   d. USG Corporation; DUROCK Cement Board.

3. Thickness: 1/4 inch minimum.

PART 3 - EXECUTION

3.1 EXAMINATION
   A. Examine surfaces to receive grout and conditions under which grout will be installed.
   B. Do not proceed with grout work until surfaces and conditions comply with requirements indicated in manufacturer’s printed instructions.

3.2 PREPARATION
   A. Remove all grease, oil, dirt, laitance and unsound concrete. Saturate area to receive grout with water. Remove any puddles of water before placing grout. Maintain a temperature between 45°F and 90°F (7°C and 32°C) prior to application and during initial 24 hours.

3.3 APPLICATION
   A. Mix and place grout according to manufacturer’s instructions.
   B. Prior to grouting, thoroughly saturate concrete surfaces for 24 hours; remove excess water.
   C. Grout may be rodded or tamped; do not vibrate.

3.4 CURING
   A. Comply with ACI 308 Standard Practice for Curing Concrete.
   B. Cure according to manufacturer’s written instructions.

3.5 BACKING BOARD INSTALLATION
   A. Install cementitious backer units and treat joints according manufacturer's written instructions for type of application indicated.

END OF SECTION 036000
SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Steel pipe and tube railings.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

   1. Handrails and Top Rails of Guards:
      a. Uniform load of 50 lbf/ ft. applied in any direction.
      b. Concentrated load of 200 lbf applied in any direction.
      c. Uniform and concentrated loads need not be assumed to act concurrently.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:
   1. Manufacturer’s product lines of mechanically connected railings.
   2. Railing brackets.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

C. Samples: For each type of exposed finish required.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   1. Steel Pipe and Tube Railings:
      a. Pisor Industries, Inc.
      b. Wagner, R & B, Inc.; a division of the Wagner Companies.
2.2 METALS, GENERAL

A. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.3 STEEL AND IRON

A. Tubing: ASTM A 500 (cold formed) or ASTM A 513.

B. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

C. Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.4 MISCELLANEOUS MATERIALS

A. Fasteners: Provide the following:
   1. Ungalvanized-Steel Railings: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5 for zinc coating.

B. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.


2.5 FABRICATION

A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

B. Form work true to line and level with accurate angles and surfaces.

C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove flux immediately.
   4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

D. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

E. Form changes in direction by bending or by inserting prefabricated elbow fittings.
F. Bend members in jigs to produce uniform curvature without buckling or otherwise deforming exposed surfaces.

G. Close exposed ends of railing members with prefabricated end fittings.

H. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.

I. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.6 STEEL AND IRON FINISHES

A. Powder-Coat Finish: Prepare, treat, and coat ferrous metal to comply with resin manufacturer's written instructions and as follows:

1. Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, “Commercial Blast Cleaning.”
2. Prepare galvanized metal by thoroughly removing grease, dirt, oil, flux, and other foreign matter.
3. Treat prepared metal with metallic-phosphate pretreatment, rinse, and seal surfaces.
4. Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils.
5. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

B. Anchor posts in concrete by inserting into preset metal pipe sleeves and grouting annular space.

1. Pipe sleeves 6” long and 1/4 inch clear of balusters.
2. Set balusters in sleeves, pack with non-shrink, non-metallic grout.

C. Secure wall brackets and railing end flanges to building construction as follows:

1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
2. For hollow masonry anchorage, use toggle bolts.
3. For steel-framed partitions, use self-tapping screws fastened to steel framing or to concealed steel reinforcements.
3.2 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

END OF SECTION 055213
SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

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

1.2 SUMMARY
A. This Section includes the following:
   1. Framing with dimension lumber.
   2. Framing with engineered wood products.

1.3 SUBMITTALS
A. Product Data: For each type of process and factory-fabricated product.
   1. Wood grade data and certification.
B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee Board of Review.
C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:
   1. Engineered wood products.
   2. Wood fasteners.
   3. Wood adhesives.
   4. Metal framing anchors.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL
A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
   1. Factory mark each piece of lumber with grade stamp of grading agency.
B. Engineered Wood Products: Provide engineered wood products for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
2.2 DIMENSION LUMBER FRAMING

A. Maximum Moisture Content: 19 percent.
   1. Stage floor framing: Hem-Fir No. 2.

2.3 ENGINEERED WOOD PRODUCTS

1. Laminated-Strand Lumber: As noted on the drawings.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking.
   2. Nailers.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified.

2.6 METAL FRAMING ANCHORS

A. Allowable Manufactures: Subject to compliance with requirements, provide framing anchors by one of the following:
   1. Simpson Strong-Tie Co., Inc.
   2. USP Structural Connectors.
   3. Approved substitution.


PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.

B. Framing Standard: Comply with AF&PA's “Details for Conventional Wood Frame Construction,” unless otherwise indicated.

C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

D. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

E. Do not splice structural members between supports, unless otherwise indicated.
F. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the Governing Building Code.

END OF SECTION 061000
SECTION 061500 - WOOD DECKING

PART 1 - GENERAL

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

1.2 SUMMARY
A. This Section includes the following:
   1. Stage floor decking.

1.3 SUBMITTALS
A. Product Data demonstrating compliance with requirements.

1.4 QUALITY ASSURANCE

1.5 DELIVERY, STORAGE, AND HANDLING
A. Schedule delivery of wood decking to avoid extended on-site storage and to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL
A. General: Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by ALSC's Board of Review.

B. Grade Stamps: Factory mark with grade stamp of inspection agency on surfaces that will not be exposed to view.

C. Moisture Content: Provide wood decking with 19 percent maximum moisture content at time of dressing.

2.2 SOLID-SAWN WOOD DECKING
A. Wood Species: as noted on the drawings.
B. Decking Nominal Size: as noted on the drawings.

C. Decking Grade: as noted on the drawings.

D. Surface and Edge Pattern: Smooth surface, Vee grooved.

2.3 FASTENERS AND ACCESSORY MATERIALS

A. Fastener Material: as noted on the drawings.

2.4 FABRICATION

A. Fabricate decking in lengths for controlled random lay-up.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install to comply with referenced decking standard and with end joints located according to lay-up indicated.

1. Provide adhesive at each support as noted on the drawings.

2. Nail each course of wood decking at each support as noted on the drawings.

B. Repair damaged surfaces and finishes after completing erection. Replace damaged decking if repairs are not approved by Architect.

END OF SECTION 061500
SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Stairwork.
2. Flush wood paneling.
3. AV Wood cabinets.

B. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips unless concealed within other construction before woodwork installation.

C. Rough carriages for stairs are a part of interior architectural woodwork. Platform framing, headers, partition framing, and other rough framing associated with stairwork are specified in Division 06 Section "Rough Carpentry."

1.2 ACTION SUBMITTALS

A. Product Data: For cabinet hardware and accessories and finishing materials and processes.

B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

C. Samples:

1. Lumber and panel products for transparent finish, for each species and cut, finished on one side and one edge.

1.3 QUALITY ASSURANCE

A. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards."

1.4 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Wood Species and Cut for Transparent Finish: Red oak, plain sawn or sliced.
B. Wood Products:

1. Hardboard: PS 58, Class 1 (tempered), smooth one side or both sides where indicated, 1/4" thickness unless as otherwise indicated.
2. Medium-Density Fiberboard: ANSI A208.2, Grade MD.
3. Particleboard: Medium density (45 lbs./cu. ft. minimum) board fabricated from wood chips and phenolic resin binders, compressed board, 3/4" thickness unless otherwise indicated complying with ANSI A208.1, Grade 1-M-3.
4. Hardwood Plywood:
   a. Comply with PS 51, Premium Grade hardwood face veneers.
   b. Face and back veneers grade selected in accordance with AWI Standards for Premium Grade, select for color.
   c. Species: Design Consultant selection.
5. Softwood Plywood: DOC PS 1, Medium Density Overlay.
7. Hardwood Lumber:
   a. Graded in accordance with AWI grading standards for Premium Grade Solid Stock.
   b. Species: Design Consultant selection.
   c. Sapwood not acceptable.

C. Thermoset Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.

2.2 CABINET HARDWARE AND ACCESSORIES

A. 3/4" Doors: Invisible type, self closing overlay 120 degree opening similar to Grass America, Inc. model # VS8-3800 with 2 hinges per door. Anchor with 1000 Series baseplate and 5.2 mm sleeve screws. Other Approved Manufacturers: Prameta or Hafele.

B. Adjustable Shelf Standards:

1. Knape and Vogt No. 255 with No. 256 supports.
2. Predrilled holes at 32 mm o.c. with 2 pin self-locking nylon clips capable of supporting a minimum of 250 lbs. each. Provide four per shelf.

C. Cabinet Locks:

1. Provide cabinet locks for doors and drawers as required by the Owner.
2. Locks shall accept cylinders keyed to master key system.

2.3 MISCELLANEOUS MATERIALS

A. Rough Carriages for Stairs: No. 1 grade Douglas fir-larch, hem-fir, or southern pine; kiln dried to 15 percent maximum moisture content:

2.4 FABRICATION

A. General: Complete fabrication to maximum extent possible before shipment to Project site. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.
1. Interior Woodwork Grade: Custom.
2. Shop cut openings to maximum extent possible. Sand edges of cutouts to remove splinters and burrs. Seal edges of openings in countertops with a coat of varnish.

B. Stairwork:
1. Treads: Transparent finish.
2. Risers: Transparent finish.

C. Flush Wood Paneling:
1. Lumber Trim and Edges: At fabricator's option, trim and edges indicated as solid wood (except moldings) may be either lumber or veneered construction compatible with grain and color of veneered panels.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Examine shop-fabricated work for completion and complete work as required.

B. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.

C. Install woodwork level, plumb, true, and straight to a tolerance of 1/8 inch in 96 inches. Shim as required with concealed shims.

D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.

F. Paneling: Anchor paneling to supporting substrate with splined connection strips. Do not use face fastening, unless covered by trim.

G. Stairs: Securely anchor carriages to supporting substrates. Install stairs with treads and risers no more than 1/8 inch from indicated position.

H. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.

END OF SECTION 064023
SECTION 081113 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Standard hollow metal frames for wood doors.

B. Related Sections:
   1. Division 08 Section "Flush Wood Doors" for wood doors in metal frames.
   2. Division 08 Section "Door Hardware".

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.

C. Samples for Verification: For each type of exposed finish required.

D. Schedule: Prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   1. Ceco Door Products; an Assa Abloy Group company.
   2. Curries Company; an Assa Abloy Group company.
   4. Steelcraft; an Ingersoll-Rand company.
   5. Gateway.
   6. Southwestern Hollow Metal.
   7. NCS Manufacturing Co.
   8. Rocky Mountain Metals
   10. Republic.
   11. NCS.
2.2 MATERIALS
A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS, Type B.
B. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.
C. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
D. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.
E. Mineral-Fiber Insulation: ASTM C 665, Type I.
F. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat.

2.3 STANDARD HOLLOW METAL FRAMES
A. General: Comply with ANSI/SDI A250.8.
B. Interior Frames: Fabricated from cold-rolled steel sheet.
   1. Fabricate frames with mitered or coped corners.
   2. Fabricate frames as full profile welded unless otherwise indicated. Grind smooth all corner joints and contact edges once joints are closed tight.
   3. Frames: 0.053-inch-thick steel sheet, thicker if doors are wider than 3 feet.

2.4 FRAME ANCHORS
A. Jamb Anchors:
   1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
   2. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
B. Floor Anchors: Formed from same material as frames, not less than 0.042 inch thick, and as follows:
   1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
   2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at finish floor surface.

2.5 STOPS AND MOLDINGS
A. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch high unless otherwise indicated.
B. Terminated Stops: Where indicated, terminate stops 6 inches above finish floor with a 90-degree angle cut, and close open end of stop with steel sheet closure. Cover opening in extension of frame with welded-steel filler plate, with welds ground smooth and flush with frame.

2.6 FABRICATION

A. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.

B. Hollow Metal Frames: Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
4. Jamb Anchors: Provide number and spacing of anchors as follows:
   a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
      1) Four anchors per jamb from 60 to 90 inches high.
      2) Five anchors per jamb from 90 to 96 inches high.
      3) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
      4) Two anchors per head for frames more than 42 inches wide and mounted in metal-stud partitions.

5. Door Silencers: Drill stops to receive door silencers.
   a. Double-Door Frames: Two door silencers.

C. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDIA250.8.
2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
3. Comply with applicable requirements in ANSI/SDIA250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 electrical Sections.

2.7 STEEL FINISHES

A. Prime Finish: Apply manufacturer’s standard primer immediately after cleaning and pretreating.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Hollow Metal Frames: Comply with ANSI/SDI A250.11.

1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

   a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   b. Remove temporary braces necessary for installation only after frames have been properly set and secured.
   c. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.

   a. Floor anchors may be set with powder-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.


4. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:

   a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

3.2 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

END OF SECTION 081113
SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-core doors with wood-veneer faces.

B. Related Sections:

1. Division 08 Section "Hollow Metal Frames".
2. Division 08 Section "Door Hardware".

1.2 ACTION SUBMITTALS

A. Product Data: For each type of door indicated.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.

1. Indicate dimensions and locations of mortises and holes for hardware.
2. Indicate dimensions and locations of cutouts.
3. Indicate requirements for veneer matching.

1.3 QUALITY ASSURANCE

A. Quality Standard: In addition to requirements specified, comply with AWI's "Architectural Woodwork Quality Standards Illustrated."

1.4 WARRANTY:

A. Specific Product Warranty: Submit 2 copies of written agreement on door manufacturer's standard form signed by Manufacturer, Installer and Contractor, agreeing to repair or replace defective doors which have warped (bow, cup or twist) or which show telegraphing of core construction below in face veneers, or do not conform to tolerance limitations of referenced quality standards.

B. The warranty shall also include refinishing and reinstallation which may be required due to repair or replacement of defective doors.

C. Warranty for solid core flush interior doors shall be in effect for the lifetime of the installation.
PART 2 - PRODUCTS

2.1 MANUFACTURERS
   A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      1. Algoma Hardwoods, Inc.
      2. Eggers Industries.
      3. Weyerhaeuser Co.

2.2 DOOR CONSTRUCTION, GENERAL
   A. Particleboard-Core Doors:
      1. Particleboard: ANSI A208.1, Grade LD-1 or Grade LD-2.

2.3 VENEERED-FACED DOORS FOR TRANSPARENT FINISH
   A. Interior Solid-Core Doors:
      1. Grade: Premium, with Grade AA faces.
      2. Species: Red oak.
      3. Cut: Plain sliced (flat sliced).
      5. Assembly of Veneer Leaves on Door Faces: Balance match.
      7. Construction: AWI PC-5 Five plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering.
      8. Edge Stiles: Solid hardwood to match face veneers without finger jointing
      9. Adhesives: NWWDA I.S.1.6 Type I.

2.4 PREFITTING AND PREPARATION FOR HARDWARE:
   A. Prefit and premachine fire-rated and 20 minute wood doors at the factory or at a labeling agency licensed machiner.
   B. Comply with the tolerance requirements of AWI for prefitting.

PART 3 - EXECUTION

3.1 INSTALLATION
   A. Hardware: For installation, see Division 08 Section "Door Hardware."
   B. Installation Instructions: Install doors to comply with manufacturer’s written instructions and the referenced quality standard, and as indicated.
C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.

1. Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/2 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.

END OF SECTION 081416
SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY
   A. Section includes:
      1. Mechanical door hardware for swinging doors.
      2. Door Gasketing for existing door including drop seals, astragals, and compression seals

1.2 SUBMITTALS
   A. Manufacturer's technical product data of each item of hardware.
   B. Hardware Schedule:
      1. Organize hardware schedule into "hardware sets" indicating complete designations of every item.
      2. Include specific hardware directions for every door opening.
   C. Templates:
      1. Hardware templates to fabricators of other work which is to receive finish hardware.

1.3 QUALITY ASSURANCE
   A. Supplier Qualifications:
      1. Recognized builders hardware supplier, with warehousing facilities, who has been furnishing hardware in the Denver-Metro area for a period of not less than 3 years.
      2. Employs an experienced AHC certified hardware consultant, available for consultation during the course of the work.

1.4 WARRANTY
   A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
      1. Warranty Period: Two years from date of Substantial Completion, unless otherwise indicated.
PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Provide door hardware for each door as scheduled in Part 3 “Door Hardware Schedule” Article to comply with requirements in this Section.

1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers’ products.

B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 “Door Hardware Schedule” Article. Products are identified by using door hardware designations, as follows:

1. Named Manufacturers’ Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers’ names are abbreviated in Part 3 “Door Hardware Schedule” Article.

2.2 HINGES

A. Manufacturers:

1. Stanley.
2. Hager.
3. Lawrence.

B. Five knuckle, button tip, full mortise template type with non-rising loose pins and ball or oilite bearings.

C. Interior Doors: Ball bearing type, wrought steel construction, with .134 or .145 gage.

1. Doors to 36” Width: 4.5” x 4.5” hinges.
2. Doors over 36” Width: 5” x 5” hinges.

D. Number of Hinges:

1. Minimum 3 hinges per door leaf for doors 84” or less in height.
2. One additional hinge for each 24” of additional height.

2.3 ACCESSORIES FOR PAIRS OF DOORS

A. Carry-Open Bars: BHMA A156.3; prevent the inactive leaf from opening before the active leaf; provide polished brass or bronze carry-open bars with strike plate for inactive leaves of pairs of doors unless automatic or self-latching bolts are used.

B. Astragals: BHMA A156.22.
2.4 DOOR GASKETING

A. Door Gasketing: BHMA A156.22; air leakage not to exceed 0.50 cfm per foot (0.000774 cu. m/s per m) of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. National Guard Products (NGP) (Basis-of-Design).
2. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
3. Reese Enterprises, Inc.

C. Products:

1. Silicone Bulb Fire and Smoke Seal: NGP-Edge Sealing System #5050.
2. Smoke-Rated Astragal Sets: NGP #137S
3. Automatic Door Bottoms: Heavy Duty, NGP #420N

2.5 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

2.6 FINISHES

A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

B. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.


C. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface
protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

D. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
E. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
F. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.
G. Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.2 DOOR HARDWARE SCHEDULE

Legend:

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Approved Substitute</th>
</tr>
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<tbody>
<tr>
<td>(IV) Ives Hinges</td>
<td>Stanley, McKinney, Bommer</td>
</tr>
<tr>
<td>(RO) Rockwood Trim</td>
<td>Trimco, Ives</td>
</tr>
<tr>
<td>(NA) National Guard</td>
<td>Pemko, Zero</td>
</tr>
</tbody>
</table>

Furnish all items in finishes to match existing. Finish intent is to be US10, satin bronze. Use 3 hinges on doors under 90” in height and 4 hinges at doors 7’6” high and over.

Group # 1

Each opening to have:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 HINGES</td>
<td>5BB1HW 4 1/2 X 4 1/2</td>
<td>639</td>
<td>IV</td>
</tr>
<tr>
<td>2 PULLS</td>
<td>110</td>
<td>US10</td>
<td>RO</td>
</tr>
<tr>
<td>2 DOOR BOLTS</td>
<td>SB453-12-TB</td>
<td>US10</td>
<td>IV</td>
</tr>
<tr>
<td>2 DOOR STOP &amp; HOLDER</td>
<td>FS495</td>
<td>US10</td>
<td>IV</td>
</tr>
<tr>
<td>1 DOOR SEAL</td>
<td>5050B HEAD AND JAMBS</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>1 DOOR SEAL</td>
<td>5060B X L.A.R.</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

END OF SECTION 087100
SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY
   A. Section Includes:
      1. Non-load-bearing steel framing systems for interior gypsum board assemblies.

1.2 ACTION SUBMITTALS
   A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. ClarkWestern Building Systems.
   2. Dietrich Metal Framing.

2.2 FRAMING SYSTEMS
   A. Steel Studs and Runners: ASTM C 645.
      1. Minimum Base-Metal Thickness: 0.018 inch.
      2. Depth: 4 inches.
      3. Depth: 2-1/2 inches, 3-1/2 inches, 3-5/8 inches, 4 inches.
   B. Cold-Rolled Channel Bridging: Steel, 0.053-inch minimum base-metal thickness, with minimum 1/2-inch-wide flanges.
      1. Depth: 1-1/2 inches.
      2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch-thick, galvanized steel.
   C. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
      1. Minimum Base-Metal Thickness: 0.018 inch.
      2. Depth: 1-1/2 inches.
   D. Cold-Rolled Furring Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges.
      1. Depth: 3/4 inch.
      2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.033 inch.
3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.

2.3 AUXILIARY MATERIALS

A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Neoprene Sound Isolation at Walls: Provide the following products:
   1. Mason Industries; NPS Neoprene Partition Supports.
   2. Mason Industries; DNSB Wall Braces.

C. Isolation Strip at Exterior Walls: Provide asphalt saturated organic felt or foam gasket.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754.
   1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, furnishings, or similar construction.

C. Install bracing at terminations in assemblies.

D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.2 INSTALLING FRAMED ASSEMBLIES

A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

C. Install studs so flanges within framing system point in same direction.

D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
   1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs. Install two studs at each jamb unless otherwise indicated.

3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.

E. Direct Furring:

1. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.

F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.3 INSTALLING NEOPRENE SOUND ISOLATION

A. Install according to manufacturer's written instructions and recommendations.

END OF SECTION 092216
SECTION 092613 - GYPSUM VENEER PLASTERING

PART 1 - GENERAL

1.1 SUMMARY
A. Section includes Gypsum veneer plaster over masonry surfaces.
B. Related Sections: Division 01 Section “Alternates”.

1.2 ACTION SUBMITTALS
A. Product Data: For each type of product.
B. Mock-Up:
   1. Prior to start of plastering, erect a 4’ x 4’ sample panel of specified plaster system.
   2. Modify samples as required to achieve acceptance by the Architect.
   3. Sample panels shall be left in place for judging completed work during plastering operations.
   4. Sample may be located to serve as a portion of the final work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Source Limitations: Obtain gypsum veneer plaster products, including gypsum base for veneer plaster, joint reinforcing tape, and embedding material, from single manufacturer.

2.2 GYPSUM VENEER PLASTER
A. Two-Component Gypsum Veneer Plaster: ASTM C 587, with separate formulations; one for base-coat application and one for finish-coat application over substrates.

   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

      a. National Gypsum Company:

         1) Base Coats: Kal-Kote Plaster Base.
         2) Textured Finish Coat: Integrally Colored Kal-Kote Texture Finish. Color to match existing auditorium ceiling or to be selected by Architect from manufacturer’s standard range.
2.3 TRIM ACCESSORIES

A. Standard Trim: ASTM C 1047, provided or approved by manufacturer for use in gypsum veneer plaster applications indicated.

1. Material: Galvanized-steel sheet or aluminum-coated steel sheet; rolled zinc, plastic, or paper-faced galvanized-steel sheet.

2.4 AUXILIARY MATERIALS

A. Bonding Agent: ASTM C 631, polyvinyl acetate.

PART 3 - EXECUTION

3.1 GYPSUM VENEER PLASTERING

A. Bonding Agent: Apply bonding agent on dry masonry according to gypsum veneer plaster manufacturer's written recommendations.

B. Gypsum Veneer Plaster Mixing: Mechanically mix gypsum veneer plaster materials to comply with ASTM C 843 and with gypsum veneer plaster manufacturer's written recommendations.

C. Gypsum Veneer Plaster Application: Comply with ASTM C 843 and with veneer plaster manufacturer's written recommendations.

1. Two-Component Gypsum Veneer Plaster:

   a. First Base Coat: Hand trowel or machine apply base coat over substrate to a uniform thickness of 1/16 to 3/32 inch. Fill all voids, grout joints, and imperfections.
   
   b. Second Base Coat: Apply as above and embed 4 ounce fiberglass mesh.
   
   c. Finish Coat: Trowel apply finish-coat plaster over base-coat plaster to a uniform thickness of 1/16 to 3/32 inch.

2. Where gypsum veneer plaster abuts only metal door frames, windows, and other units, groove finish coat to eliminate spalling.

D. Concealed Surfaces: Do not omit gypsum veneer plaster behind cabinets, furniture, furnishings, and similar removable items. Omit veneer plaster in the following areas where it will be concealed from view in the completed Work unless otherwise indicated or required to maintain fire-resistance and STC ratings:

1. Above suspended ceilings.
2. Behind wood paneling.

END OF SECTION 092613
SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Interior gypsum board.

1.2 ACTION SUBMITTALS
A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 INTERIOR GYPSUM BOARD
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Georgia-Pacific Gypsum LLC.
   3. USG Corporation.
B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
   1. Thickness: 5/8 inch (15.9 mm).
   2. Long Edges: Tapered.
C. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
   1. Core: 5/8 inch (15.9 mm), Type X.
   2. Long Edges: Tapered.

2.2 TRIM ACCESSORIES
A. Interior Trim: ASTM C 1047.
   1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.

2.3 JOINT TREATMENT MATERIALS
A. General: Comply with ASTM C 475/C 475M.
B. Joint Tape:
   1. Interior Gypsum Board: Paper.

C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

2.4 AUXILIARY MATERIALS

A. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

B. Sound Attenuation Blankets: ASTM C 665, provide 3-1/3 inch, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

C. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

   1. Products: Subject to compliance with requirements, provide one of the following:
      a. USG Corporation; SHEETROCK Acoustical Sealant.
      b. Tremco Ltd.; Tremco Acoustical Sealant.

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS

A. Comply with ASTM C 840.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

D. Multilayer Application:

   1. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.

   2. On Z-furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.

   3. Fastening Methods: Fasten base layers with screws; fasten face layers with adhesive and supplementary fasteners.
E. Install trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

   1. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

F. Prefill open joints and damaged surface areas.

G. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

H. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

   1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
   2. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

I. Protect adjacent surfaces from drywall compound and texture finishes and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

J. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION 092900
SECTION 096100 – FLOORING TREATMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and application of wood finish system on exposed wood decking.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include preparation requirements and application instructions.

B. Samples: For each type of finish system and in each color and gloss of finish indicated.

C. Product List: For each product indicated, include printout of current "MPI Approved Products List" for each product category specified in Part 2, with the product proposed for use highlighted.

1.3 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Transparent Finishes: 5 percent, but not less than 1 gal. of each material and color applied.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: Utilize a firm or individual trained in the application of the manufacturer’s floor products.

B. Mockups: Apply mockups finish system to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each type of finish system and substrate.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..

PART 2 - PRODUCTS

2.1 WOOD FLOOR FINISHING SYSTEM

A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
1. Floor Sealer: BonaKemi USA Inc.; SuperSport Seal Floor Sealer.
2. Floor Finish: BonaKemi USA Inc.; SuperSport Floor Finish

2.2 MATERIALS, GENERAL

A. Material Compatibility:
   1. Provide materials for use within each finish system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
   2. For each coat in a finish system, provide products recommended in writing by manufacturers of topcoat for use in finish system and on substrate indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Proceed with finish application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove hardware, covers, plates, and similar items already in place that are removable. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and finishing.

   1. After completing finishing operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

B. Clean and prepare surfaces to be finished according to manufacturer's written instructions for each particular substrate condition and as specified.

   1. Remove dust, dirt, oil, and grease by washing with a detergent solution; rinse thoroughly with clean water and allow to dry. Remove grade stamps and pencil marks by sanding lightly. Remove loose wood fibers by brushing.
   2. Remove mildew by scrubbing with a commercial wash formulated for mildew removal and as recommended by stain manufacturer.

3.3 APPLICATION

A. Apply finishes according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply finishes to produce surface films without cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other surface imperfections.
3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from finish application. Correct damage by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced finished wood surfaces.

END OF SECTION 096100
SECTION 096400 - WOOD FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes wood flooring.

B. Related Sections:
   1. Division 06 Section “Wood Decking” for adjacent stage floor wood decking.
   2. Division 09 Section “Flooring Treatment” for clear floor finish material.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For each type of wood flooring and accessory.

1.3 QUALITY ASSURANCE

A. Hardwood Flooring: Comply with NOFMA’s "Official Flooring Grading Rules" for species, grade, and cut.

B. Softwood Flooring: Comply with WCLIB No. 17 grading rules for species, grade, and cut.

1.4 PROJECT CONDITIONS

A. Conditioning period begins not less than seven days before wood flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.

   1. Environmental Conditioning: Maintain an ambient temperature between 65 and 75 deg F and relative humidity planned for building occupants in spaces to receive wood flooring during the conditioning period.

   2. Wood Flooring Conditioning: Move wood flooring into spaces where it will be installed, no later than the beginning of the conditioning period.

      a. Do not install flooring until it adjusts to relative humidity of, and is at same temperature as, space where it is to be installed.

      b. Open sealed packages to allow wood flooring to acclimatize immediately on moving flooring into spaces in which it will be installed.

B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.
PART 2 - PRODUCTS

2.1 WOOD FLOORING

A. Solid-Wood Flooring: Kiln dried to 6 to 9 percent maximum moisture content, tongue and groove and end matched, and with backs channeled.

1. Product: To match adjacent stage floor decking by The Filler-King Company.
2. Species and Grade: To match adjacent stage floor decking to be either Oak or Douglas Fir Larch/Larch.
5. Face Width: To match adjacent stage floor decking.

2.2 FIELD FINISHING

A. Finish System: Division 09 Section "Flooring Treatment" for clear floor finish material.

B. Wood Filler: Compatible with finish system components.

2.3 ACCESSORY MATERIALS

A. Wood Flooring Adhesive: Product: Sika Corporation; SikaBond-T55.

B. Concrete Sealer: Product: Sika Corporation; SikaPrimer MB.


D. Fasteners: As recommended by manufacturer, but not less than that recommended in NWFA's "Installation Guidelines: Wood Flooring."

E. Thresholds and Saddles: To match wood flooring. Tapered on each side.

F. Reducer Strips: To match wood flooring. 2 inches wide, tapered, and in thickness required to match height of flooring.

PART 3 - EXECUTION

3.1 PREPARATION

A. Concrete Slabs: Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.

1. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft., and perform no fewer than two tests in each installation area and with test areas evenly spaced in installation areas.
a. Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.

B. Concrete Slabs: Grind high spots and fill low spots to produce a maximum 1/8-inch deviation in any direction when checked with a 10-foot straight edge.
   1. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
   2. Apply concrete sealer according to manufacturer's written instructions.

C. Remove coatings, including curing compounds, and other substances on substrates that are incompatible with installation adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

D. Broom or vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Comply with flooring manufacturer's written installation instructions, but not less than applicable recommendations in NWFA's "Installation Guidelines: Wood Flooring."

B. Provide expansion space at walls and other obstructions and terminations of flooring of not less than 3/4 inch.

C. Solid-Wood Flooring: Blind nail or staple flooring to substrate.
   1. For flooring of face width more than 3 inches:
      a. Hardwood: Install countersunk screws at each end of each piece in addition to blind nailing. Cover screw heads with wood plugs glued flush with flooring.
      b. Softwood: Install no fewer than two countersunk nails at each end of each piece, spaced not more than 16 inches along length of each piece, in addition to blind nailing. Fill holes with matching wood filler.

D. Pattern: Install strips to provide uniform appearance with adjacent stage floor decking.

3.3 FIELD FINISHING

A. Machine-sand flooring to remove offsets, ridges, cups, and sanding-machine marks that would be noticeable after finishing. Vacuum and tack with a clean cloth immediately before applying finish.
   1. Comply with applicable recommendations in NWFA's "Installation Guidelines: Wood Flooring."

B. Fill and repair wood flooring seams and defects.

C. Cover wood flooring before finishing.

D. Do not cover wood flooring after finishing until finish reaches full cure, and not before seven days after applying last finish coat.
3.4 PROTECTION

A. Protect installed wood flooring during remainder of construction period with covering of heavy kraft paper or other suitable material. Do not use plastic sheet or film that might cause condensation.

END OF SECTION 096400
SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY
A. Section includes surface preparation and the application of paint systems on interior substrates.

1.2 ACTION SUBMITTALS
A. Product Data: For each type of product. Include preparation requirements and application instructions.
B. Samples: For each type of paint system and in each color and gloss of topcoat.

1.3 MAINTENANCE MATERIAL SUBMITTALS
A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.4 QUALITY ASSURANCE
A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
   a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..
   b. Other Items: Architect will designate items or areas required.
2. Final approval of color selections will be based on mockups.
   a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Products: Subject to compliance with requirements, provide one of the following products:
2. Diamond Vogel.
3. The Glidden Company.
5. Kwai Paint
6. PPG Industries, Inc.
7. The Sherwin Williams Company
8. ICI Paints

B. Substitutions must be pre-approved by UCB project manager and UCB paint shop. Any proposed substitution must be available in the Boulder Metro area.

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

2.3 MATERIALS

A. Quality:

1. Provide the best quality Contractor grade or better of the various types of coatings as regularly manufactured by acceptable paint material manufacturers.
2. Materials not displaying the manufacturer's identification as a standard, best-grade product will not be acceptable.
3. Waterborne or latex acrylic coatings shall be used unless prior approval for substitution is obtained.
4. Material Safety data sheets and technical product data sheets must be included with O&M Manuals for all products used.

2.4 VOLUME SOLID CONTENTS

A. When applied at a rate of 400SF per gallon-obtaining a MIL thickness when dry of a minimum of 1.3 MILS, the minimum acceptable Volume Solid Content must be “A” (list below), minimum and angular specular sheen should be “B” (list below).

<table>
<thead>
<tr>
<th>Finish Type</th>
<th>A</th>
<th>B</th>
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</thead>
<tbody>
<tr>
<td>Flat Finish</td>
<td>38%</td>
<td>0-5 @ 60º</td>
</tr>
<tr>
<td>Eggshell or Satin Finish</td>
<td>36%</td>
<td>16-32 @ 60º</td>
</tr>
<tr>
<td>Semi-Gloss Finish</td>
<td>34%</td>
<td>30-60 @ 60º</td>
</tr>
<tr>
<td>Gloss Finish</td>
<td>34%</td>
<td>60-80 @ 60º</td>
</tr>
</tbody>
</table>
PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

B. Proceed with coating application only after unsatisfactory conditions have been corrected.
   1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
   1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

A. New Auditorium Walls:
1. Color and sheen to match adjacent existing acoustical ceiling canopy
2. Contact UCB Facilities Planning for campus standard colors.

B. Areas requiring specific paint finish are as follows:

1. Mechanical Room Painting:
   a. Walls and Ceilings: Off white acrylic latex semi-gloss.

2. Baseboard Radiation Covers:
   a. Area Inside Metal Covers: Paint flat black or appropriate color to match.

3. Wall and Ceiling Return Air Grilles:
   a. Space Behind Grilles: Paint flat black for a distance of 24" from face of grille or appropriate color to match.


C. For all paint finishes:

1. New surfaces shall have 1 primer coat and 2 finish coats.
2. Existing surfaces shall have minimum 2 finish coats.
3. If sprayed, all walls except mechanical rooms, storage areas, closets and ceilings, must be backed rolled on final coat.
4. All walls must be painted with a paint that meets CU’s sheen standards for the 16-32 measurement at 60°, and volume solid’s ratings.
5. All trim is to be painted with semi-gloss paint that meets CU’s sheen and volume solids ratings.
6. Patch Painting will not be acceptable, total affected area shall be painted. Terminate painting only at corners or joints.

END OF SECTION 099123
SECTION 099646 - INTUMESCENT PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes surface preparation and application of interior fire-retardant intumescent coatings.

1.2 SUBMITTALS

A. Product Data: For each type of product.

1. Material List: Provide an inclusive list of required intumescent materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.

2. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying intumescent materials.

B. Samples for Verification: For each finish to be applied, with texture to simulate actual conditions, on representative Samples of actual substrate.

1. Provide stepped Samples, defining each separate coat, including primers and finish coats. Resubmit until required sheen, color, and texture are achieved.

2. Provide a list of materials and applications for each coat of each finish Sample. Label each Sample for location and application.

3. Submit samples on the following substrates for Architect’s review of color and texture only:

   a. Natural Wood: 4-by-8-inch samples of natural wood finish on representative Oak veneer plywood surfaces.

C. Qualification Data: For Applicator.

D. Material Test Reports: For each intumescent coating.

E. Material Certificates: For each intumescent coating, signed by manufacturers.

1.3 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying intumescent coatings similar in material, design, and extent to those indicated for the Project, whose work has resulted in applications with a record of successful in-service performance.

B. Source Limitations: Obtain primers and undercoat materials for each intumescent system from same manufacturer as finish coats, or of type approved by manufacturer.

C. Fire-Test-Response Characteristics: Provide intumescent coatings with the following surfaceburning characteristics as determined by testing identical products per ASTM E 84, by UL, or by another testing and inspecting agency acceptable to authorities having jurisdiction:
1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

1.4 PROJECT CONDITIONS

A. Apply waterborne coatings only when temperatures of surfaces to be coated and surrounding air are between 50 and 90 deg F.

1.5 EXTRA MATERIALS

A. Furnish extra intumescent and fire-inert coating materials from same production run as materials applied in quantities described below. Package coating materials in unopened, factory-sealed containers for storage, and identify with labels describing contents.

1. Quantity: Additional 5 percent, but no less than 1 gal., as appropriate, of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

1. Flame Control Coatings, Inc. (FCC) (Basis-of-Design).
6. NoFire Technologies, Inc. (NoFire).
7. PPG Industries, Inc. (PPG).

2.2 INTUMESCENT CLEAR FINISH COATS

A. Clear Woodwork: Provide the following finishes over new woodwork:

1. First and Second Coat: Clear, intumescent-type, fire-retardant varnish applied at spreading rate recommended by manufacturer to achieve a total dry film thickness of not less than 0.15 mm (6 mils).
   a. FCC: No. 166 (Class A) interior, solvent-thinned satin finish.

2. Topcoat: Protective fire-inert clear coating that will not affect fire-test-response characteristics of intumescent coating.
   a. FCC: No. 167 (Class A) interior, solvent-thinned sheen to match adjacent existing.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements and other conditions affecting performance of work.

1. Proceed with application only after unsatisfactory conditions have been corrected and surfaces to receive coating are thoroughly dry.
2. Start of coating will be construed as Applicator’s acceptance of surfaces and conditions within a particular area.

3.2 PREPARATION

A. General: Remove hardware, hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.

1. After completing coating operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying coatings or other surface treatments, clean substrates of substances that could impair bond of intumescent coating systems.

1. Schedule cleaning and coating application so dust and other contaminants will not fall on wet, newly coated surfaces.

C. Surface Preparation: Clean and prepare surfaces to be coated according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Wood Surfaces: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
   a. Prime, stain, or seal wood to be coated immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counter, cases, and paneling.
   b. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

D. Material Preparation: Mix and prepare coating materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying coating in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density, and as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
3. Use only thinners recommended by manufacturer and only within recommended limits.

3.3 APPLICATION
A. General: Apply intumescent paints according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
   1. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to forming a durable paint film.
   2. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
   3. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
   1. Number of coats and film thickness required are same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
   2. If undercoats, stains, or other conditions show through the final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
   3. Allow enough time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where applying another coat of paint does not cause the undercoat to loose adhesion.

C. Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
   1. Brushes: Use brushes best suited for material applied. Use brush of appropriate size for surface or item being painted.
   2. Rollers: Use rollers made of carpet, velvet back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
   3. Spray Equipment: Use spray equipment with orifice size as recommended by manufacturer for material and texture required.

D. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate for surface to be coated. Provide total dry film thickness of entire system as recommended by manufacturer.

E. Apply fire-inert topcoats where scheduled, using materials and application methods according to manufacturer's written instructions.

F. Clear Finishes: Produce a smooth surface film of even sheen. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.

G. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, work not complying with specified requirements.

3.4 CLEANING AND PROTECTION
A. Cleanup: At the end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

1. After completing painting, clean paint-spattered surfaces. Remove spattered paint by proper methods. Be careful not to scratch or otherwise damage adjacent finished surfaces.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting, remove temporary protective wrappings provided by others to protect their work.

1. After work of other trades is completed, touch up and restore damaged or defaced surfaces. Comply with PDCA P1.

END OF SECTION 099646
SECTION 116143 - STAGE CURTAINS

PART 1 - GENERAL

1.1 SUMMARY
   A. Section includes stage curtains and draw-curtain tracks.
   B. Related Sections: Division 01 Section “Alternates”.

1.2 ACTION SUBMITTALS
   A. Product Data: For each type of product indicated.
   B. Shop Drawings: Show fabrication and installation details for stage curtains. Include plans, elevations, sections, details, and attachments to other work.
   C. Samples: For each fabric and for each color and texture specified, full width by 36 inches in size, from dye lot to be used for the Work, with specified treatments applied.

1.3 INFORMATIONAL SUBMITTALS
   A. Warranty: Sample of special warranty.

1.4 CLOSEOUT SUBMITTALS
   A. Operation and maintenance data.

1.5 QUALITY ASSURANCE
   A. Installer Qualifications: Fabricator of stage curtains.
   B. Fire-Test-Response Characteristics: Provide stage curtains with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or a testing and inspecting agency acceptable to authorities having jurisdiction.

1.6 WARRANTY
   A. Special Warranty: Manufacturer’s standard form in which manufacturer agrees to repair or replace components of rigging equipment that fail in materials or workmanship within specified warranty period.

   1. Warranty Period: Two years from date of Substantial Completion.
PART 2 - PRODUCTS

2.1 CURTAIN FABRICS

A. General: Provide fabrics inherently and permanently flame resistant or chemically flame resistant by immersion treatment to comply with requirements indicated. Provide fabrics of each type and color from same dye lot.

B. Polyester Velour: Napped fabric of 100 percent polyester weighing not less than 22 oz./linear yd., with pile height approximately 75 mils; fully-lined; inherently and permanently flame resistant; 54-inch minimum width.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Rose Brand; Encore (Basis-of-Design).
b. Dazian LLC; Angelo.
c. JB Martin Company; Dante.
d. J. L. de Ball America, Inc.; Diablo.
e. KM Fabrics, Inc.; Prestige.

2. Color: As selected by Architect from manufacturer's full range.

2.2 CURTAIN FABRICATION

A. General: Affix permanent label, stating compliance with requirements of authorities having jurisdiction, in accessible location on curtain not visible to audience. Provide vertical seams unless otherwise indicated. Arrange vertical seams so they do not fall on faces of pleats. Do not use fabric cuts less than one-half width.

1. Vertical Hems: Provide vertical hems not less than 2 inches wide, with not less than a 1-inch tuck, and machine sew with no selvage material visible from front of curtain. Sew open ends of hems closed.

2. Leading Edge Turnbacks: Provide turnbacks formed by folding back not less than 12 inches of face fabric, with not less than a 1-inch tuck, and secure by sewing turnbacks vertically.

3. Top Hems: Reinforce top hems by double-stitching 3-1/2-inch-wide, heavy jute webbing to top edge on back side of curtain with not less than 2 inches of face fabric turned under.

4. Pleats: Provide 100 percent fullness in curtains, exclusive of turnbacks and hems, by sewing additional material into 6-inch double-stitched box pleats sewn flat and spaced at 12 inches o.c. along top hem reinforcement.

5. Grommets: Brass, No. 3 or No. 4; centered on each box pleat and 1 inch from corner of curtain; for snap hooks or S-hooks.

6. Bottom Hems: For floor-length curtains, provide hems not less than 6 inches deep with separate, interior, 100 percent cotton, heavy canvas chain pockets equipped with proof coil chain. Stitch chain pockets so chain rides 2 inches above finished bottom edge of curtain. Sew open ends of hems closed.

1) Proof Coil Chain: Grade 30, No. 8, zinc plated, 3/16 inch, ASTM A 413/A 413M.

B. S-Hooks: Manufacturer's standard heavy-duty plated-wire hooks, not less than 2 inches long.
2.3 ALUMINUM-CURTAIN TRACK

A. Aluminum Track: Fabricate of extruded aluminum; complying with ASTM B 221; alloy and temper recommended by manufacturer for strength and corrosion resistance, minimum 0.080 inch thick; mill finish.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. H & H Specialties Inc.; 300 series (Basis-of-Design).
   b. Automatic Devices Company; Flex-I-Track 100 series.

B. Curtain Rails: Provide end stops for track rails.

C. Curtain Carriers: Standard carriers with a quantity of curtain carriers sufficient for track length, to suit curtain fabrication. Include one master carrier for each leading curtain edge.

D. Clamp and Bracket Hangers: Manufacturer's steel clamps and brackets of sufficient strength required to support loads for attaching track to overhead support.

E. Track Lap Clamp: Metal to match track channel for attaching double-sectioned track at center overlap.

F. Fold Guide: Equip carriers with rear-fold or backpack guide and rubber spacers to permit offstage curtain folding; sized for use with operating line if any.


PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Examine areas and conditions, with Installer present, for compliance with requirements for supporting members, blocking, installation tolerances, clearances, and other conditions affecting performance of stage-curtain work. Examine inserts, clips, blocking, or other supports required to be installed by others to support tracks and battens.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Install stage-curtain system according to track manufacturer's and curtain fabricator's written instructions.

D. Ceiling-Mounted Tracks: Drill track at intervals not greater than manufacturer's written instructions for spacing, and fasten directly to structure.

E. Beam-Mounted Tracks: Install tracks by suspending from manufacturer's special beam clamps securely mounted to I-beam structure at spacing, according to manufacturer's written instructions.
F. Wall-Mounted Tracks: Install tracks by suspending from manufacturer's special bracket clamps securely mounted to wall construction at spacing, according to manufacturer's written instructions.

G. Install track for center-parting curtains with not less than 24-inch overlap of track sections at center, supported by special lap clamps.

H. Track Hung: Secure curtains to track carriers with S-hooks.

3.2 DEMONSTRATION

A. Owner's maintenance personnel to adjust, operate, and maintain stage curtains and tracks.

END OF SECTION 116143
SECTION 144300 - PIANO LIFTS

PART 1 - GENERAL

1.1 SUMMARY
   A. Section includes hydraulic platform lifts for piano.

1.2 ACTION SUBMITTALS
   A. Product Data: For each type of product indicated.
   B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
      1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
      2. Wiring Diagrams: For power, signal, and control wiring.

1.3 INFORMATIONAL SUBMITTALS
   A. Product certificates.
   B. Field quality-control reports.
   C. Sample warranty.

1.4 CLOSEOUT SUBMITTALS
   A. Operation and maintenance data.

1.5 QUALITY ASSURANCE
   A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
   B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
   C. Preinstallation Conference: Conduct conference at Project site.

1.6 PROJECT CONDITIONS
   A. Field Measurements: Verify actual dimensions of construction contiguous with lift equipment, including recessed pit dimensions and heights of platform, by field measurements before fabrication.
1.7 WARRANTY

A. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace components of hydraulic lifts that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Structural failures including cracked or broken structural support members, load-bearing welds, and front and rear hinges.
   b. Faulty operation of operators, control system, or hardware.
   c. Deck plate failures including cracked plate or permanent deformation in excess of 1/4 inch between deck supports.
   d. Hydraulic system failures including failure of hydraulic seals and cylinders.

2. Warranty Period for Hydraulic System: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PLATFORM LIFTS

A. General: Recessed, platform lift designed for permanent installation in pit with raised lip perimeter for drop in flooring, of type, function, operation, capacity, size, and construction indicated; and complete with controls, safety devices, and accessories required.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. Advance Lift; Model T55610.

B. Standard: Comply with MH 30.1.

C. Rated Capacity: Capable of supporting total gross load of 5,500 lb. without permanent deflection or distortion.

D. Platform: Not less than 3/16-inch- thick, nonskid steel plate.
   1. Platform Size: 66 inches wide by 120 inches deep.
   2. Toe Guards: Beveled toe guards.

E. Raised Lip Perimeter: Continuous steel angle at deck perimeter for drop-in flooring. Height to be flush with top of finish flooring. Flooring to match adjacent stage floor.

F. Vertical Travel: 60 inches maximum.

G. Hydraulic Operating System: Electric control from a remote-control station; fully hydraulic operation. Equip lift with a packaged unit including a unitized, totally enclosed, nonventilated electric motor, pump, manifold reservoir, and valve assembly of proper size, type, and operation for capacity of lift indicated.
   1. Pump Unit: 5 HP; located remotely.
   2. Remote-Control Station: Wall mounted push-button with key lock.
H. Construction: Fabricate frame, platform supports, and lip supports from structural- or formed-steel shapes. Weld platform and hinged lip to supports. Fabricate entire assembly to withstand deformation during both operating and stored phases of service.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Examine roughing-in for electrical systems for lift equipment to verify actual locations of connections before equipment installation.

B. Examine walls and floors of pits for suitable conditions where recessed lift equipment is to be installed.

C. Install lift equipment, including motors, control, stations, wiring, safety devices, and accessories as required for a complete installation.

D. Leveling Tolerance: Not more than 1/4 inch, up or down, regardless of load and travel direction.

E. Lateral Tolerance: Not more than 1/8" gap between edge of platform deck and edge of recessed pit or top landing.

3.2 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain platform lift equipment.

END OF SECTION 144300
SECTION 260500 - ELECTRICAL GENERAL PROVISIONS

PART 1 GENERAL

1.01 PROVISIONS

A. Drawings, general provisions of the Contract between the Construction Manager/General Contractor and the University of Colorado, any General and Supplementary Conditions to the Contract, provisions of applicable Subcontractor Agreements, and other Division 1 Specification sections apply to work of this section.

1.02 DESCRIPTION

A. This project includes a stage remodel of the existing music hall to improve acoustics and lighting.

B. Furnish and install all materials and equipment and provide all labor required and necessary to complete the work shown on drawings and/or listed below and all other work and miscellaneous items, not specifically mentioned, but reasonably inferred for a complete testing of the system. It is the intent of Drawings and Specifications that all systems be complete and ready for operation.

1.03 WORK INCLUDED

A. Electrical work includes demolition, relocating existing conduits, new light fixtures, relocating existing devices (lights and AV boxes), modifications to the existing dimming system including reprogramming by a Lutron representative, rewiring of existing fixtures, motor connections and new receptacles.

B. Certain labor, materials and/or equipment may be furnished under other sections, or by Owner. When such is the case, extent, source and description of these items shall be indicated on drawings or described herein. Unless otherwise noted, all labor, materials, and/or equipment for complete installation of electrical work shall be provided under this Division.

1.04 DEFINITIONS

A. Instructions such as "Provide the outlets" shall mean the same as though the words "This contractor shall" proceeded each such instruction. "Provide" shall mean "Furnish and Install." Where the words "Accepted or Acceptable" are used, such "Accepted" or "Acceptable" action by the Engineer denotes that the work or equipment item is in conformance with the design concept of the project and, in general, complies with information in the Contract Documents.

1.05 STANDARDS FOR MATERIALS

A. All materials shall conform with the current applicable industry standards and the University of Colorado Standards. Workmanship and neat appearance shall be as important as electrical and mechanical operation. Defective or damaged materials shall be replaced or repaired prior to final acceptance in a manner meeting approval of Engineer and at no additional cost to Owner.

B. The latest editions of the following standards are minimum requirements.

1. Underwriters' Laboratories, Inc. (UL)
2. National Electrical Manufacturer's Association (NEMA)
3. American National Standards Institute (ANSI)
4. Institute of Electrical and Electronic Engineers (IEEE)

1.06 SUBSTITUTION OF EQUIPMENT AND MATERIALS

A. No substitutions of equipment without written approval from the Engineer in the form of an addenda, submittals shall be received by the Engineer a minimum of 7 calendar days prior to the bid date.

1.07 CODE COMPLIANCE

A. All work and materials shall comply with latest rules, codes and regulations, including but not limited to the following: CU Standards, OSHA, National Fire Codes of National Fire Protection Association (NFPA), 2008 National Electrical Code and all other applicable State and local laws and regulations.

B. Code compliance is mandatory. The Drawings and Specifications shall not permit work that does not conform to these codes.

C. No work shall be concealed until after inspection and approval by proper authorities and design engineer. If work is concealed without inspection and approval, Contractor shall be responsible for all work required to expose and restore the concealed in addition to all required modifications.

1.08 DRAWINGS

A. Drawings indicate general arrangement of circuits and outlets, locations of switches, panelboards and other work. Drawings and specifications are complementary each to the other, and what is called for by one shall be binding as if called for by both. Data presented on drawings is as accurate as planning can determine, but accuracy is not guaranteed and field verification of all dimensions, locations, levels, etc. to suit field conditions is directed. Review all drawings and adjust all work to conform to all conditions shown therein. Discrepancies between different drawings or between drawings and specifications or regulations and codes governing installation shall be brought to the attention of the Engineer.

PART 2 - PRODUCTS

2.01 EQUIPMENT AND MATERIALS

A. All equipment and materials installed shall be new and UL approved unless otherwise specified.

B. All major equipment components shall have manufacturer's name, address, model number and serial number permanently attached in a conspicuous location.

PART 3 - EXECUTION

3.01 CONDITIONS AT SITE

A. Visit to site is required of all bidders prior to submission of bid. All will be held to have familiarized themselves with all discernible conditions, and no extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not.

B. Lines of other services that are damaged as a result of this work shall promptly be repaired at
no expense to Owner to complete satisfaction of Engineer.

3.02 LICENSE, FEES, AND PERMITS

A. Arrange for required inspections for all license, permit and inspections. Furnish a certificate of final inspections and approval from local authority having jurisdiction over electrical installation.

3.03 WORKMANSHIP AND CONTRACTOR’S QUALIFICATIONS

A. Only quality workmanship will be accepted. Haphazard or poor installation practice will be cause for rejection of work. A journeyman to apprentice ratio of 1:1 must be maintained.

B. Provide foreman in charge of this work at all times.

C. Contractor must have been in business under the same name for a minimum of 5 years and have a manned office, full time. Also provide a current and complete financial statement for review.

D. Where specifications call for an installation to be made in accordance with Manufacturer’s recommendations, a copy of such recommendations shall at all times be kept in job superintendent’s office and shall be available to Engineer’s and/or Owner’s representative.

E. Contractors bidding this project must complete AIA Document A305-1986 "Contractor’s Qualification Statement" and submit it with their proposal for information purposes.

F. In addition, the contractor must provide a statement(s) indicating they meet the following minimum requirements:

1. List a minimum of two projects completed in the last five years which were similar in size (or larger), complexity and type. For each project list:
   a) Name and location of project.
   b) Name, address and phone number of Client/Owner and owner’s representative.
   c) Contract type (prime or subcontract) and contract value or subcontract value).
   d) Year in which work was performed.

2. If required, list two projects on which the Contractor acted as the prime contractor (may be the same projects listed in Item (a), if applicable.

3. The firm or its operating officers (above the level of Project Manager) shall have been involved in Electrical Contracting for at least five years.

4. List project values (or subcontract values, if applicable) which total at least $500,000 of electrical work in the last five years completed by the firm or its operating officers.

G. The bidder shall give evidence of being able to be bonded to 150% of their base bid amount. A letter shall be provided by the bonding agency assuring capability of bonding this level and associated rates.

3.04 SUBMITTALS

A. Submit shop drawings and product data in accordance with provisions of Division 1.

B. Prior to submission, shop drawings, material lists and catalog cuts or manufacturer’s printed
data shall be thoroughly checked for compliance with contract requirements, compatibility with equipment being furnished by the Contractor or Owner, accuracy of dimensions, coordination with work of other trades, and conformance with sound and safe practice as to erection of installation. Each submittal shall bear Contractor's signed statement evidencing such checking.

C. Clearly mark each shop drawing as follows for purposes of identification:

   Equipment Identification Used on Contract Drawings
   Date
   Name of Project
   Branch of Work
   Architect/Engineer's Name
   Contractor's Name

D. Clearly mark printed material, catalog cuts, pamphlets or specification sheets, and shop drawings with the same designation shown on the contract document schedules. Identify specific item proposed, showing catalog number, recess openings, dimensions, capacities, electrical characteristics, etc. Submittals which are incomplete will be returned to the Contractor without review.

E. Contractor agrees that submittals processed by the Architect/Engineer are not change orders; that the purpose of submittals is to demonstrate to the Architect/Engineer that the Contractor understands the design concept; and that the Contractor demonstrates this understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.

F. Contractor shall be responsible for dimensions (which he shall confirm and correlate at the job site), fabrication processes and techniques of construction, and coordination of his work with that of other trades. The Contractor shall check and verify all measurements and review shop drawings before submitting them. If any deviations from the specified requirements for any item of material or equipment exist, such deviation shall be expressly stated in writing and incorporated with the submittal.

G. Maintain one copy of shop drawings at the project field office until completion of the project, and make this copy available, upon request, to representatives of the Architect/Engineer and Owner.

H. No equipment or materials shall be installed or stored at the jobsite until submittals for such equipment or materials have been given review action permitting their use.

I. Shop drawings and manufacturer's published data shall be submitted for:

   Lighting fixtures (catalog cuts)
   Wiring devices (switches & receptacles)
   Switches and fuses

3.05 TESTS

A. The right is reserved to inspect and test any portion of the equipment and/or materials during the progress of its erection. This contractor shall test all wiring and connections (whether new or existing) for continuity and grounds before connecting any equipment.

B. The Contractor shall test the entire system in the presence of the Engineer when the work is completed to ensure that all portions are free from shorts or grounds. All equipment necessary
to conduct these tests shall be furnished at the Contractor's expense.

3.06 DELIVERY AND STORAGE OF MATERIALS

A. Make provisions for delivery and safe storage of all materials. Deliver materials to job at such stages of the work as will expedite work as a whole. Carefully mark and store all materials. Carefully check materials furnished for installation, and furnish a receipt acknowledging acceptance of delivery and condition of materials received. Thereafter assume full responsibility for safekeeping of same until final installation has been approved and accepted.

3.07 CUTTING AND PATCHING

A. Carefully lay out all work and coordinate location with architect and other trades. Where cutting, channeling, chasing or drilling of floors, walls, partitions, ceilings or other surfaces is necessary for proper installation, support or anchorage of raceways, outlets or other electrical equipment, this work shall be the responsibility of this Contractor. Any damage to building, piping, equipment or any defaced finish, plaster, woodwork or metalwork shall be repaired by this contractor at no additional cost to Owner. Do no cutting, channeling, chasing or drilling of unfinished masonry, tile, etc. or cutting, drilling, welding of structural members of building, etc. without first obtaining permission from Engineer. If permission is granted, perform work in a manner approved by Engineer. All penetrations through fire resistive construction must be sealed with an approved fire resistive sealant.

3.08 DIRECTORY CARDS, NAMEPLATES, AND LABELS

A. All components of electrical system shall be neatly and accurately labeled to facilitate ready identification and service. Temporary type of markings, which are visible on equipment, will not be permitted. Repaint trims, housing, etc. where such marking cannot be readily removed. Defaced finish must be refinished. All spares or spaces must be labeled in erasable pencil.

3.09 OPERATING MANUAL AND PARTS LIST AND INDOCTRINATION OF OPERATING AND MAINTENANCE PERSONNEL

A. Refer to Division 1.

3.10 CLEAN-UP

A. Remove all materials, scrap, etc. relative to electrical installation, and leave premises in a clean, orderly condition. Any costs to Owner for cleanup of site will be charged to Contractor. At completion, all equipment, lighting fixtures, etc. shall be thoroughly cleaned and all residue removed from the inside and outside surfaces.

3.11 GUARANTEE

A. Provide in accordance with the General Conditions and Division 1. Leave entire electrical system installed under this Division in proper working order. Replace, without additional charge, any work materials or equipment provided under this Division which develops defects within one year from date of final acceptance. Guarantee all materials and equipment against defects in composition, design or workmanship.

END OF SECTION
SECTION 260519 - CONDUCTORS

PART 1 - GENERAL

1.01 RELATED WORK IN OTHER SECTIONS
   A. Division 26 Sections “Electrical General Provisions” and “Grounding.”

1.02 RELATED DOCUMENTS
   A. Drawings, general provisions of the Contract between the Construction Manager/General Contractor and the University of Colorado, any General and Supplementary Conditions to the Contract, provisions of applicable Subcontractor Agreements, and other Division 1 Specification sections apply to work of this section.

PART 2 - PRODUCTS

2.01 CONDUCTORS AND CABLES (600 VOLTS)
   A. Type: Conform to the applicable UL and ICEA Standards for the use intended. Copper conductors with 600-volt insulation unless otherwise specified or noted on the drawings. All #12 conductors shall be solid with stranded conductors for No. 10 and larger.
   B. Aluminum Conductors Prohibited: Aluminum conductors will not be permitted.
   C. Insulation: Type THWN/THHN insulation minimum unless otherwise specified or noted on the drawings. Type THW minimum or type XHHW filled cross-linked polyethylene 90-degree C thermosetting insulation for conductors larger than No. 6 and elsewhere as required by NEC.
   D. Size: No. 12 minimum unless otherwise specified or noted on the drawings. Not less than NEC requirements for the system to be installed. If the equipment to be installed requires larger conductor and equipment sizes than indicated on the drawings, the owner shall be notified.
   E. Wire Color Coding:
      1. Color code wires for building voltage classes as follows:

<table>
<thead>
<tr>
<th>120/208V - 3 Phase</th>
<th>277/480V - 3 Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Black</td>
<td>A - Brown</td>
</tr>
<tr>
<td>B - Red</td>
<td>B - Orange</td>
</tr>
<tr>
<td>C - Blue</td>
<td>C - Yellow</td>
</tr>
<tr>
<td>Neutral - White</td>
<td>Neutral - Gray</td>
</tr>
<tr>
<td>Ground - Green</td>
<td>Ground - Green</td>
</tr>
</tbody>
</table>

2.02 CONNECTORS AND LUGS
   A. For copper conductors No. 10 and smaller: 3M Scotch-Lok, T&B or equal spring wire connectors.
   B. For copper conductors larger than No. 10: Split bolt-type pressure connectors, properly taped or insulated.
PART 3 - EXECUTION

3.01 WIRE AND CABLE TESTS (600 VOLTS)

   A. Measure the insulating resistance of service entrance conductors, feeder circuit conductors, and service ground. Measurements shall be taken between conductors and between conductors and ground. Resistance shall be 1,000,000 ohms or more when tested at 500 volts by megger without branch circuit leads. Tests and procedures shall meet the approval of the Architect/Engineer, and shall be in accordance with the applicable ICEA standards for the wires and cables to be installed. Furnish all instruments, equipment and personnel required for testing, and conduct tests in the presence of the Architect/Engineer. Submit written reports of the tests and results when requested by the Architect/Engineer.

3.02 SPLICES (480 VOLTS AND UNDER)

   A. Permitted only at outlets or accessible enclosures. Conductor lengths shall be continuous from termination to termination without splices unless approved by the Architect/Engineer.

3.03 PULL WIRES

   A. In each empty conduit, except underground conduits, installed a No. 14 galvanized steel pull wire or a plastic line having a tensile strength of not less than 200 pounds.

3.04 RACEWAYS

   A. Install all conductors in an approved raceway system.

   B. Install a ground conductor in all power & lighting circuits above 50 volts.

3.05 CABLE BENDS

   A. Radius of bends shall be not less than 10 times the outer diameter of the cable.

3.06 CONDUCTOR PULL

   A. Conductors shall not be pulled into conduits until after all plastering or concrete work is completed, and all conduits in which moisture has collected have been swabbed out.

3.07 CONNECTORS AND LUGS

   A. Install with manufacturer’s recommended tools and with the type and quantity of deformations recommended by manufacturer.

END OF SECTION
SECTION 260526 - GROUNDING

PART 1 - GENERAL

1.01 RELATED WORK IN OTHER SECTIONS

A. Division 26 Sections “General Provisions”, “Raceways”; “Conductors”, “Boxes and Fittings”, and “Wiring Devices and Plates”.

PART 2 - PRODUCTS

A. Materials, equipment, and devices related to the grounding system are specified under other sections of these specifications.

PART 3 - EXECUTION

3.01 GENERAL

A. Install grounding conductors as shown on the drawings.

B. Provide a grounding conductor in all power and lighting branch circuits above 50 volts.

3.02 EQUIPMENT GROUNDING SYSTEM

A. Ground Bar: Provide an uninsulated copper equipment ground bar, separate from any insulated neutral bar, in all switchboards, panelboards, transformers, motor control centers, starters, disconnect switches, cabinets, etc., for grounding the enclosure and for connecting other equipment ground conductors. The ground bar shall be an integrally mounted and braced bus bar in switchboards, or a separately mounted bar adequately braced or bolted to the enclosure of other types of equipment. The ground bar shall be adequately braced or bolted to the enclosure after thoroughly cleaning both surfaces to assure good contact. Provide solderless pressure connectors for all conductor terminations. Number and size of pressure connectors on equipment grounding bars as required for the termination of equipment grounding conductors. In addition to the active circuits, provide pressure connectors for all three-phase spares and spaces.

B. Conduits: Where metallic conduits terminate without mechanical connection to a metallic housing of electrical equipment by means of lock nut and bushings provide ground bushing connected with a bare copper conductor to the ground bar in the electrical equipment. Metallic conduits containing ground wiring only shall be bonded to the grounding wire at both conduit entrance and exit. Install grounding conductor in all conduits except those used for telephone, sound, or low-voltage signals, and in all flexible conduit. Bond the conductor at both ends to the equipment grounding system.

C. Feeders and Branch Circuits: Provide a separate green insulated equipment grounding conductor for each single or three-phase feeder and each branch circuit. Install a grounding conductor in the common conduit or raceway with the related phase and/or neutral conductors and connect to the box or cabinet grounding terminal. Where there are parallel feeders installed in more than one raceway, each raceway shall have a full sized green insulated equipment ground conductor.

D. Devices: Install a minimum No. 12 green insulated equipment bonding conductor from a grounding terminal in the respective outlet or junction box to the green ground terminal of all
receptacles and through flexible conduit to all light fixture housings.

E. Motors: Install a separate green insulated equipment grounding conductor from the equipment ground bar in the motor control center or separate starter through the conduit and flexible conduit to the ground terminal in the connection box mounted on the motor. Install the grounding conductor in the common conduit or raceway with the related motor circuit conductors.

3.03 GROUND CONNECTIONS

A. Clean surfaces thoroughly before applying ground lugs or clamps. If surface is coated, the coating must be removed down to the bare metal. After the coating has been removed, apply a noncorrosive approved compound to cleaned surface and install lugs or clamps. Where galvanizing is removed from metal, it shall be painted or touched up with "Galvanox", or equal.

3.04 TESTS

A. Test the completed grounding system with a megger at the service ground bar and submit a written report to the Engineer for approval. The service shall not be energized if the test shows more than 5 ohms unless approved by the Engineer.
SECTION 260533 - RACEWAYS

PART 1 - GENERAL

1.01 RELATED WORK IN OTHER SECTIONS

A. Division 26 Sections “Electrical General Provisions” and “Grounding.”

1.02 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract between the Construction Manager/General Contractor and the University of Colorado, any General and Supplementary conditions to the Contract, provisions of applicable Subcontractor Agreements, and other Division 1 Specification sections apply to work of this section.

PART 2 - PRODUCTS

2.01 CONDUITS

A. Rigid Steel Conduit: Rigid, threaded, thick-wall, zinc-coated on the outside and either zinc-coated or coated on the inside. ANSI C80.1.

B. Electrical Metallic Tubing (EMT): Mild steel, zinc-coated on the outside and either zinc-coated or coated with an approved corrosion-resistant coating on the inside. The use of 2” or larger EMT by UCB permission only.

C. Flexible Conduit: Commercial Greenfield, galvanized steel, with a separate grounding bond wire installed in the conduit in addition to other wires. MC and AC cable and extra flexible conduit are not acceptable.

D. PVC Conduit (schedule 40): Polyvinyl chloride.

E. Liquidtight flexible conduit: PVC coated with an inner metallic jacket.

F. Conduit Size: Minimum conduit size is 1/2-inch for lighting circuits and 3/4” for power circuits. All conduit for branch circuit receptacles, motor feeders and panelboard feeders shall be as required by the NEC for RH, RHH, and RHW insulation regardless of the type of insulation actually used.

F. Provide a pull string in all empty conduits.

G. Provide a grounding conductor with all circuits.

2.02 CONDUIT FITTINGS

A. Rigid Steel Conduit, IMC, and EMT Fittings: Iron or steel only.

B. Flexible Conduit Fittings (Commercial Greenfield): Steel only, with insulated throats, and shall be:

1. Squeeze or clamp type with bearing surface contoured to wrap around the conduit and clamped by one or more screws.

C. Connectors and Couplings: Compression type threadless fittings for rigid steel conduit or IMC
not permitted. EMT couplings and connectors shall be steel only, "Concrete-tight" or "Rain-tight" (gland and ring compression type) or steel set screw type. Connectors to have insulated throats.

D. Bushings: Insulated type, designed to prevent abrasion of wires without impairing the continuity of the conduit grounding system, for rigid steel conduit, IMC, and EMT conduit larger than 1-1/4" size. Provide grounding type bushings on all feeder conduits.

PART 3 - EXECUTION

3.01 CONDUIT SIZING, ARRANGEMENT, AND SUPPORT

A. Size all conduits to meet the requirements of National Electrical Code, all power or feeder conduits shall meet the requirements for RHH and RHW insulation regardless of the type of wire actually used. Minimum flexible conduit size shall be 1/2". Three-eights inch flexible conduit is permitted if furnished as part of a manufactured equipment connection.

B. The maximum length of flexible conduit for connections to lighting equipment is 6'-0". Flexible conduit may also be used where installing new devices in existing walls and the wall or structure has to be “fished”. MC and AC cables are not acceptable.

C. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls and adjacent piping. Coordinate the proposed conduit routing with the Architect prior to installation.

D. Maintain minimum 6 inch clearance between conduit and piping. Maintain 12 inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances.

E. Arrange conduit supports to prevent distortion of alignment by wire pulling operations. Support conduit from building structure using galvanized straps, clevis hangers, or bolted split stamped galvanized hangers. Do not support conduits from ceiling suspension wires.

F. Group conduit in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps. Provide space for 25 percent additional conduit.

G. Do not fasten conduit with wire or perforated pipe straps. Remove all wire used or temporary conduit support during construction, before conductors are pulled. Multi-use suspension systems for plumbing and other piping along with electrical conduits shall not be permitted unless the hangers were designed for all the piping and conduit loads and will support a minimum of 200 lbs.

3.02 CONDUIT INSTALLATION

A. Cut conduit square using a saw or pipecutter; de-burr cut ends.

B. Bring conduit to the shoulder of fittings and couplings and fasten securely.

C. Use conduit hubs or sealing locknuts for fastening conduit to cast boxes, and for fastening conduit to sheet metal boxes in damp or wet locations.

D. For all metallic conduits, provide insulated bushing or throat bushings for 1-1/4" diameter and larger. Provide grounding lug bushings where conduits enter switchboards.

E. Use conduit bodies to make sharp changes in direction, as around beams.
F. Use hydraulic one-shot conduit bender or factory elbows for bends in conduit larger than 2 inch size.

G. Avoid moisture traps where possible; where unavoidable, provide junction box with drain fitting at conduit low point.

H. Use suitable conduit caps to protect installed conduit against entrance of dirt and moisture.

I. Provide No. 12 AWG insulated conductor or suitable pull string in empty conduit, except sleeves and nipples.

J. Install expansion joints where conduit crosses building expansion joints.

K. Where conduit penetrates fire-rated walls and floors, provide mechanical fire-stop fittings with UL listed fire rating equal to wall or floor rating or seal opening around conduit with UL listed foamed silicone elastomer compound. Coordinate with Division 0 requirements.

L. Where conduit penetrates waterproofed floors or exterior walls subject to entry of moisture, provide pipe sleeves two sizes larger than conduit, suitably flashed or sealed where appropriate. Seal annular space around conduit with UL listed foamed silicone elastomer compound. For conduit penetrations through exterior foundation walls below grade, all conduit shall be sloped away from the building to prevent entry of moisture. Pipe sleeve shall be large enough to allow up to 3" of vertical movement about the conduit without damage in the event that the foundation rises.

3.03 CONDUIT INSTALLATION SCHEDULE

A. Concealed Dry Interior Locations: Rigid steel conduit or electrical metallic tubing. Do not use EMT in concrete slabs or walls.

B. Exposed Dry Interior Locations: Rigid steel conduit from floor level to +4'-0" above finished floor where exposed to travel areas (corridors, receiving, etc.) or where likely to be damaged. Electrical metallic tubing above +4'-0" from finished floor. All surface conduit shall be painted. Wiremold shall be used in some finished areas as shown on the drawings.

C. Flexible metal conduit shall be utilized for the following:
   1. Transformer final connections.
   2. Mechanical equipment final connections.
   3. Lighting equipment final connections.
   4. Installation of devices in existing walls or ceilings to remain where rigid conduit cannot be installed.

D. Direct buried conduit: PVC schedule 40 conduit with transition to GRC with a GRC elbow before rising above grade through a floor or into a wall. No PVC shall be located inside the building.

E. Liquidtight flexible conduit: metallic type to be used below computer floors, for final motor connections, flow and tamper switch connections and exterior final equipment connections.

END OF SECTION
SECTION 260535 - BOXES AND FITTINGS

PART 1 - GENERAL

1.01 RELATED WORK IN OTHER SECTIONS

A. Division 26 Sections “Electrical General Provisions” and “Grounding.”

1.02 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract between the Construction Manager/General Contractor and the University of Colorado, any General and Supplementary Conditions to the Contract, provisions of applicable Subcontractor Agreements, and other Division 1 Specification sections apply to work of this section.

PART 2 - PRODUCTS

2.01 OUTLET BOXES

A. Construction: Zinc-coated or cadmium-plated sheet steel boxes of a class to satisfy the condition at each outlet except where unilet or conduit bodies are required. Knockout type with knockouts removed only where necessary to accommodate the conduit entering. Square cornered, straight sided gang boxes, 4-inch octagon concrete rings and 4-inch octagon hung ceiling boxes with bars may be folded type; one-piece deep-drawn for all other boxes.

B. Size: To accommodate the required number and sizes of conduits, wires and splices in accordance with NEC requirements, but not smaller than 4” square. Standard concrete type boxes not to exceed 6 inches deep except where necessary to permit entrance of conduits into sides of boxes without interference with reinforcing bars. Special purpose boxes shall be sized for the device or application indicated.

C. Fixture Studs: 3/8-inch malleable-iron fixture stud in outlet boxes for ceiling lighting fixtures and interior bracket lighting fixtures, other than lamp receptacles and drop cords.

D. Exposed: Screw-joint type, with gasketed weatherproof covers in locations exposed to the weather.

E. Tile Boxes: Rectangular in shape with square corners and straight sides for receptacles and switches mounted in furniture cabinets or in glazed tile, concrete block, marble, brick, stone or wood walls. Install with tile rings.

F. Wall-Mounted Switch, Receptacle and Signal Boxes: Unless otherwise noted or specified, not less than 4 inches square by 1-1/2 inches deep for two devices and multi gang boxes for more than two devices. Boxes for switches and receptacles on unfinished walls may be screw-joint type with covers to fit the devices.

G. Light Fixture Boxes: 4-inch diameter by 1-1/2 inch deep minimum for ceiling and interior bracket fixtures with concealed conduits. Plaster covers for bracket fixtures to have 3-inch diameter openings. Screw-joint boxes with canopy seat for ceiling and interior bracket fixtures with exposed conduits.
PART 3 - EXECUTION

3.01 OUTLET BOXES

A. Installation: Unless otherwise specified or shown on the drawings, outlet boxes shall be flush mounted and the front edges of the boxes or plaster covers shall be flush with the finished wall or ceiling line, or if installed in walls and ceilings of incombustible construction, not more than 1/4-inch back of same. Mount boxes with the long axis of devices vertical. Boxes in plastered walls and ceilings shall be provided with plaster covers. Box extensions and/or covers will not be permitted. Install in a rigid and satisfactory manner with suitable metal bar hangers, box cleats, adjustable box hangers, etc. Use wood screws on wood, expansion shields on masonry and machine screws on steel work.

B. Mounting Heights: The mounting height of a wall-mounted outlet box shall be construed to mean the height from the finished floor to the horizontal center line of the cover plate. On exposed tile, block, or brick construction, mount outlet boxes at the nearest bed joint to the mounting height indicated. Verify with Architect.

C. Wall-Mounted Switch, Receptacle and Signal Outlets: On columns, pilasters, etc., mount so the centers of the columns are clear for future installation of partitions. Install outlet boxes near doors or windows close to the trim. Install outlet boxes near the doors on the lock sides as shown on architectural drawings, unless other locations are approved by the Architect.

D. Back-To-Back: Outlets shown on the drawings "back-to-back" are to be installed with a minimum of 6 inches lateral separation between outlets for minimum sound transmission. "Through-the-wall" type boxes are not permitted.

E. Box extensions shall be prohibited on new construction and one per existing box will be allowed on remodel work only. Install a new 6 x 6 box to cover the existing box if one extension is not sufficient to flush out the existing box. The relocated device can then be mounted in a close nippled standard box.

F. Provide "Bell" or FS boxes for surface installations in all high traffic areas such as corridors, circulation spaces, exterior colonnades, plazas, etc.

G. Boxes mounted on metal partitions shall have back side supports.

3.02 FIXTURE CONNECTIONS

A. Recessed or surface light fixtures in lay-in or accessible ceilings shall be connected with minimum 3/8-inch flexible metallic conduit, 4 to 6 feet long, with grounding provisions.

3.03 IDENTIFICATION

A. Identify all junction and pull boxes as follows:

1. Fire Alarm - red
2. Emergency - yellow
3. Telephone - green
4. Television - violet
5. Computer & data - blue
6. 277/480V - orange

END OF SECTION
SECTION 262726 - WIRING DEVICES AND PLATES

PART 1 - GENERAL

1.01 RELATED WORK IN OTHER SECTIONS

A. Division 26 Sections “Electrical General Provisions” and “Grounding.”

1.02 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract between the Construction Manager/General Contractor and the University of Colorado, any General and Supplementary Conditions to the Contract, provisions of applicable Subcontractor Agreements, and other Division 1 Specification sections apply to work of this section.

PART 2 - PRODUCTS

2.01 SNAP SWITCHES

A. Unless otherwise specified, each switch (Quiet, Quick Make & Break) shall be of the A.C specification grade type for mounting in a single-gang spacing, fully rated 20 amperes minimum at 120/277 volts, conforming to minimum requirements of the latest revision of the Federal Spec. #W-S-896E, standard Quiet Switches and further requirements herein specified. Switches shall be spec grade, heavy duty, single-pole, 3-way or 4-way, of the maintained, momentary, or lock type as indicated on the drawings with grounding screw. Switches shall operate in any position and shall be fully enclosed cup type with entire body molded phenolic, urea or melamine. Fibre, paper or similar insulating material shall not be used for body or cover, ivory color handles unless otherwise indicated on the drawings. Silver or silver alloy contacts. A.C. 120/277 volt general use snap switches shall be capable of withstanding tests as outlined in NEMA Publication, and shall be as follows unless otherwise noted:

Hubbell #1221-I, 1223-I or 1224-I.

2.02 RECEPTACLES

A. General: Configuration and requirements for all connector or outlet receptacles shall be in accordance with NEMA Publications. Fire-resistant, non-absorptive, hot-welded, phenolic composition or equal bodies and basses with metal plaster ears (integral with the supporting member) and 20 amp minimum. Single or duplex as shown or noted on drawings. Ivory color unless otherwise noted on the drawings. Double grip contacts for each prong. Receptacles shall comply with Federal Spec. #W-C-596E.

B. Grounding Type: All receptacles shall be grounding type with a green colored hexagonal equipment ground screw of adequate size to accommodate an insulated grounding jumper the same size as the phase conductor. Grounding terminals of all receptacles shall be internally connected to the receptacle mounting yoke.

C. Unless otherwise noted, receptacles shall be as follows:

Hubbell #5362-I or 5362-GF for ground fault.

2.03 DEVICE PLATES

A. General: Provide device plates for each switch, receptacle and special purpose outlet. Do no
use sectional gang plates. Provide multi-gang outlet plates for multi-gang boxes. Plates shall be smooth lexan, of spec. grade, ivory color, as manufactured by Hubbell, Leviton, Arrow-Hart, Daniel Woodhead or Eagle. Each coverplate for all receptacles and switches shall be provided with an adhesive Brady label on the outside of the coverplate with the panel and circuit identified. If the existing building has metal plates (stainless steel) the new coverplates shall be the same to match.

B. Exposed: Plates for exposed jointed fittings shall match the fittings with edges of plates flush with edges of fittings. Heavy cadmium plated steel with gasket. Plates for cast type boxes at locations subject to wet or rain conditions shall be of the cast, vapor-tight type. Provide hinged lift covers for devices.

PART 3 - EXECUTION

A. Install wall switches 48 inches above floor to the center of the device, OFF position down.

B. Install convenience receptacles vertically at 18 inches above floor to the center of the device, or horizontally at 6 inches above counters, or backsplash, with grounding pole to right.

C. Install specific-use receptacles at heights shown on Contract Drawings.

D. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface-mounted outlets.

E. Install devices and wall plates flush and level.

F. Install with alignment tolerance of one-sixteenth inch and all edges in continuous contact with wall surfaces.

END OF SECTION
SECTION 265100 - LIGHTING FIXTURES

PART 1 - GENERAL

1.01 RELATED WORK IN OTHER SECTIONS

A. Division 26 Sections “Electrical General Provisions” and “Grounding.

1.02 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract between the Construction Manager/General Contractor and the University of Colorado, any General and Supplementary Conditions to the Contract, provisions of applicable Subcontractor Agreements, and other Division 1 Specification sections apply to work of this section.

1.03 SUBMITTALS

A. Submit for approval complete shop drawings, catalog cuts, special installation instructions, photometric data and descriptive literature. When fixtures are proposed for substitution and prior approval has not been issued in the form of an addenda they will not be reviewed.

PART 2 - PRODUCTS

2.01 GENERAL

A. Furnish all lighting fixtures throughout of the type indicated on the drawings, complete with lamps, sockets, wiring, fitters, hangers, plaster rings, canopies, etc., as required.

2.02 LAMPS

A. Fluorescent: 3500 degree Kelvin, energy saving, green end cap lamps, T8 as noted in the fixture schedule.

B. Incandescent: As specified on the drawings in the fixture schedule.

C. Manufacturers: General Electric, Sylvania or Philips.

2.03 BALLASTS

A. Fluorescent Ballasts - Electronic;

1. Provide rapid start electronic ballasts with series circuiting for all four foot rapid start T-5 and T-8 lamps with voltage as indicated on the plans and fixture schedule. The ballast shall deliver normal lamp life and must be interchangeable with electromagnetic ballasts. The light output shall not vary in response to an input voltage variance of less than 10% rated voltage. Drive output shall be greater than 25 KHz with lamp flicker less than 2%.

2. The ballast Total Harmonic Distortion shall be less than 20% with the third harmonic (180 Hz) distortion less than 8%.

3. The ballast shall have a power factor of 0.98 or higher and shall have a ballast efficiency of 90% or higher.

4. The ballast shall be UL listed Class P and with a sound rating better than A.
5. The manufacturer shall provide a full three year warranty beginning at time of substantial completion. The manufacturer shall replace any and all failed ballasts within 48 hours of notification. The manufacturer shall provide the labor for warranty replacements.

6. The ballasts shall be by Advance, Magna-Tek or Sylvania. All other manufacturers shall request prior approval and supply test data from an independent testing laboratory to substantiate compliance with specifications.

B. All compact fluorescent fixtures shall utilize high power factor electronic ballasts.

2.04 FLUORESCENT FIXTURES

A. All fixtures, ballasts and supports shall be quiet in operation. Louvers, shields, reflectors and all sections of the channel structure shall be securely held in position. Fixtures shall not be mounted in such a way that ballast hum will be amplified or transmitted into work areas.

2.05 FINISH

A. Bonderized or equal treatment on all steel parts prior to applying finish. Metal parts shall be aluminum, brass, copper, bronze or steel, with baked white enamel finish unless otherwise noted on the drawings.

2.06 FLUORESCENT LAMPHOLDERS

A. Designed so lamps will be held firmly in place, electrically and mechanically permitting easy insertion or removal of lamps. Provide corrosion resistant, silver-plated lamp pin contacts.

2.07 CEILING TRIM

A. Furnish proper ceiling frames for the ceiling materials in which recessed fixtures are to be installed. Verify that the ceiling type to be installed is as noted on the fixture schedule prior to ordering the fixtures.

2.08 HOUSING

A. Not less than 20 gauge steel with baked white enamel finish applied over corrosion-resistant primer unless otherwise specifically approved.

PART 3 - EXECUTION

3.01 SUPPORTS

A. Support ceiling fixtures by anchorage to the ceiling only where the ceiling is concrete or masonry units. For ceilings of other construction, anchor ceiling fixtures to metal or wood supports provided for that purpose, of suitable strength and stability, adequately attached to and supported by joists, trusses or other structural members, unless other methods of support are specifically approved by the Architect. Where lay-in construction is used, fixtures shall be of the lay-in type. Coordinate supports for lay-in fixtures with ceiling contractor.

3.02 CEILING TRIM AN MEANS OF SUPPORT

A. The ceiling trim and means of support of recessed fixtures shall be coordinated with the type of ceiling to be installed to insure proper installation.
3.03 CLEAN-UP

A. At final inspection the fixtures and lighting equipment shall be in first class operating order, in perfect condition as to finish, free from defects, completely lamped, clean and free from dust, plaster or paint spots, and complete with the required glassware, reflectors, side panels, louvers, or other components necessary to complete the fixtures.

END OF SECTION
SECTION 271800 - INTERIOR TELECOMMUNICATIONS PATHWAYS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, Contract Forms, Conditions of the Contract, including Construction Manager/General Contractor (CM/GC) Agreement including Exhibits and other Division 1 Specification Sections, apply to this section

1.2 SCOPE OF WORK

A. Provide all services labor, materials, tools, and equipment required for the complete and proper installation of interior telecommunications pathways as called for in these specifications and related drawings.

B. This section includes minimum requirements and installation methods for the following:
   1. EMT Conduit and Cable Tray Systems
   2. Surface Metal Raceway Systems
   3. Wireless Access Boxes
   4. Educational Technology Cabinets for Classrooms and Lecture Halls

1.3 QUALITY ASSURANCE

A. All installation work for the new interior telecommunications pathways shall be performed in a neat and workmanlike manner. All methods of construction that are not specifically described or indicated shall be subject to the control of UCB.

B. Equipment and materials shall be of the quality and manufacture indicated. The equipment specified is based on the acceptable manufacturers listed. Where “approved equal” is stated, equipment shall be equivalent in every way to that of the equipment specified and subject to approval of UCB based on submittals provided.

C. Materials and work specified herein shall comply with the applicable requirements of:
   1. ANSI/NFPA 70 – National Electrical Code including, but not limited to, the following articles:
      a) 250 – Grounding
      b) 300 – Wiring Methods
      c) 314 – Outlet, Device, Pull, and Junction Boxes; Conduit Bodies; Fittings; and Manholes
      d) 358 – Electrical Metallic Tubing: Type EMT
      e) 386 – Surface Metal Raceways
      f) 392 – Cable Trays
      g) 770 – Optical Fiber Cables and Raceways
   2. ANSI/TIA-568-C.0 – Generic Telecommunications Cabling for Customer Premises
   3. ANSI/TIA-568-C.1 – Commercial Building Telecommunications Cabling Standard
   4. ANSI/TIA-569-B – Commercial Building Standard for Telecommunications Pathways and Spaces, including applicable addendum
   5. ANSI/TIA-606 – Administration Standard for Telecommunications Infrastructure of Commercial Buildings
   6. ANSI/TIA-607 – Commercial Building Grounding and Bonding Requirements for Telecommunications
7. BICSI Telecommunications Distribution Methods Manual

1.4 SUBMITTALS

A. As-built drawings

PART 2 – PRODUCTS

2.1 EMT CONDUIT AND CABLE TRAY SYSTEMS

A. Electrical Metallic Tubing (EMT): Electro-galvanized steel tubing 3/4” and larger diameter per project requirements:

1. Conduit joint couplings and connectors: steel double set screw indenter fittings
2. Metal bushings for 3/4” and 1” conduit
3. Insulated metallic bushings for 1-1/4” and larger conduit
4. Insulated metallic bushings with grounding lugs as required
5. Conduit sweeps: minimum 10 times the conduit inside diameter
6. Include required conduit straps, and hangers, heavy-duty malleable iron or steel. Perforated pipe strap, j-hooks, bridle rings, or wire hangers are not permitted
7. LB fittings and plastic fittings are not permitted
8. Nipple runs from one outlet box to another outlet box are not permitted

B. Outlet boxes: Galvanized steel sheet metal 4” x 4” x 2-1/8” deep minimum with single gang mud ring

C. Pull-boxes: Minimum 14 gauge galvanized steel with screw fastened cover and trim for flush or surface mounting as required for project. Dimensions as required for project.

1. Box extensions are prohibited for new construction however they are permitted on remodel work to extend existing installations.

D. Metal Flex Conduit (3/4”) and deep Cut-In Boxes for outlets in existing walls for remodel projects only.

E. Pull-rope: polypropylene monofilament line with a minimum pull tensile strength of 200 pounds.

F. Cable Trays in Ceiling Areas:

1. Welded wire mesh cable system, 12” wide x 2” deep: Cope CAT2-12SL-120
2. Include components, and compatible fittings designed and manufactured by the cable tray manufacturer as required for a fully installed electrically continuous system: Cope
3. Include support kits, brackets, threaded rod hangers, lateral threaded rod braces, and other anchors and supports as required as specified in Section 270500.

G. Labels for conduit, pull-boxes, and cable trays: 1” x 2” yellow background with 3/8” lettering to read “TELECOM”

2.2 SURFACE METAL RACEWAY SYSTEMS
A. Surface Metal Raceway Systems:

1. Surface Raceway: Hubbell Steel Raceway with Ivory color finish

   a) 0.76" W x 0.85" D: 750 Hubbell Series HBL75010IV Single Channel One-Piece (this raceway shall only be used for installation of wireless wall boxes or voice wall jacks)

   b) 1.3" W x 0.83" D: 2000 Hubbell Series HBL2000BCIV (Base and Cover)

   c) 2.67" W x 1.47" D: 3000 Hubbell Series HBL3000BIV (Base) and HBL3000CEIV (Cover)

   d) 4.76" W x 1.62" D: 4750 Hubbell Series HBL4750B10IV (Base) and HBL4750CIV (Cover)

   e) 6.75" W x 2.12" D: 6750 Hubbell Series HBL6750B10IV (Base) and HBL6750CIV (Cover)

2. Surface Raceway Parts and Fittings: Hubbell

   a) Deep Single-Gang Device Box for HBL2000 Raceway, 4.54" L x 2.82" W x 1.75" D: HBL2048IV

   b) Device Bracket and Cover for Outlets in HBL3000 Raceway: HBL3051LEIV

   c) Entrance End Fitting for HBL2000 Raceway: HBL2010A3IV

   d) Entrance End Fitting for HBL3000 Raceway: HBL3010CIV

   e) Conduit Connector for HBL3000 Raceway to 1-1/2" Conduit: HBL3082GY

   f) End Reducing Connector for HBL3000 to HBL2000 Raceway: HBL3200REDIV

   g) Blank End Fitting for HBL6000 Raceway: HBL6710BIV

   h) Single-Gang Box for 3000 and 4750 Series Raceway: HBL5748IV with Extension Box: HBL5760IV

3. Include all parts and components: base and cover, compatible fittings, insulated bushings, and supports designed and manufactured by the raceway manufacturer as required for a complete installation.

2.3 WIRELESS ACCESS BOXES

A. Wall-Mount Enclosure for Wireless Access Equipment

   1. Vented steel closure 11" x 8" x 3"

   2. White, beige, or black finish to match wall color

   3. Continuous hinge swing down door with keyed lock

   4. Knockouts for cable entry/exit

   5. Two 1" antenna openings 5" apart on top of enclosure

   6. CPI: WA064WAP-R114 (see the attached “Wireless Security Box Instructions” for this execution)

   7. Include components and compatible fittings from the manufacturer as required for a complete installation

B. Ceiling Enclosure for Wireless Access Equipment

   1. Plenum-rated enclosure

   2. Mounts in standard 2’ x 2’ or 2’ x 4’ ceiling tile

   3. Continuous hinge swing down door with keyed lock

   4. Cable entry/exit opening with approved fire-rated foam kits
5. CPI: WA064-CAP-R113 (see the attached “Wireless Security Box Instructions” for this execution)
6. Include equipment mounting plate and other components and compatible fittings from the manufacturer as required for a complete installation

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine areas and conditions under which the new interior telecommunications pathways are to be installed. Provide notification, in writing, of conditions detrimental to proper completion of the work.

B. Verify field measurements and pathway routing conditions are as shown on project drawings. Provide notification, in writing, of conditions deviating from drawings.

C. Beginning of telecommunications pathway installation indicates Contractor acceptance of existing conditions.

D. Post and comply with: CONSTRUCTION INSPECTION REPORT – VOICE AND DATA COMMUNICATIONS attached to Section 270100.

3.2 INSIDE CONDUIT AND CABLE TRAY INSTALLATION

A. Place new inside EMT conduit and cable tray systems as shown on the project drawings.

B. Perform installation of pathways as specified in Section 270500 including anchoring and supports, grounding and bonding, firestop, etc.

C. No section of conduit shall be longer than 30 m (100 ft) between pull points (e.g., outlet boxes, telecommunications closets, or pull-boxes).

D. The inside radius of a bend in conduit shall be at least 10 times the conduit internal diameter. Bends in the conduit shall not contain any kinks or other discontinuities that may have a detrimental effect on the cable sheath during cable pulling operations.

E. No section of conduit shall contain more than two 90° bends, or equivalent bends exceeding 180° total, between pull points. If there is a reverse (u-shaped) bend in the section, a pull-box shall be installed. Of the 180° offsets, saddles and kicks shall not exceed 30 degrees.

F. Provide pull-boxes as required to accommodate wire pulling, splices, taps, equipment connections, and code compliance as required due to field conditions for each project.

G. Install pull-boxes in readily accessible locations. Equipment, piping, ducts, and the like shall not block access to the boxes. Coordinate access doors as required to provide access to pull-boxes in hard ceilings and similar inaccessible areas.

H. Collector/distribution conduit shall be 25′ ± 5 between pull-boxes. Conduits and boxes shall be upsized per fill in area. Install the conduit collector/distribution system so that the electrical continuity of the system for the main feed is maintained.
I. Conduit, cable tray, and surface raceway shall be so installed, that no cable run shall exceed 290’ in length from the Telecommunications Room (TR) or Equipment Room (ER) to the farthest outlet. Where building conditions prohibit meeting this requirement, additional TRs or ERs may need to be provided.

J. Conduits terminating into cable trays shall be no more than 6” away from the cable tray.

K. Provide dedicated 3/4” for each telecommunications outlet to the nearest pull-box or cable tray. Where multiple outlets serve an area, a conduit feeder system shall be used based on the attached drawing: TYPICAL TELECOMMUNICATION CONDUIT LAYOUTS. The conduit feeder system design shall be documented in drawing form and shall be approved in writing by the UCB ITS department prior to installation.

L. Conduit for fire alarm cable shall be separate, dedicated 3/4” conduit for the entire distance from the outlet to the TR or ER.

M. Minimum conduit size for telecommunications shall be 3/4”

N. Stub out conduits into the TRs and ERs only enough to attach connector and bushings with grounding lugs except conduits shall extend a minimum of 6 inches above the finished floor.

O. The ends of the metallic conduit shall be reamed and bushed using:
   1. Metal bushings for 3/4” and 1” conduit stubs to cable trays
   2. Insulated metallic bushings for 1-1/4” conduit and larger
   3. Insulated metallic bushings with grounding lugs for conduit entering TRs and ERs

P. Cut ends of metallic conduit shall be filed to remove burs.

Q. Bond all metallic raceways (conduit, cable tray, etc.) entering the TRs and ERs to the TGB or TMGB in the same room with #6 AWG grounding wire as straight as possible.

R. Ceiling tile shall be removed as necessary for the conduit and cable tray installation and put back in place without damaging or dirtying any of the tiles or supporting framework. Ceiling tile shall be handled with clean hands so that no fingerprints or marks are left on the tiles. The contractor is responsible for the cost of repair or replacement of any damaged or dirtied tiles or ceiling hardware.

S. Support conduits above suspended ceilings from building structure by suitable straps, racks, or hangers. Supporting conduits from ceiling suspension wires is not permitted.

T. Provide conduit support within 18” of each termination, and a maximum of 7’ between supports along conduit.

U. Support pull-boxes independently from building construction. Do not support from conduit.

V. Provide conduit expansion fittings with external grounding straps at building expansion joints.
W. Install new pull rope in all new conduits prior to pulling cable. The pull rope shall extend three feet from each end of the conduit and shall be knotted and secured to remain in place.

X. Do not install conduit or cable tray adjacent to hot surfaces or in wet areas.

Y. Install metal flex conduit and deep cut-in boxes for outlets in existing walls for remodel projects only. Connect flex conduit to pull-box within 4’ of entering ceiling space from wall space. Flex conduit and deep cut-in boxes are not allowed in new construction.

Z. Conduit and cable tray sizes and routes and pull-box sizes and locations shall be coordinated with UCB ITS for each project.

AA. If it is necessary to burn holes through webs of beams or girders, receive written approval from UCB as to the location and size of the hole before proceeding with work and abide with UCB standards for this work. All holes shall be burned no larger than absolutely necessary.

BB. Support cable tray with manufacturers supports and/or using threaded, galvanized rod hangers with rods extended through support steel and double-nutted. Size support members within load rating of member section and without visible deflection. Cut off excess threaded rod ends flush with the bottom of the double nut.

CC. Install cable tray level and straight to the extent possible.

DD. Where cable trays abut walls, supports shall be provided to walls.

EE. Provide cable tray supports at a minimum of 8’ on center and at all intersections and angles.

FF. A minimum 12” headroom shall be provided above all cable trays.

GG. A minimum 8” horizontal clearance shall be provided on at least one side of all cable trays.

HH. All cable tray shall be installed in compliance with clearances specified in Section 271500.

II. Install the cable tray system so that the electrical continuity of the system is maintained.

JJ. Provide body expansion connectors for cable trays at building expansion joints.

KK. Provide external grounding strap at expansion joints, sleeves, crossovers and other locations where cable tray continuity is interrupted.

LL. Support racks for telecommunications conduit and or cable tray must be dedicated for telecommunications pathways only. Multi-use suspension systems for plumbing and other piping along with electrical and telecommunications pathways are not permitted.

MM. Coordinate conduit and cable tray runs with other trades.
NN. Label all conduit and cable tray at both ends indicating TR, ER, outlet, or other location where conduit terminates and the length of the conduit. Label pull-boxes indicating destination of conduits entering and exiting.

OO. Label all conduit, pull-boxes, and cable tray with “Telecom” stickers at each end and every 75 feet.

PP. Label conduits entering TRs and ERs in accordance with ANSI/TIA-606 – Administration Standard for Telecommunications Infrastructure of Commercial Buildings

QQ. Separate dedicated pathways (conduit, cable tray, etc.) shall be provided for backbone and horizontal telecommunications cabling. Cable trays shall be clearly divided between backbone and horizontal cabling.

RR. Cable trays shall not pass through any firewall or fire-rated walls or surfaces. Cable tray shall end before the firewall and transition to the EZ Path within six (6) inches of the firewall. The cable through the EZ Path shall not exceed 60% fill, so that and 40% future fill shall remain.

SS. Firestop all pathways and core drills through walls and floors as specified in Section 270500.

3.3 SURFACE METAL RACEWAY INSTALLATION

A. Place new surface metal raceway systems as shown on the project drawings.

B. For outlets in Hubbell 3000 and 4750 surface raceway, use single-gang flush-type extension adapter 5760 with shallow box 5748IV on the front of the raceway so jacks do not protrude into pathway as shown in the drawing attached at the end of this Section.

C. Perform installation of routing hardware as specified in Section 270500 including anchoring and supports, grounding and bonding, firestop, etc. Use anchors for attachment to surface. Use of adhesives is prohibited.

D. Collector/distribution surface raceway shall be 25’ ± 5 between pull-boxes. Surface raceway and boxes shall be upsized per fill in area.

E. Cut raceways square and ream ends to remove burs at raceway connections to outlets.

F. Install raceways parallel or perpendicular to building walls, floors and ceilings.

G. When installing through false ceiling, extend raceway 1” above top of ceiling grid. Notch ceiling panel to size of raceway.

H. Coordinate raceway runs with other trades.

I. Ceiling tile shall be removed as necessary for the raceway installation and put back in place without damaging or dirtying any of the tiles or supporting framework. Ceiling tile shall be handled with clean hands so that no fingerprints or marks are left on the tiles. The contractor is responsible for the cost of repair or replacement of any damaged or dirtied tiles or ceiling hardware.
Upon request per project and daily installs, the contractor shall coordinate finish selection with the Department of Facilities Management prior to final design and all surface raceways shall be painted to match the wall as directed by Facilities Management. All coordination and disposal cost shall be included in fixed-pricing or project bid.

Identify all raceway with Telecommunications labeling as directed by UCB ITS.

### 3.4 TELECOMMUNICATIONS OUTLETS AND WIRELESS ACCESS ENCLOSURES

A. The locations of outlet boxes and wireless access enclosures shown on project drawings are approximate. The exact location of outlet boxes and enclosures shall be governed by structural conditions, obstructions, or other equipment.

1. Unless otherwise noted, outlet boxes shall be located as follows (dimensions are above finished floor to center line of boxes):
   
   a) Standard telecommunications outlets: 1'6"
   b) Wall-mount telephone outlets: 4'6"
   c) ADA Wall mount telephone outlets: 4'0"

2. All ADA standards shall be met when applicable.
3. Adjust outlet box locations so that they will be symmetrically located and not interfere with other equipment.
4. Where outlets of other types are adjacent, coordinate heights to be similar where possible.
5. Where outlets are located on masonry walls, adjust box location to set in corner of block or brick.
6. Back to back outlet boxes are not permitted. Separate boxes a minimum of 6” in standard walls and a minimum of 2” in acoustical walls.
7. Where conflicts are noted for outlet box locations, coordinate with UCB ITS and Facilities Management.
8. Outlet box locations may be adjusted by UCB up to six (6) feet from the location shown on drawing with no additional cost to UCB.

B. Support outlet boxes independently from building construction. Do not support from conduit or raceways.

C. Install wall-mount and ceiling enclosures for wireless access equipment, including all accessories and firestop materials, in accordance with manufacturer’s specifications. When wireless wall boxes are installed on gypsum board (sheet rock) secure with toggle bolts. After ceiling boxes are installed per manufacturer’s specifications, place on self tapping screw to ceiling grid through each of the support arms.

D. Provide EMT conduit to within 6” of ceiling enclosures for wireless access equipment.

E. Provide EMT conduit connecting to wall-mount enclosures for wireless access equipment.

F. All wireless box installations shall comply with the “Wireless Security Box Instructions” attached to the end of this section.

### 3.5 AS-BUILT DRAWINGS

A. Mark the project drawings with notations reflecting any variations from the base specifications and drawings including as-built conduit routing.
B. Comply with Construction Drawings AS-BUILT Requirements attached to Section 270100.

END OF SECTION 271800
SECTION 310100 - BASIC SITE MATERIALS & METHODS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:
   1. Construction Storm Water Requirements
   2. Post-Construction Storm Water Requirements

1.02 QUALITY ASSURANCE

A. All construction sites
   1. All construction sites that disturb any land must take appropriate erosion control
      and stormwater detention measures to contain water run-off from site.

B. Construction sites – one acre and larger
   1. All construction sites that are one acre and larger must prepare and submit a
      Storm Water Management Plan (SWMP) for approval before any work begins.
      The SWMP must conform to all the requirements contained herein.

1.03 SUBMITTALS

A. Storm Water Management Plan (SWMP)

   Storm Water Management Plan (SWMP): Prior to any construction activity disturbing
   one acre of land or more, an approved SWMP and a Stormwater Permit for Construction
   Activity application from the Colorado Department of Public Health and Environment
   (CDPHE) are required. The SWMP shall be prepared in accordance with the CDPHE
   requirements for “Contents of the Stormwater Management Plan” and the UDFCD’s
   (UDFCD Drainage Criteria Manual). Stormwater quality management and erosion
   control measures are to be constructed and maintained in accordance with the SWMP
   and the UDFCD Drainage Criteria Manual.

PART 2 – MATERIALS

2.01 Storm Water Management Plan

A. Preparation Standards: Design of the SWMP and the Storm Water Quality and Erosion
   Control Plan shall include the following elements:
   1. Protection for adjacent properties (including public right-of-way) from erosion
      and/or sediment deposition.
   2. Protection for public streets from the deposit of sediment from run-off or vehicles
      tracking mud at construction access routes.
   3. Stabilization for all disturbed areas as defined in the UDFCD Drainage Criteria
      Manual.
4. Protection for all storm sewer inlets from the entry of sediment-laden water.
5. Long-term stability of cut and fill slopes and the successful establishment of permanent vegetative cover on exposed soil.
6. The following standard notes:
   a. “All temporary erosion control facilities shall be installed before any construction activities take place”.
   b. “Solid waste, industrial waste, yard waste and any other pollutants or waste on any construction site shall be controlled through the use of BMP’s. Waste and/or recycling containers shall be provided and maintained by the owner or contractor on construction sites where there is the potential for release of waste. Uncontained waste that may blow, wash or otherwise be released from the site is prohibited. Sanitary waste facilities shall be provided and maintained by the owner or contractor”.
   c. “Ready-mixed concrete, or any materials resulting from the cleaning of vehicles or equipment containing or used in transporting or applying it, shall be contained on construction sites for proper disposal. Release of these materials is prohibited”.
   d. “Cover shall be applied within 14 days to inactive soil stockpiles, and shall be maintained for stockpiles that are proposed to remain in place longer than 30 calendar days”.
   e. “BMP’s shall be implemented to prevent the release of sediment from construction sites. Vehicle tracking of mud shall not be allowed to enter the MS4 or waters of the State. Sediment tracked onto public streets shall be removed immediately”.
   f. “Techniques shall be used to prevent dust, sediment or debris blowing from the site”.
   g. “Stormwater discharges from construction activities shall not cause or threaten to cause pollution, contamination or degradation of waters of the State”.
   h. “All earth disturbances shall be designed, constructed and completed to limit the exposed area of any disturbed land to the shortest possible period of time”.
   i. “Bulk storage structures for petroleum products and other chemicals shall have adequate protection so as to contain all spills and prevent any spilled material from entering the MS4 or waters of the State”.
   j. Any disturbance to temporary and permanent BMP’s resulting from construction activity shall be repaired or replaced within 48 hours.

PART 3 – EXECUTION

3.1 PERMITTING

A. Contractor shall develop the SWMP in accordance with all of the requirements herein and utilizing the most recent SWMP guidance document prepared by the CDPHE and good engineering hydrologic and pollution control practices and submit to the University for approval.

B. Contractor shall apply for and obtain a CDPHE storm water general permit for construction activities. Provide copies of the permit to the University prior to the start of construction operations.
3.2 CONSTRUCTION

A. The Contractor will be required to have the SWMP on site at all times and shall be prepared to respond to maintenance of specific BMP’s.

B. The Contractor shall inspect all BMP’s at least every 14 days and within 24 hours after any precipitation or snow melt event that causes surface run-off. Inspections of BMP’s shall be conducted by an individual who has successfully completed formal training in erosion and sediment control by an organization acceptable to the University. A certification of successful completion of such training shall be provided upon request.

C. The Contractor shall amend the SWMP whenever there is a change in design, construction, operation, or maintenance, which has an effect on the potential for discharge of pollutants to the MS4 or receiving waters, or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activities.

D. Records of inspection are to be maintained on site with the SWMP. Inspection records are to be available at the project site at all times and shall be made available to the University upon request.

E. Prior to commencement of work, all general contractors, subcontractors and utility agencies shall obtain and comply with the approved, current SWMP for the project.

3.3 POST CONSTRUCTION

At the conclusion of all construction activities and as a part of construction close-out, contractor shall remove all temporary BMP’s and inactivate the stormwater permit.

END OF SECTION