

**DOCUMENT 00 41 10 – GENERAL CONSTRUCTION BID FORM**

(This form is the official Bid Form to be executed and submitted in duplicate by the Bidder.)

Submitted By:

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Bidder's Name

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Bidder's Address

County

State

---

Bidder's Phone No.

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Bidder's Fax No.

This proposal is submitted in response to your Invitation to Bid in which Proposals were requested to be submitted for the Project identified as: Solanco High School Activities Building Addition for the Solanco School District, 121 South Hess Street, Quarryville, PA 17566.

**Contract No. 1 – General Construction**

**BASE BIDS**

Having carefully examined the Contract Documents together with all addenda thereto, all as prepared by the architectural firm Frederick Ward Associates, and being familiar with the various conditions affecting the Work, the undersigned herein agrees to furnish all materials, perform all labor, and do all else necessary to complete the Work in accordance with the Contract Documents for the Base Sum of:

**BASE BID “A” – One Story Structure** for Contract No.1 General Construction for Work to Solanco High School Activities Building Addition:

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Dollars

(\$ \_\_\_\_\_).

**BASE BID "B" - Complete Basement and First Floor** for Contract No.1  
General Construction for Work to Solanco High School Activities Building Addition:

\_\_\_\_\_ Dollars

(\$\_\_\_\_\_).

Accompanying this proposal is security in the form of \_\_\_\_\_ Dollars  
in the amount of \_\_\_\_\_ Dollars

(\$\_\_\_\_\_).

The undersigned proposes to complete the Work covered by this Proposal in such time and such manner and in cooperation with all others engaged on the Project, so that all Work will be fully completed by the date stated in Article 9 of the Supplementary Instructions to Bidders.

ALTERNATES

Contractor(s) are required to bid alternate prices on the following items:

The undersigned proposes the following alternates to the Basic Proposal in accordance with the Description set forth in Section 012300 - Alternates, and respective Specification Sections.

All line items must be completed indicating amount to be added to or deducted from the base bid, or N.C. indicating no change in the dollar amount.

- A. **Alternate Bid No. G-1 (General Construction Contract)** – State the amount to be added to the Base Bid "A" to provide the addition of the Girls Locker Room and Storage Room as indicated in the Contract Documents.

Add \_\_\_\_\_ Dollars

(\$\_\_\_\_\_)

UNIT PRICING

The Contractor is required to bid unit prices on the following items as identified in Section 012200-Unit Prices and respective Specification sections. If any extra work is required in these categories beyond the contract requirements, the unit prices shall be used as a basis for determining the amount of additional payment to the Contractor. If any deletions are to be made in these categories, the unit prices shall be used as a basis for determining the amount of credit the Contractor is to allow.

- A. Unit Price #G-1: Removal and Replacement of Unsuitable Soils
  - 1. Description: Contractor shall remove and replace unsuitable soils as directed in the field by the Owner's representative.
  - 2. Add/Deduct \$ \_\_\_\_\_ per cubic yard.

ADDENDA

The undersigned hereby acknowledges receipt of, and has included in this Proposal the Work covered by the following Addenda:

Addendum No.	Dated
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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In submitting this Proposal, it is understood that the unrestricted right is reserved by the Owner to reject any and all proposals, or parts thereof, or to waive any informalities or technicalities in said proposals, and it is agreed that this proposal may not be withdrawn for a period of 60 days, or as provided by Pennsylvania law, from the opening thereof, except as permitted by law.

Should the Owner notify the undersigned of its intention to award a Contract to the undersigned based upon this Proposal the undersigned will furnish properly executed bonds and insurance certificates and will execute the proposed contract within the time and in the forms and amounts required by the Contract Documents, as defined in the Specifications, and that upon his failure, neglect or refusal to do so, he shall forfeit to the Owner, this security accompanying this Proposal, not as a penalty, but as liquidated damages.

In submitting this proposal, it is understood the Contract Documents for this project, and the joint and several phases of construction hereby contemplated are to be governed, at all times, by applicable provisions of local, state and federal law(s), including but not limited to, the latest amendments of the following:

Williams-Steiger Occupational Safety & Health Act of 1970, Public Law 91-596;

Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;

Part 1518 - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

The undersigned hereby certifies that this proposal is genuine, and not sham or collusive, or made in the interest of or in behalf of any person, firm or corporation not herein named; that the undersigned has not directly or indirectly induced or solicited any bidder to refrain from bidding and that the undersigned has not, in any manner, sought by collusion to secure for himself an advantage over any other bidder.

In witness whereof, the undersigned has caused this Proposal to be executed this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

**INDIVIDUAL**

(SEAL)

WITNESS:

\_\_\_\_\_

**PARTNERSHIP**

(Name of Partnership)

WITNESS:

Partner

By: \_\_\_\_\_(SEAL)

Partner

\_\_\_\_\_

By: \_\_\_\_\_(SEAL)

Partner

\_\_\_\_\_

By: \_\_\_\_\_(SEAL)

**CORPORATION**

\_\_\_\_\_  
(Name of Corporation)

By: \_\_\_\_\_(SEAL)

(Vice) President

Attest

\_\_\_\_\_  
(Ass't) Secretary

(SEAL)

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Address

The Corporation has been organized and is existing under the laws of the State of \_\_\_\_\_

END OF DOCUMENT

**DOCUMENT 00 41 20 – HEATING, VENTILATION AND AIR CONDITIONING BID FORM**

(This form is the official Bid Form to be executed and submitted in duplicate by the Bidder.)

Submitted By:

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Bidder's Name

---

Bidder's Address

County

State

---

Bidder's Phone No.

Bidder's Fax No.

This proposal is submitted in response to your Invitation to Bid in which Proposals were requested to be submitted for the Project identified as: Solanco High School Activities Building Addition for the Solanco School District, 121 South Hess Street, Quarryville, PA 17566.

**Contract No. 2 – Heating, Ventilation, and Air Conditioning Construction**

**BASE BIDS**

Having carefully examined the Contract Documents together with all addenda thereto, all as prepared by the architectural firm Frederick Ward Associates, and being familiar with the various conditions affecting the Work, the undersigned herein agrees to furnish all materials, perform all labor, and do all else necessary to complete the Work in accordance with the Contract Documents for the Base Sum of:

**BASE BID “A” – One Story Structure** for Contract No.2 Heating, Ventilation, and Air Conditioning Construction for Work to Solanco High School Activities Building Addition:

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Dollars

(\$ \_\_\_\_\_).

**BASE BID “B” - Complete Basement and First Floor** for Contract No.2  
Heating, Ventilation, and Air Conditioning Construction for Work to Solanco High School  
Activities Building Addition:

\_\_\_\_\_ Dollars

(\$ \_\_\_\_\_).

Accompanying this proposal is security in the form of \_\_\_\_\_  
in the amount of \_\_\_\_\_ Dollars

(\$ \_\_\_\_\_).

The undersigned proposes to complete the Work covered by this Proposal in such time and such manner and in cooperation with all others engaged on the Project, so that all Work will be fully completed by the date stated in Article 9 of the Supplementary Instructions to Bidders.

ALTERNATES

Contractor(s) are required to bid alternate prices on the following items:

The undersigned proposes the following alternates to the Basic Proposal in accordance with the Description set forth in Section 012300 - Alternates, and respective Specification Sections.

All line items must be completed indicating amount to be added to or deducted from the base bid, or N.C. indicating no change in the dollar amount.

- A. **Alternate Bid No. H-1 (Heating, Ventilation and Air Conditioning Contract)** – State the amount to be added to the Base Bid “A” to provide the addition of the Girls Locker Room and Storage Room as indicated in the Contract Documents.

Add \_\_\_\_\_ Dollars

(\$ \_\_\_\_\_)



UNIT PRICING

The Contractor is required to bid unit prices on the following items as identified in Section 012200-Unit Prices and respective Specification sections. If any extra work is required in these categories beyond the contract requirements, the unit prices shall be used as a basis for determining the amount of additional payment to the Contractor. If any deletions are to be made in these categories, the unit prices shall be used as a basis for determining the amount of credit the Contractor is to allow.

ADDENDA

The undersigned hereby acknowledges receipt of, and has included in this Proposal the Work covered by the following Addenda:

Addendum No.	Dated
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

In submitting this Proposal, it is understood that the unrestricted right is reserved by the Owner to reject any and all proposals, or parts thereof, or to waive any informalities or technicalities in

said proposals, and it is agreed that this proposal may not be withdrawn for a period of 60 days, or as provided by Pennsylvania law, from the opening thereof, except as permitted by law.

Should the Owner notify the undersigned of its intention to award a Contract to the undersigned based upon this Proposal the undersigned will furnish properly executed bonds and insurance certificates and will execute the proposed contract within the time and in the forms and amounts required by the Contract Documents, as defined in the Specifications, and that upon his failure, neglect or refusal to do so, he shall forfeit to the Owner, this security accompanying this Proposal, not as a penalty, but as liquidated damages.

In submitting this proposal, it is understood the Contract Documents for this project, and the joint and several phases of construction hereby contemplated are to be governed, at all times, by applicable provisions of local, state and federal law(s), including but not limited to, the latest amendments of the following:

Williams-Steiger Occupational Safety & Health Act of 1970, Public Law 91-596;

Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;

Part 1518 - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

The undersigned hereby certifies that this proposal is genuine, and not sham or collusive, or made in the interest of or in behalf of any person, firm or corporation not herein named; that the undersigned has not directly or indirectly induced or solicited any bidder to refrain from bidding and that the undersigned has not, in any manner, sought by collusion to secure for himself an advantage over any other bidder.

In witness whereof, the undersigned has caused this Proposal to be executed this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

**INDIVIDUAL**

WITNESS: \_\_\_\_\_ (SEAL)

\_\_\_\_\_

**PARTNERSHIP**

(Name of Partnership)

WITNESS:

Partner By: \_\_\_\_\_ (SEAL)

Partner \_\_\_\_\_ By: \_\_\_\_\_ (SEAL)

Partner \_\_\_\_\_ By: \_\_\_\_\_ (SEAL)

**CORPORATION**

\_\_\_\_\_  
(Name of Corporation)

By: \_\_\_\_\_ (SEAL)  
(Vice) President

Attest

\_\_\_\_\_  
(Ass't) Secretary (SEAL)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Address

The Corporation has been organized and is existing under the laws of the State of \_\_\_\_\_

END OF DOCUMENT



**DOCUMENT 00 41 30 – PLUMBING BID FORM**

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**Contract No. 3 – Plumbing Construction**

**BASE BID**

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i3 \_\_\_\_\_':

**BASE BID "B" - Complete Basement and First Floor** mnr Ct nradcNt :(  
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Dt hbaro

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ALTERNATES

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A: **Alternate Bid No. P-1 (Plumbing Construction Contract)** – Scad csl ae t unct  
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Axx \_\_\_\_\_ Dt hro

i3 \_\_\_\_\_'

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### ADDENDA

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Rarc 1618 hSanhcy anx Hl abs M Qlbaft no mra Ct no cruddt n, Cs a) d r XIII t mlfdd 29, Ct xl t m 4l xl rab M Qlbaft no;

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\_\_\_\_\_ xay t m \_\_\_\_\_, 2019:

**INDIVIDUAL**

\_\_\_\_\_ iSEAL'  
\$ ITNESSP

**PARTNERSHIP**

\_\_\_\_\_ iNae l t mRarnl ros f)'

\$ ITNESSP

\_\_\_\_\_ ByP \_\_\_\_\_ iSEAL'  
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\_\_\_\_\_ ByP \_\_\_\_\_ iSEAL'  
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**CORPORATION**

iNae l t mCt r) t radf n'

ByP \_\_\_\_\_ iSEAL'

iVfdl' Rrl ofxl nc  
Acc cc

\_\_\_\_\_ iSEAL'

iAooe' Sl drl cary

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Axxrl oo

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END O4 DOCUF ENT

**DOCUMENT 00 41 40 – ELECTRICAL CONSTRUCTION BID FORM**

(This form is the official Bid Form to be executed and submitted in duplicate by the Bidder.)

Submitted By:

\_\_\_\_\_  
Bidder's Name

\_\_\_\_\_ Bidder's Address County State

\_\_\_\_\_  
Bidder's Phone No.

\_\_\_\_\_  
Bidder's Fax No.

This proposal is submitted in response to your Invitation to Bid in which Proposals were requested to be submitted for the Project identified as: Additions & Renovations to Swift Middle School and Clermont Elementary School for the Solanco School District, 121 South Hess Street, Quarryville, PA 17566

**Contract No. 4 – Electrical Construction**

**BASE BID**

Having carefully examined the Contract Documents together with all addenda thereto, all as prepared by the architectural firm Lewis & Associates Architects, and being familiar with the various conditions affecting the Work, the undersigned herein agrees to furnish all materials, perform all labor, and do all else necessary to complete the Work in accordance with the Contract Documents for the Base Sum of:

**BASE BID “A” – One Story Structure** for Contract No.4 Electrical Construction for Work to Solanco High School Activities Building Addition:

Dollars \_\_\_\_\_

(\$ \_\_\_\_\_).

**BASE BID “B” - Complete Basement and First Floor** for Contract No.4  
Electrical Construction for Work to Solanco High School Activities Building Addition:

Dollars \_\_\_\_\_

(\$ \_\_\_\_\_).

Accompanying this proposal is security in the form of \_\_\_\_\_ in the amount of \_\_\_\_\_ Dollars

(\$ \_\_\_\_\_).

The undersigned proposes to complete the Work covered by this Proposal in such time and such manner and in cooperation with all others engaged on the Project, so that all Work will be fully completed by the date stated in Article 9 of the Supplementary Instructions to Bidders.

ALTERNATES

Contractor(s) are required to bid alternate prices on the following items:

The undersigned proposes the following alternates to the Basic Proposal in accordance with the Description set forth in Section 012300 - Alternates, and respective Specification Sections.

All line items must be completed indicating amount to be added to or deducted from the base bid, or N.C. indicating no change in the dollar amount.

**A. Alternate Bid No. E-1 (Electrical Construction Contract)** – State the amount to be added to the Base Bid “A” to provide the addition of the Girls Locker Room and Storage Room as indicated in the Contract Documents.

\_\_\_\_\_ Dollars

(\$ \_\_\_\_\_)

## UNIT PRICING

The Contractor is required to bid unit prices on the following items as identified in Section 012200-Unit Prices and respective Specification sections. If any extra work is required in these categories beyond the contract requirements, the unit prices shall be used as a basis for determining the amount of additional payment to the Contractor. If any deletions are to be made in these categories, the unit prices shall be used as a basis for determining the amount of credit the Contractor is to allow.

A. Unit Price #E-1: Duplex Receptacles and Wiring

1. Description: Provide an additional duplex receptacle assembly including 20A, 120V duplex receptacle, back box, cover plate, 3/4" conduit/raceway with two (2) #12 conductors and one (1) #12 ground wire to a point of authorized connection, necessary wall penetration, cutting and patching, terminations and labeling. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: One assembly
3. Add/Deduct \$ \_\_\_\_\_ per assembly.

B. Unit Price #E-2: Exit Sign and Wiring

1. Description: Provide an additional exit sign assembly consisting of (1) luminaire type EX1, including appropriate mounting equipment, 3/4" conduit/raceway with two (2) #10 conductors and one (1) #12 ground wire, necessary wall penetration, cutting and patching, terminations and connections. Connect to closest normal/emergency "Exit Sign" circuit. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: One assembly.
3. Add/Deduct \$ \_\_\_\_\_ per assembly.

C. Unit Price #E-3: 2x4 Light Fixture and Wiring

1. Description: Provide an additional 2' x 4' light assembly consisting of (1) luminaire type RC1, appropriate mounting equipment, 3/4" conduit with two (2) #12 conductors and one (1) #12 ground wire to a point of authorized connection, necessary wall penetration, cutting and patching, terminations and connections. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: One assembly
3. Add/Deduct \$ \_\_\_\_\_ per assembly.

D. Unit Price #E-4: 1x4 Light Fixture and Wiring

1. Description: Provide an additional 2' x 4' light assembly consisting of (1) luminaire type RC3, appropriate mounting equipment, 3/4" conduit with two (2) #12 conductors and one (1) #12 ground wire to a point of authorized connection, necessary wall penetration, cutting and patching, terminations and connections. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: One assembly.
  3. Add/Deduct \$\_\_\_\_\_ per assembly
- E. Unit Price #E-5 – Heat or Smoke Detector & Wiring:
1. Description: Provide an additional heat or smoke detector assembly, consisting of detector of type required for application, appropriate backbox (as applicable) and mounting equipment, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, and programming required. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
  4. Add/Deduct \$\_\_\_\_\_ per assembly.
- F. Unit Price #E-6 – Duct Detector & Wiring:
1. Description: Provide an additional duct detector assembly, consisting of detector of type required for application, appropriate backbox (as applicable) and mounting equipment, remote indicating, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, and programming required. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
  4. Add/Deduct \$\_\_\_\_\_ per assembly.
- G. Unit Price #E-7 – Fire Alarm Pull Station & Wiring:
1. Description: Provide an additional pull station assembly, consisting of pull station device, Backbox, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, and programming required. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
  4. Add/Deduct \$\_\_\_\_\_ per assembly.
- H. Unit Price #E- 8 – Fire Alarm Audible/Visual Device & Wiring:

1. Description: Provide an additional fire alarm A/V device assembly, consisting of A/V device, backbox, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, programming, and additional power supplies required. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
  4. Add/Deduct \$ \_\_\_\_\_ per assembly.
- I. Unit Price #E-9 – Fire Alarm Addressable Device & Wiring:
1. Description: Provide an additional fire alarm addressable device assembly, consisting of addressable device, backbox, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, programming, and additional power supplies required. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
  4. Add/Deduct \$ \_\_\_\_\_ per assembly.
- J. Unit Price #E-10: Intercom Speaker and Wiring:
1. Description: Provide an additional intercom speaker (type as required for space) consisting of backbox, mounting equipment, cabling, conduit and all terminations and connections to program system. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
  4. Add/Deduct \$ \_\_\_\_\_ per assembly.
- K. Unit Price #E-11: Secondary Clock and Wiring:
1. Description: Provide an additional secondary clock (type as required for space) consisting of backbox, mounting equipment, cabling, conduit and all terminations and connections to master clock system. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
  4. Add/Deduct \$ \_\_\_\_\_ per assembly.

ADDENDA

The undersigned hereby acknowledges receipt of, and has included in this Proposal the Work covered by the following Addenda:

Addendum No.	Dated
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
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_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

In submitting this Proposal, it is understood that the unrestricted right is reserved by the Owner to reject any and all proposals, or parts thereof, or to waive any informalities or technicalities in said proposals, and it is agreed that this proposal may not be withdrawn for a period of 60 days, or as provided by Pennsylvania law, from the opening thereof, except as permitted by law.



Should the Owner notify the undersigned of its intention to award a Contract to the undersigned based upon this Proposal the undersigned will furnish properly executed bonds and insurance certificates and will execute the proposed contract within the time and in the forms and amounts required by the Contract Documents, as defined in the Specifications, and that upon his failure, neglect or refusal to do so, he shall forfeit to the Owner, this security accompanying this Proposal, not as a penalty, but as liquidated damages.

In submitting this proposal, it is understood the Contract Documents for this project, and the joint and several phases of construction hereby contemplated are to be governed, at all times, by applicable provisions of local, state and federal law(s), including but not limited to, the latest amendments of the following:

Williams-Steiger Occupational Safety & Health Act of 1970, Public Law 91-596;

Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;

Part 1518 - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

The undersigned hereby certifies that this proposal is genuine, and not sham or collusive, or made in the interest of or in behalf of any person, firm or corporation not herein named; that the undersigned has not directly or indirectly induced or solicited any bidder to refrain from bidding and that the undersigned has not, in any manner, sought by collusion to secure for himself an advantage over any other bidder.

In witness whereof, the undersigned has caused this Proposal to be executed this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

**INDIVIDUAL**

(SEAL)

WITNESS:

\_\_\_\_\_

**PARTNERSHIP**

(Name of Partnership)

WITNESS:

Partner By: \_\_\_\_\_ (SEAL)

\_\_\_\_\_  
Partner By: \_\_\_\_\_ (SEAL)

\_\_\_\_\_  
Partner By: \_\_\_\_\_ (SEAL)

\_\_\_\_\_  
Partner By: \_\_\_\_\_ (SEAL)

**CORPORATION**

\_\_\_\_\_  
(Name of Corporation)

By: \_\_\_\_\_ (SEAL)  
(Vice) President

Attest

\_\_\_\_\_  
(Ass't) Secretary (SEAL)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Address

The Corporation has been organized and is existing under the laws of the State of \_\_\_\_\_

END OF DOCUMENT



**SECTION 004313 – BID SECURITY FORM**

KNOW ALL MEN, That we, \_\_\_\_\_

as Principal, and \_\_\_\_\_  
(a \_\_\_\_\_ corporation authorized to transact business in Pennsylvania, and having its principal office at \_\_\_\_\_), as Surety, are held and firmly bound unto SOLANCO SCHOOL DISTRICT, as Obligee, in the sum of (10% of bid) \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for payment of which we bind ourselves, and each of our respective heirs, legal representatives, successors and assigns, jointly and severally, by these presents, on this \_\_\_\_\_ day of \_\_\_\_\_, 2018.

WHEREAS, the said Principal is herewith submitting to the Obligee a proposal for \_\_\_\_\_

and it is a condition of the Obligee's receipt and consideration of said proposal that the proposal be accompanied by bid security;

THEREFORE, the condition of this obligation is that if either (a) the Obligee shall not accept the Principal's proposal or (b) the Principal shall upon the Obligee's acceptance of his proposal and award of a contract, enter into a contract and furnish performance and payment bonds and insurance certificates within ten days after notice to him of such award, then this obligation shall be void; but otherwise it shall remain in full force, and the Principal and Surety will pay to the Obligee as liquidated damages or on account of Obligee's actual damages, as Obligee shall elect, the face amount of this bond, provided that the Surety's obligation hereunder shall not exceed the face amount of this bond. (The term "award" as used in the foregoing clause (b) shall include not merely an unqualified award but also an award conditioned on the successful bidder's furnishing performance and payment bonds required by the Public Works Contractors' Bond Law of 1967).

The Surety agrees that its obligation hereunder shall be in no manner defeated or impaired by any postponement of the advertised date for receiving bids or by any extensions by the Principal of the period during which his proposal shall remain irrevocable and subject to acceptance by the Obligee; and the Surety hereby waives notice of any such postponement or extension.

This Bond shall be construed in accordance with the laws of the Commonwealth of Pennsylvania. The Principal and the Surety agree that exclusive jurisdiction and venue for any litigation concerning this Bond and the transactions contemplated shall exist in the Lancaster County, Pennsylvania, Court of Common Pleas. The Principal and the Surety consent to such jurisdiction and venue and agree that all service of process, including any instrument to institute suit, shall be effective if served in accordance with Pennsylvania law.

The Principal and Surety acknowledge that all reference herein to the Principal in singular, masculine form, shall include the plural, feminine and neuter, as may be appropriate to the Principal.

IN WITNESS WHEREOF, the Principal and Surety, intending to be legally bound have executed this bond the day and year aforementioned.

Witness \_\_\_\_\_ (SEAL)

Witness \_\_\_\_\_ (SEAL)

Principal

(Sign as instructed on Proposal Form)

---

Attorney-in-fact

Surety  
(attach power of attorney and authorizing  
resolution)

BID SECURITY FORM

00 43 13-1

**SECTION 00 45 19 – NON-COLLUSION AFFIDAVIT**

**BIDDER'S NON-COLLUSION AFFIDAVIT**

STATE OF \_\_\_\_\_

.....

COUNTY OF \_\_\_\_\_

Before me, \_\_\_\_\_

in and for said County, personally came \_\_\_\_\_

who being duly sworn according to law, deposes and says that he is:

\_\_\_\_\_ of  
TITLE

who signed the accompanying Bid; that such bid is genuine and not collusive or a sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly with any other bidder or person, to put in sham bid; or that such other person shall refrain, from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any person, to fix the bid price of affiant or any other bidder, or to fix any overhead, profit or cost element of said bid price, or that of any other bidder, or to secure any advantage against the Solanco School District or any person interested in the proposed contract; and further, that such bidder has not directly or indirectly, submitted this Bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member of agent thereof.

\_\_\_\_\_  
AFFIANT

\_\_\_\_\_ AND SUBSCRIBED TO BEFORE ME THIS \_\_\_\_\_ DAY OF  
\_\_\_\_\_, 2018.

NAME \_\_\_\_\_

MY COMMISSION EXPIRES \_\_\_\_\_ 20\_\_\_\_\_.





**SECTION 004547 – SELF-CERTIFICATION OF NO DISBARMENT, SUSPENSION OR INELIGIBILITY**

**Self-Certification of No Disbarment, Suspension or Ineligibility**

Date:

I certify that \_\_\_\_\_ (Insert Name of Bidder) is not disbarred, suspended or otherwise declared ineligible by the Department of Labor and Industry pursuant to the Pennsylvania Prevailing Wage Act of August 15, 1961, as amended, or by any other agency of the Commonwealth of Pennsylvania under any other Act.

Name:

Title:

COMMONWEALTH OF PENNSYLVANIA :  
: SS  
COUNTY OF \_\_\_\_\_ :

On this, the \_\_\_\_\_ day of \_\_\_\_\_, 2019, before me, the undersigned officer, personally appeared \_\_\_\_\_, who being sworn according to law, deposes and states that he/she is the \_\_\_\_\_, of \_\_\_\_\_, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he/she, being authorized to do so executed the same for the purpose therein contained, and desires the same to be recorded as such.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public



**SECTION 00 52 16 –AGREEMENT FORM**

**AGREEMENT BETWEEN OWNER AND CONTRACTOR**

**AGREEMENT** made as of the [REDACTED] day of [REDACTED] in the year of two thousand nineteen.

*(In words, indicate day, month and year)*

**BETWEEN** the Owner:

*(Name, address and other information)*

Solanco School District 121  
South Hess Street  
Quarryville, PA 17566

and the Contractor:

*(Name, address and other information)*

The Project is:

*(Name and location)*

Solanco High School Activities Building Addition  
585 Solanco Road  
Quarryville, PA 17566

The Architect is:

*(Name, address and other information)*

Frederick Ward Associates  
5 South Main Street  
Bel Air, Maryland 21014

The Owner and Contractor agree as follows.

**ARTICLE 1 THE CONTRACT DOCUMENTS**

The Contract Documents consist of this Agreement, Conditions of the Contract (General Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement; these form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 8.

**ARTICLE 2 THE WORK OF THIS CONTRACT**

The Contractor shall fully execute the Work described in the Contract Documents for Contract \_\_\_\_\_, except to the extent specifically indicated in the Contract Documents to be the responsibility of others.

**ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

**§ 3.1** The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

*(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)*

The date of commencement shall be stipulated in the Notice To Proceed.

If, prior to the commencement of the Work, the Owner requires time to file mortgages, mechanic's liens and other security interests, the Owner's time requirement shall be as follows:

Not applicable.

**§ 3.2** The Contract Time shall be measured from the date of commencement.

**§ 3.3** The Contractor shall achieve Substantial Completion of the entire Work not later than \_\_\_\_\_ days from the date of commencement, or as follows:

*(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. Unless stated elsewhere in the Contract Documents, insert any requirements for earlier Substantial Completion of certain portions of the Work.)*

Time is of the essence to the Owner. Refer to the Instructions to Bidders for Date of Substantial completion and Date of Final Completion. Refer to Phasing Drawings and Sequence of Construction for Phased Dates of Substantial Completion and Phased Final Completion dates. The Contractor shall have no claim against the Owner, at law or in equity or otherwise, that arises out of the Owner's actions pursuant to this provision.

<b>Portion of Work</b>	<b>Substantial Completion Date</b>
BID "A"	October 1, 2019
BID "A" Alternate 01	October 1, 2019
BID "B"	August 30, 2019

\_\_\_\_\_, subject to adjustments of this Contract Time as provided in the Contract Documents.

*(Insert provisions, if any, for liquidated damages relating to failure to complete on time or for bonus payments for early completion of the Work.)*

**ARTICLE 4 CONTRACT SUM**

**§ 4.1** The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$ \_\_\_\_\_), subject to additions and deductions as provided in the Contract Documents.

**§ 4.2** The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

*(State the numbers or other identification of accepted alternates. If decisions on other alternates are to be made by the Owner subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires)*

§ 4.3 Unit prices, if any, are as follows:

Description	Units	Price (\$ 0.00)

## ARTICLE 5 PAYMENTS

### § 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below, and approved by Owner's School Board, and elsewhere in the Contract Documents. Payment procedures are fully described in Section 012900 PAYMENT PRODEDURES in the project manual.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

As described in Section 012900 PAYMENT PROCEDURES.

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than as described in Section 012900, the Owner shall make payment to the Contractor not later than 10 days after School Board approval. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later the next month's payment cycle.

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of **ten** ( **10%** ). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.8 of AIA Document A201-1997, as modified;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of **ten** ( **10%** );
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in AIA Document A201-1997, as modified.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and  
*(Section 9.8.5 of AIA Document A201-1997 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)*
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201-1997, as modified.

**§ 5.1.8** Reduction or limitation of retainage, if any, shall be as follows:

*(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)*

Explained in General Conditions and specifically (but not restricted to) paragraph 9.4.1.

**§ 5.1.9** Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site. No advance payments will be permitted.

**§ 5.2 FINAL PAYMENT**

**§ 5.2.1** Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when:

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201-1997, as modified, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect and approved by the Owner's School Board.
- .3 final payment will not be issued until all Work, including all Construction Punch List items are completed to Owner's satisfaction.

**§ 5.2.2** The Owner's final payment to the Contractor shall be made no later than 10 days after School Board approval of the final Certificate for Payment, in accordance with AIA Document A201-1997, as modified.:

**ARTICLE 6 TERMINATION OR SUSPENSION**

**§ 6.1** The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201-1997, as modified.

**§ 6.2** The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-1997, as modified.

**ARTICLE 7 MISCELLANEOUS PROVISIONS**

**§ 7.1** Where reference is made in this Agreement to a provision of AIA Document A201-1997 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

7.2 No interest shall be due on account of any payment due or unpaid.

*(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Contractor's principal places of business, the location of the Project and elsewhere may affect the validity of this provision. Legal advice should be obtained with respect to deletions or modifications, and also regarding requirements such as written disclosures or waivers.)*

**§ 7.3** The Owner's representative is:  
*(Name, address and other information)*  
Sandy Tucker, Business Manager  
Solanco School District  
121 South Hess Street  
Quarryville, PA 17566

**§ 7.4** The Contractor's representative is:  
*(Name, address and other information)*



**§ 7.5** Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

**§ 7.6** Other provisions:

**7.6.1** The Owner will be responsible for purchasing and maintaining Builder's Risk Insurance as described in the Contract Documents.

## **ARTICLE 8 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 8.1** The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated as follows:

**§ 8.1.1** The Agreement is this executed 1997 edition of the Standard Form of Agreement Between Owner and Contractor, AIA Document A101-1997, as modified.

**§ 8.1.2** References herein to AIA Document A201-1997 as modified shall mean the General Conditions of the Contract for Construction, as modified.

**§ 8.1.3** The Conditions of the Contract are those contained in the Project Manual dated **January 29, 2019**, and are as follows

Document	Title	Pages

**§ 8.1.4** The Specifications are those contained in the Project Manual dated as in Section 8.1.3, and are as follows:  
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Title of Specifications exhibit: Exhibit "A" attached to this agreement.

**§ 8.1.5** The Drawings are as follows, and are dated as in Section 8.1.3 unless a different date is shown below:  
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Title of Drawings exhibit: Exhibit "B" attached to this agreement.

**§ 8.1.6** The Addenda, if any, are as follows: See attached bid proposal form.

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 8.

**§ 8.1.7** Other documents, if any, forming part of the Contract Documents are as follows:  
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A2011997 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

Contractor's Bid Proposal  
Instructions to Bidders Invitation  
to Bid.

This Agreement is entered into as of the day and year first written above and is executed in at least three original copies, of which one is to be delivered to the Contractor, one to the Architect for use in the administration of the Contract, and the remainder to the Owner.

\_\_\_\_\_  
OWNER (Signature)

[Redacted Signature Area]

(Printed name and title)

\_\_\_\_\_  
CONTRACTOR (Signature)

[Redacted Signature Area]

(Printed name and title)



**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, \_\_\_\_\_  
\_\_\_\_\_ (hereinafter called the "Principal") and  
\_\_\_\_\_, a surety company legally authorized to do  
business in the Commonwealth of Pennsylvania (hereinafter called the "Surety"), are held and firmly bound  
unto SOLANCO SCHOOL DISTRICT (hereinafter called the "Obligee"), for the use and benefit of  
claimants (as hereinafter defined), in the full and just sum of  
Dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for the payment  
of which the Principal and the Surety bind themselves and their respective successors and assigns, jointly  
and severally, firmly by these presents.

WHEREAS, the Principal has entered or will enter into an agreement dated \_\_\_\_\_  
\_\_\_\_\_, 2018 with Obligee (the "Contract") relating to  
, a copy of which Contract is by reference made a part of this Bond; and

WHEREAS, under the Contract the Principal has agreed to post this Bond to the Obligee;

NOW, THEREFORE, the terms and conditions of this Bond are and shall be that if Principal (and  
Principal's subcontractors and sub-subcontractors) shall promptly make payment to all for all labor and  
material used or reasonably required for use in the performance of the Contract, then this obligation shall  
be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. This Bond is given, shall be interpreted and shall be enforceable in accordance with the laws  
of the Commonwealth of Pennsylvania. The Principal and the Surety agree that exclusive jurisdiction and  
venue for any litigation concerning this Bond and the transactions contemplated shall exist in the Lancaster  
County, Pennsylvania, Court of Common Pleas. The Principal and the Surety consent to such jurisdiction  
and venue and agree that all service of process, including any instrument to institute suit, shall be effective  
if served in accordance with Pennsylvania law.

2. The Surety hereby waives notice of and consents to (a) all alterations or amendments to the  
Contract and (b) all extensions of time for performance of the Contract or other forbearance; and the Surety  
agrees that its obligations under this Bond shall not thereby be released or affected in any manner.

3. The Surety shall not be liable to the Obligee in the aggregate in excess of the sum above  
stated.

SIGNED and SEALED this \_\_\_\_\_ day of \_\_\_\_\_, 2018.

\_\_\_\_\_  
(Principal)

Attest: \_\_\_\_\_ By: \_\_\_\_\_

Name, Title: \_\_\_\_\_

\_\_\_\_\_  
(Surety)

Attest: \_\_\_\_\_ By: \_\_\_\_\_

[Seal]

\_\_\_\_\_  
Attorney-in-Fact

(attach power of attorney and authorizing  
resolution)

**PERFORMANCE BOND**

Bond No.: \_\_\_\_\_ Amount: \$ \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_, as principal (the "Contractor"), and  
\_\_\_\_\_  
\_\_\_\_\_, as surety (the "Surety"), are firmly bound to

**SOLANCO SCHOOL DISTRICT**

as obligee (hereinafter called the "Owner"), in the sum of \_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_), for the payment of which we bind ourselves, our heirs, executors, legal representatives,  
successors and assigns, jointly and severally, by this Bond.

Background. The Contractor submitted to the Owner a bid (the "Bid") to perform certain  
\_\_\_\_\_ Work for the Owner in connection with a project known as Addition and Renovations to  
Smith Middle School, such Work to be performed pursuant to plans, specifications and other related contract documents that  
are incorporated into the Bid by reference. The Bid and other contract documents shall be deemed a part hereof as fully as if set  
out herein, and shall together be referred to as the "Contract Documents." The Owner is a "contracting body" under provisions  
of Act No. 385 of the General Assembly of the Commonwealth of Pennsylvania, approved by the Governor on December 20,  
1967, known and cited as the "Public Works Contractors' Bond Law of 1967" (the "Act"). Under the Contract Documents, it is  
provided that if the Contractor shall furnish this Bond to the Owner, and if the Owner shall make an award to the Contractor in  
accordance with the Bid, then the Contractor and the Owner shall enter into an agreement with respect to performance of such  
work (the "Agreement"), the form of which Agreement is set forth in the Contract Documents. It is a condition of the Contract  
Documents that this Bond shall be furnished by the Contractor to the Owner.

NOW, THEREFORE, intending to be legally bound, the Contractor and Surety agree as follows:

1. The Contractor and the Surety, jointly and severally, bind themselves for performance of the obligations of the Contractor under the Agreement and other Contract Documents, and to all of the terms of this Performance Bond. The Contractor and Surety understand that time is of the essence in performing their respective obligations under the Contract Documents and this Bond.
2. The Contractor and Surety will be relieved of their obligations under this Bond if and when the Contractor shall perform all of its obligations under the Agreement and other Contract Documents in the manner provided therein, including the making of any payments due to the Owner and its employees, directors or agents, and the Contractor and the Surety shall perform all of their obligations under this Bond. This Bond shall remain in force and effect until all of the foregoing conditions are fulfilled.
3. If the Owner terminates its Agreement with the Contractor for cause pursuant to the Contract Documents or if the Contractor has abandoned its work in violation of the Contract Documents, the Surety will have the following rights and obligations:
  - a. As Option 1, the Surety shall fulfill the performance of all obligations of the Contractor under the Contract Documents and this Bond. Pursuant to Option 1, any replacement contractor retained by the Surety to fulfill the performance of the obligations of the Contractor must be qualified as a responsible contractor under Pennsylvania law. The original Contractor shall not serve as the Surety's replacement contractor. The Surety shall provide the Owner, upon request, information on the pertinent qualifications of any proposed replacement

contractor. The Owner will pay the unpaid contract price to the Surety as work progresses, under the payment terms of the Contract Documents.

b. As Option 2, the Surety may request to enter a written agreement with the Owner, pursuant to which

the Owner shall complete all unfulfilled work of the Contractor pursuant to the Contract Documents, with reimbursement from Surety to Owner if the cost of finishing the work, together with all other expenses for which the Surety is liable, exceeds the unpaid balance to the Contractor under the Contract Documents. If the Surety wishes to make a request to the Owner pursuant to Option 2, it must do so within 30 days of receipt of written notice by the Owner that the Agreement with the Contractor has been terminated or that the Contractor has abandoned its work under the Contract Documents. The Owner shall be under no obligation to accept a request by the Surety to utilize Option 2, and if such a request is not timely made or is denied, the Surety shall proceed pursuant to Option 1.

4. Without limiting the obligations otherwise stated in this Bond, the Surety shall be liable under this Bond to pay the Owner the following to the extent the Contractor does not make such payment to the Owner: (a) any money the Contractor is obligated to pay the Owner under the Contract Documents, including any liquidated damages; and (b) any cost, expense, liability or damage incurred by the Owner (including any fees or costs of attorneys, architects, engineers, construction managers or other consultants) arising from (i) any default, failure or termination of the Contractor, (ii) the Owner's enforcement of Contractor or Surety obligations under this Bond, or (iii) any delay in performance of the Contractor's scope of Work caused by the Contractor or Surety that violates a project schedule approved pursuant to the Contract Documents, without regard to whether such delay occurs before or after commencement of the Surety's obligations pursuant to Paragraph 3 of this Performance Bond.
5. Amounts due and not paid to Owner when due under this Bond shall bear interest from the date the payment is due at the legal rate prevailing in Pennsylvania.
6. This Bond shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract Documents not increasing the contract price more than twenty percent (20%), so as to bind the Contractor and the Surety to the performance of the Contract Documents as so amended, and so as to increase the Bond amount by the increased contract price amount. The term "amendment," wherever used in this Bond and whether referring to this Bond, the Contract Documents, or the Agreement shall include any alteration, addition, extension or modification of any character whatsoever.
7. The Contractor and the Surety agree that none of the following will in any way reduce the Surety's obligations under this Bond, and the Surety waives notice of any of the following: (1) any change, alteration or addition to the terms of the Contract Documents or to the work to be performed thereunder; (2) any extension of time; (3) any act of the forbearance of either the Contractor or the Owner toward the other; (4) any acceleration of payments to the Contractor resulting in payments to the Contractor of more than the amount to which the Contractor is entitled under the Contract Documents or in advance of the time required under the Contract Documents.
8. No settlement between the Owner and the Contractor shall abridge the right of any other beneficiary hereunder having a claim not yet asserted or satisfied.
9. Owner's acceptance of the Contractor's work under the Contract Documents or approval of final payment to the Contractor shall not terminate the performance obligations of Contractor and Surety under the Contract Documents and this Bond, and shall not waive any later claim for nonperformance.
10. Owner may at any time, but is not obligated to, notify Surety of Owner's concerns about Contractor performance, and send to Surety copies of any communication to Contractor.
11. This Bond shall be interpreted in accordance with the laws (including the common law) of the Commonwealth of Pennsylvania. Exclusive jurisdiction and venue for any litigation concerning this Bond shall exist in the Court of Common Pleas in the county in which the project is located. The Contractor and the Surety waive a jury trial in any such litigation.
12. This Bond is executed and delivered under the subject to the Act.

IN WITNESS WHEREOF, the Contractor and the Surety cause this Bond to be signed, sealed and delivered this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**(Individual Contractor)**

WITNESS:

\_\_\_\_\_

\_\_\_\_\_(SEAL)  
Signature of Individual  
Trading and Doing Business As

\_\_\_\_\_

**(Partnership Contractor)**

\_\_\_\_\_  
Name of Partnership

WITNESS:

\_\_\_\_\_

By: \_\_\_\_\_(SEAL)  
Partner

\_\_\_\_\_

By: \_\_\_\_\_(SEAL)  
Partner

\_\_\_\_\_

By: \_\_\_\_\_(SEAL)  
Partner

**(Corporation Contractor)**

\_\_\_\_\_  
Name of Corporation

By: \_\_\_\_\_  
(Vice) President

ATTEST:

\_\_\_\_\_  
(Assistant) Secretary

(CORPORATE SEAL)

or (If Appropriate)

\_\_\_\_\_  
Name of Corporation

WITNESS:

\_\_\_\_\_ \*By: \_\_\_\_\_  
Authorized Representative

\*Attach appropriate proof, dated as of the same date as the Bond, evidencing authority to execute in behalf of the corporation.

**(Corporation Surety)**

\_\_\_\_\_  
Name of Corporation

WITNESS:

\_\_\_\_\_ \*\* \_\_\_\_\_  
Attorney-in-Fact

\*\*Attach an appropriate power of attorney, dated as of the same date as the Bond, evidencing the authority of the attorney-in-fact to act in behalf of the corporation.

## SECTION 00 62 05 – CAD FILE TRANSFER FORM

Agreement between Architect or Engineer and Prime Contractor for transfer of Computer Aided Drafting (CAD) files on electronic media.

### Architect or Engineer:

Frederick Ward Associates  
(Firm name)

5 South Main Street, Bel Air, Maryland  
(Address)

---

### Contractor:

---

(Company name)

---

(Address)

---

**Project Number:** 15001

**Project Name:** Solanco High School Activities Building Addition

Architect or Engineer will provide the following CAD files dated **January 29, 2019** for the convenience of the Contractor in preparing shop fabrication drawings:

CAD files available for transfer include the following:  
Architectural Plans

Drawings were prepared on the following software: AutoCAD, Version 2016.

### I. Terms and Conditions

1. The attached drawings information files and/or data are Copyright © 2019 Frederick Ward Associates and are provided for the convenience of the Prime Contractor who has sent and shown by execution of this legal notice below and only in connection with providing services for the Project stated above. The files and drawings can be freely copied, printed, excerpted and used by such Contractor in connection with the execution of its contractual duties for the Project provided that all copies, excerpts and the life shall be subject to the foregoing claim of Copyright and to the following disclaimers of warranties.

2. The drawings information files and / or data are provided as is. No representations or warranties are made or intended regarding the accuracy of the information therein or the sufficiency of these materials under any standards whatsoever or their merchant ability or fitness or any other particular purpose.
3. Architect or Engineer believes that no licensing or copyright fees are due to others on account of the transfer of the CAD files but to the extent that any are, the Contractor will pay the appropriate fees and hold Architect or Engineer harmless from such claims as may arise.
4. Architect or Engineer makes no representation regarding the accuracy, completeness, nor permanence of CAD files. Addenda information or revisions made after the date indicated on the CAD files may not have been incorporated. In the event of a conflict between Architect or Engineer, sealed contract drawings, and CAD files, the sealed contract drawings shall govern. It is the Contractor's responsibility to determine if any conflicts exist. The CAD files shall not be considered to be contract documents as defined by the General Conditions of the Contract for construction.
5. Since the information set forth on the CAD files can be modified unintentionally or otherwise, Architect or Engineer reserves the right to remove all indicia of its ownership and/or involvement from each electronic display.
6. Architect or Engineer makes no representation as to the compatibility of the CAD files with any hardware or software.
7. The use of CAD files prepared by Architect or Engineer does not in any way negate the Contractor's responsibility for coordination with other trades or for the proper checking and coordination of dimensions, details, member sizes and gage and quantities and materials as required to facilitate complete and accurate fabrication and erection.
8. The Contractor shall, to the fullest extent permitted by law, indemnify defend and hold harmless Architect and Engineer and it's sub consultants from any and all claims, damages, losses, expenses, penalties, and liabilities of any kind including attorneys fees, arising out of or resulting from the use of the CAD files by the Contractor or by third party recipients of CAD files from the Contractor.
9. The user of these materials and any excerpts or derivations thereof, assumes all risks and all liabilities assumed for losses, costs, damages, or injuries, whether by the user, its employees, or third parties including the cost of defending against any claims resulting from the use or reference to these materials.
10. All information attached to the drawings by the Contractor shall be in distinctly heavier pen weight and different font such that all Contractor information can be clearly distinguished from the original files.
11. Any information added by the Contractor which represents a proposed change to its original design shall be clearly identified by flagging, clouding, or other distinctive presentation.
12. All information on CAD files shall be considered instruments of service of Architect or Engineer and shall not be used for other projects for additions to this Project or for completion of this Project by others. CAD files shall remain the property of Architect or Engineer and in no case shall transfer of these files be considered a sale.
13. Any purchased order number provided by the Contractor is for the Contractor's accounting purpose only. Contractor's purchase order Terms and Conditions are void and are not part of this Agreement.
14. Payment of the service fee is due upon receipt of the CAD files.
15. This Agreement shall be governed by the Laws of the Commonwealth of Pennsylvania.



16. Any user agrees that they will not release these files to anyone, including without limitation, any contractor, subcontractor or supplier, without notification to the Architect/Engineer.

Authorize Acceptance by

Architect or Engineer

Contractor

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name and Title:

\_\_\_\_\_  
Print Name and Title:

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Date:

END OF DOCUMENT 00 62 05



**SECTION 00 72 16 – GENERAL CONDITIONS**

# General Conditions of the Contract for Construction

for the following PROJECT:

Solanco High School Activities Building Addition  
585 Solanco Road  
Quarryville, PA 17566

THE OWNER:

Solanco School District  
121 South Hess Street  
Quarryville, PA 17566

THE ARCHITECT:

Frederick Ward Associates  
5 South Main Street  
Bel Air, MD 21014

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## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 BASIC DEFINITIONS

#### § 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. The Contract Documents shall include the bidding documents as listed in the Instructions to Bidders and any alterations made thereto by addenda. In the event of a conflict or contradiction within the Contract Documents and for the resolution of same, the following order of hierarchy shall prevail:

- 1) Contract;
- 2) Addenda;
- 3) Supplemental General Conditions;
- 4) General Conditions;
- 5) Specifications;
- 6) Drawings;
- 7) Instructions to Bidders;
- 8) Invitation To Bid;
- 9) Sample forms.

#### § 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Architect and Contractor, (2) between the Owner and a Subcontractor or Sub-subcontractor, (3) between the Owner and Architect or (4) between any persons or entities other than the Owner and Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### § 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

#### § 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

#### § 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

#### § 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

#### § 1.1.7 THE PROJECT MANUAL

The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

**§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS**

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

- .1 the Agreement
- .2 Addenda, with those of later date having precedence over those of earlier date.
- .3 the General Conditions of the Contract for Construction.
- .4 Drawings and Specifications

In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with Architect's interpretation.

§ 1.2.5 Where no explicit quality or standards for materials or workmanship are established for Work, such Work is to be of good quality, fit for the intended use and purpose thereof, and consistent with quality of the surrounding Work and of the construction of the Project generally, as determined by the Architect.

§ 1.2.6 All indications or notations which apply to one of a number of similar situations, materials or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.

§ 1.2.7 Not used.

§ 1.2.8 Where codes, standards, requirements and publications of public and private bodies are referred to in the Specifications, references shall be deemed to be to the latest revision prior to the date of receiving bids, except where otherwise indicated.

**§ 1.3 CAPITALIZATION**

§ 1.3.1 Terms capitalized in these General Conditions include those which are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

**§ 1.4 INTERPRETATION**

§ 1.4.1 In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

**§ 1.5 EXECUTION OF CONTRACT DOCUMENTS**

§ 1.5.1 The Contract Documents shall be signed by the Owner and Contractor. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon request.

§ 1.5.2 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

**§ 1.6 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE**

§ 1.6.1 The Drawings, Specifications and other documents, including those in electronic form, prepared by the Architect and the Architect's consultants are Instruments of Service through which the Work to be executed by the Contractor is described. The Contractor may retain one record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect or the Architect's consultants, and unless otherwise indicated the Architect and the Architect's consultants shall be deemed the authors of them and will retain all common law, statutory and other reserved rights, in addition to the copyrights. All copies of Instruments of Service, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this authorization shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' copyrights or other reserved rights.

**§ 1.6.2 CONTRACTOR'S USE OF INSTRUMENTS OF SERVICE IN ELECTRONIC FORM**

§ 1.6.2.1 The Architect may, with the concurrence of the Owner, furnish to the Contractors versions of Instruments of Service in electronic form. The Contract Documents executed or identified in accordance with Subparagraph 1.2.1 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.

§ 1.6.2 The Contractor shall not transfer or reuse Instruments of Service in electronic or machine readable form without the prior written consent of the Architect.

**ARTICLE 2 OWNER**

**§ 2.1 GENERAL**

§ 2.1.1 The Owner is the Solanco School District and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

**§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

§ 2.2.2 Except for permits and fees, including those required under Section 3.7.1, which are the responsibility of the Contractor under the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall not be responsible for furnishing surveys or other information as to the physical characteristics of the Project site or utility locations for the Project site. Contractor shall confirm the location of each utility. The Contractor shall have no claims for surface or subsurface conditions, whether unforeseen, foreseen, or foreseeable. The Contractor shall exercise special care in executing subsurface work in proximity of subsurface utilities, improvements, and easements.

§ 2.2.3.1 The furnishing of such information by the Owner shall not relieve the Contractor from its duties under the Contract Documents, specifically as to inspection of the site and the Contract Documents. The Owner shall not be required to furnish the Contractor with any information as to subsurface conditions. If the Owner or the Architect has made any investigations of subsurface conditions, such investigations were made solely for the information of the Owner and Architect and not for the Contractor's information. No such information shall be construed to be part of the Contract Documents. The Contractor acknowledges that, if the Owner or Architect furnishes any such information to the Contractor, no waiver of the foregoing shall be implied, and the Contractor shall not be entitled to rely on such information but rather shall conduct its own investigation of such subsurface conditions. Further, no warranty of the accuracy of any such information shall be implied. The Contractor warrants that it is experienced in the type of Work undertaken pursuant to this contract and has the necessary expertise to form its own conclusions as to the necessity for conducting investigations of a type and nature as is calculated by Contractor to provide it with the necessary information so as to properly carry out the Work hereunder. If the Contractor

discovers conditions that vary from those that it anticipated, whether such anticipation was reasonable or not, the Contractor's sole remedy against the Owner will be an extension of the Contract Time, but in no event will such condition entitle the Contractor to an increase in the Contract Sum or damages of any sort.

§ 2.2.4 Upon receipt of a written request therefore from the Contractor, information or services required of the Owner by the Contract Documents shall be furnished by the Owner with reasonable promptness. Any other information or services relevant to the Contractor's performance of the Work under the Owner's control shall be furnished by the Owner after receipt from the Contractor of a written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, the following number of additional copies of the Drawings and Project Manuals:

None.

§ 2.2.6 The Architect may furnish one electronic file of the drawings that have incorporated addendum items corresponding to the drawings to the Contractor for their information and use. These drawings do not supersede the original bidding documents with addendums. Contractor is responsible for all items and conditions of the original bidding documents and addendums.

### § 2.3 OWNER'S RIGHT TO STOP THE WORK

§ 2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or fails to carry out Work in accordance with the Contract Documents (including but not limited to failing to meet the construction milestones set forth in the Contract Documents), the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, nor shall the exercise of the Owner's right hereunder give rise to any claim by the Contractor for addition to the Contract Sum or Contract Time.

### § 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK AND BACKCHARGE CONTRACTOR

§ 2.4.1 If the Contractor fails to carry out the Work or fails to adequately staff the project with proper management, supervision, materials and workforce, including adequate forces required to achieve Substantial Completion within the specified timeframe in accordance with the Contract Documents and fails within a five-business day period after written notice from the Owner or Architect to eliminate (or commence to eliminate and thereafter work diligently to eliminate) such failure, the Owner may, regardless of whether an Event of Default has occurred and without prejudice to other remedies Owner may have at law or equity, correct such deficiencies. In such cases, an offset may be made, deducting from payments then or thereafter due Contractor the cost of correcting such deficiencies, including compensation for Owner's and Architect's additional services and expenses made necessary by such default, neglect, or failure. If payments then or thereafter due Contractor are not sufficient to cover such amounts, Contractor shall promptly pay the difference to Owner. The correction of such deficiencies by Owner or by others shall not relieve Contractor of any obligation or liability for the Work and shall not operate to waive any right or claim of Owner. The Owner reserves the right to carry out the Work, with no prior notice to Contractor, in an emergency situation threatening the safety of persons or property, and such action is necessary to prevent damage, injury or loss. Owner's right in this regard shall not relieve Contractor of its obligations and responsibilities under the Contract Documents and shall not give rise to a duty on the part of the Owner to exercise the right for the benefit of the Contractor or any other person or entity. Owner costs arising from carrying out Work, as described in this provision, shall be deducted from the Contract Sum.

### § 2.5 OWNER'S ADDITIONAL RIGHTS

§ 2.5.1 Owner's rights set forth in Subparagraphs 2.3.1 and 2.4.1 shall be in addition to any other rights of the Owner granted in the Contract Documents or at law or in equity.

## ARTICLE 3 CONTRACTOR

### § 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative who shall have authority to bind the Contractor in all matters pertinent to this Agreement. Where reference is made to

General, Mechanical, Plumbing, Electrical or other type of Contractor, it shall mean the Contractor and its surety holding separate and distinct contracts with the Owner for the specific type of construction.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor. Quality Control (i.e. ensuring compliance with the Contract Documents) is the responsibility of the Contractor. Testing, observation and inspections performed or provided by the Owner are for Quality Assurance (i.e. confirming compliance with the Contract Documents) purposes and are for the benefit of the Owner.

### § 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Contractor warrants that Contractor has carefully studied and reviewed the Contract Documents and that Contractor has reported any errors, inconsistencies or omissions to the Architect. The Contractor hereby acknowledges and declares that to Contractor's knowledge the Contract Documents are full and complete, are sufficient to have enabled Contractor to determine the cost of the Work and to fulfill all of Contractor's obligations under the Contract Documents. If the Contractor encounters an error, inconsistency or omission, Contractor shall immediately submit it to the Architect for resolution. If the Contractor performs any construction activity knowing or having reason to know that it involves an error, inconsistency or omission, the Contractor shall be responsible for such performance and shall bear the costs for correction.

§ 3.2.1.1 The Contractor shall review the drawings and Work of other separate contracts, as applicable, to determine if that Work affects the Contractor's planned Work. The Contractor shall notify the Architect in writing prior to the commencement of its own or other Contractors' Work of any potential or actual conflicts between the Work of itself and any other contractors which might result in delay to Contract Time for itself or other Contractors.

§ 3.2.2 Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Architect, but it is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations, but any nonconformity discovered by or made known to the Contractor shall be reported promptly to the Architect.

§ 3.2.3 If the Contractor believes that additional cost or time is involved because of clarifications or instructions issued by the Architect in response to the Contractor's notices or requests for information pursuant to Sections 3.2.1 and 3.2.2, the Contractor shall make Claims as provided in Sections 4.3.6 and 4.3.7. If the Contractor fails to perform the obligations of Sections 3.2.1 and 3.2.2, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. The Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized or should have recognized such error, inconsistency, omission or difference and failed to report it to the Architect.

§ 3.2.4 The Contractor shall give the Architect timely notice of any additional design drawings, specifications, or instructions required to define the Work in greater detail, or to permit the proper progress of the Work. The Contractor shall not proceed with any Work not clearly and consistently defined in detail in the Contract Documents, special requests, additional drawings or instructions from the Architect. If the Contractor proceeds with such Work without obtaining further drawings or instruction, he shall correct Work incorrectly done at his own expense.

§ 3.2.5 Explorations and Reports: Reference is made to the General Requirements and Bidding Documents for identification of those reports of explorations and tests of subsurface conditions at the Project site that have been utilized by Architect in preparation of the Contract Documents. Contractor may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for Contractor's purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.3.4, Contractor shall have full responsibility with respect to subsurface conditions at the Project site.

§ 3.2.6 Existing Structures: Reference is made to the Bidding Documents for identification of those drawings of physical conditions in or relating to existing surface structures which are at or contiguous to the Project site that have been utilized by Architect in preparation of the Contract Documents. Contractor may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for Contractor's purposes. Except as indicated in the immediately preceding sentence and in subparagraph 4.3.4, Contractor shall have full responsibility with respect to physical conditions in or relating to such natures.

§ 3.2.7 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for the Architect to evaluate and respond to the Contractor's requests for information, where such information was available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.2.8 The Contractor shall be liable to the Owner and/or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents or from differences between field measurements or conditions and the Contract Documents, if the Contractor knowingly fails to report such errors, inconsistencies, or omissions to the Architect, or where the Contractor fails to carefully study and compare the Contract Documents relative to that portion of the Work for which the Contractor is responsible, such that, had Contractor done so, Contractor would have discovered such errors, inconsistencies or omissions and reported same to Architect.

### § 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor shall frequently and carefully check its own work and that of its Subcontractors as the Work is being performed. The Contractor shall ensure that incorrect or faulty Work is corrected immediately.

§ 3.3.5 Contractor shall provide, erect and maintain adequate and proper warning signals, signs, lights, barricades, fences and the like and shall take all other necessary and reasonable precautions for the protection and safety of all persons and property.

§ 3.3.6 The Contractor shall be responsible for and coordinate any and all inspections required by any governmental body that has jurisdiction over the Project. Failure to obtain any permits, licenses, or other approvals because of the failure of the Contractor to conform to this requirement shall not extend the Contract Time, and the Contractor shall not be entitled to an increase in the Contract Sum therefore. Delay in the project caused by the Contractor's failure to pursue and coordinate any and all inspections shall be subject to liquidated damages provisions contained in paragraph 8.3.7., in addition to any other remedies available at law or inequity.

§ 3.3.7 Contractor shall be responsible for inspection of portions of Work already performed under the Contract for Construction to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.8 Contractor has the responsibility to ensure that all material suppliers and Subcontractors, their agents, and employees adhere to the Contract Documents, and that they order materials on time, taking into account the current market and delivery



conditions, and that they provide materials on time. Contractor shall coordinate its Work with that of all others on the Project, including coordinating deliveries, storage, installation, and use of construction utilities. Contractor shall be responsible for the space requirements, location, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations and routing cannot be made as indicated, Contractor shall meet with all others involved before installation to plan the most effective and efficient method of overall installation.

§ 3.3.9 Any discrepancy or omission in the dimensions or elevations shown on the Drawing and Specifications or found in previous work which may prevent accurate layout or construction of the Work, shall immediately be reported by Contractor to Architect. If Contractor performs, permits, or causes performance of any Work when Contractor knows or reasonably should have known that such discrepancy or omission exists, without first obtaining further instruction from Architect, Contractor shall bear any and all costs arising there from including, without limitation, the costs of correction thereof without increase or adjustment in the Contract Sum. Omissions from the Drawing or Specifications, or the mis-description of details of Work which are reasonably inferable in order to carry out the intent of the Drawings and Specifications, or which are customarily performed, shall not relieve Contractor from performing such omitted or mis-described details of the Work, and they shall be performed as if fully and correctly set forth and described in the Drawings and Specifications, at no additional cost to Owner.”

§ 3.3.10 The Contractor shall inspect all materials delivered to the premises and shall reject any materials that will not conform with the Contract Documents when properly installed. Contractor’s supervision of Work shall include expediting and coordination of Work of trades. Contractor shall perform all supervising and procuring required to insure delivery of materials to maintain Work schedules of Subcontracts and progress schedule of project to insure full completion of Work, to supply equipment or instruments necessary to complete specified test, checks, balancing of systems, and to furnish operating instructions, etc.. The Contractor, his employees or his Subcontractors shall not install any product or equipment in a manner which is in conflict with the manufacturer’s recommended requirements. If the manufacturer of the product or equipment has requirements which cannot be met by the specific application indicated, the Contractor shall bring this information to the attention of the Architect. Products or equipment installed contrary to their manufacturer’s requirements shall be replaced at no additional cost to the Owner unless specifically preauthorized in writing by the Owner.

§ 3.3.11 The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on the Work, including those with respect to the safety of persons and property and their protection from damages, injury, or loss. Contractor shall promptly remedy damage and loss to property at the site caused in whole or in part by Contractor, Subcontractors, or anyone directly or indirectly employed by any of them or by anyone for whose acts they may be liable, except for damage or loss attributable solely to the acts or omissions of Owner or Architect or by anyone for whose acts either of them may be liable and not attributable to the Contractor, Subcontractors, or anyone directly or indirectly employed by them. The foregoing obligations of the Contractor are in addition to Contractor’s obligations under other provisions in the Contract Document.

#### § 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order. The requirements for substitutions will be strictly enforced and can be found in Section 001600 of the Project Manual.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor’s employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

§ 3.4.4 Owner specifically reserves the right to reject any person Owner deems unfit to be permitted on school grounds and in proximity to students. Upon written notice from Owner, Contractor shall have all such persons removed from the Project. Owner’s right to declare such person unfit shall not be limited to the required exclusions of persons from school property as set forth in Section 1-111 of the Pennsylvania Public School Code and/or Subchapter C.2 of the Child Protective Services Law.

§ 3.4.5 The Contractor shall not change or replace the assigned Project Manager or Superintendent without prior written consent of the Owner.

§ 3.4.6 Standards of quality for the Work is established by description, by reference to trade name, manufacturer's names or by catalog model or figure numbers.

§ 3.4.6.1 Such references require that which is established as standards of quality shall be provided without substitution unless permitted by the Contract Documents.

§ 3.4.6.2 Work specified which becomes unavailable due to strike, loss of plant through fire or flood, bankruptcy, or other foreseeable cause, shall be substituted equally from another source subject to substitution procedures in the Contract Documents.

§ 3.4.6.2.1 Work covered by paragraph 3.4.6.2 shall not automatically entitle the Contractor to either an increase in Contract Sum or Contract Time. Notwithstanding the same, if the Work covered by 3.4.6.2 results in a savings to Contractor, Owner shall be entitled to a reduction in the Sum. In any event, Work covered by paragraph 3.4.6.2 shall be incorporated into the Project through a properly executed Change Order.

§ 3.4.6.2.2 Items not ordered by the Contractor in a timely manner for incorporation into the Work will not be considered for claims by the Contractor for additional time or costs.

§ 3.4.6.3 Substituted work offered and approved shall not be a basis for contingent extra charges or additional charges due to changes in related Work, such as rough-in, changes in supporting foundation, and other related Work. The cost of changes in Work by other contracts as a result of substitute Work of this Contract shall be the responsibility of this Contractor and will be deducted by Change Order.

§ 3.4.6.4 The Contractor shall assume full responsibility for substitute Work.

§ 3.4.6.5 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect to evaluate the Contractor's proposed substitutions and to make agreed upon changes in the Drawings and Specifications made necessary by the Owner's acceptance of such substitutions.

§ 3.4.7 Whether indicated or not, all products included in the Work shall be asbestos-free and lead-free. If any suspected asbestos-containing or lead-containing materials are installed, the Owner has the right to have the material in question tested and if proven to contain asbestos or lead exceeding the amounts permitted by law, the Contractor shall remove all material in question and replace with acceptable material at no additional cost to the Owner."

### § 3.5 WARRANTY

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, will be considered defective regardless of when such nonconformance is discovered. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 The warranty provided in subparagraph 3.5.1 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law or provided by manufacturers.

### § 3.6 TAXES

§ 3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor and shall comply with the following:

§ 3.6.1.1 The Contractor shall be responsible for and shall pay all applicable sales, use, excise or other taxes required by law on all materials, tools, apparatus, equipment, fixtures, services, incidentals or otherwise which may be purchased or used in connection with the Work or portions thereof. The Contract Sum shall include all applicable taxes. Notwithstanding the foregoing, however, Owner is exempt (excluded) from sales and/or use tax in Pennsylvania on certain transactions. Contractor and all Subcontractors shall purchase an exempt (excluded) from Pennsylvania sales and/or use tax all tangible personal property within the definition of 'building machinery and equipment' as that term is defined in Act No. 45-1998 (72 P.S. 7201 et. seq.). Exhibit "B" attached hereto and made a part hereof is a true and correct copy of the portion of such Act which defines the term "building machinery and equipment". No charges shall be allowed for such exempt items. It shall be the Contractor's responsibility to determine those items for which an exemption will apply, and the Contractor shall obtain legal or other tax advice to determine how and to what extent an exemption from the taxes apply. In order to facilitate such purchase free of sales and/or use tax in Pennsylvania, and upon certification by Contractor that an item is, in fact, tax exempt, the Owner agrees to execute a tax exemption certificate certification prepared by Contractor or a Subcontractor as may be required by the regulations of the Pennsylvania Department of Revenue.

§ 3.6.1.2 Assignment of Refund Rights.

- .1 Owner shall be entitled to claim refunds of sales and/or use tax paid on these and other purchases of tangible personal property required in connection with the Work. The Contractor and all Subcontractors hereby assign to Owner all rights to any such refund claim and to any resulting refund and hereby appoint the Owner as their Attorney-in-Fact to execute and acknowledge in their respective names and to prosecute such refund claims before administrative agencies and courts in Pennsylvania having jurisdiction over such claims. The Owner or its agent shall have the right to review the books and records of the Contractor and all Subcontractors for the purpose of documenting and substantiating any such refund claim. Contractor and all Subcontractors shall cooperate fully with Owner in pursuing any such refund claim and shall make available to the Owner any applicable documents.

§ 3.6.1.3 Access to Accounting Records.

- .1 The Contractor shall check all materials, equipment and labor entering into the Work, and shall keep such full and detailed accounts as may be necessary for proper financial management under the Contract and the system shall be satisfactory to Owner. The Owner or its representative shall be afforded access to, including the right to photocopy, all the Contractor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Work, and the Contractor shall preserve all such records for a period of three (3) years, or for such longer period as may be required by the law, after receipt of final payment.

§ 3.6.1.4 Contracts with Subcontractors.

- .1 The Contractor agrees to include the "Access to Accounting Records" and "Assignment of Refund Rights" paragraphs, in full, in any contracts with Subcontractors. The Contractor further agrees that it will not file a claim for refund for any sales and/or use tax which is the subject of the assignment in Subparagraph 3.6.1.2 above. Contractor shall obtain from all Subcontractors similar agreements that they will not file claims for refund for any sales and/or use tax which is the subject of the assignment in Subparagraph B above.

§ 3.7 PERMITS, FEES AND NOTICES

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded. The Owner will pay for the building permit. The Contractors shall secure and process all necessary information to aid the Owner in obtaining the Building permit. Contractors are responsible for any other permits and or licenses required to complete this project.

§ 3.7.1.1 To the extent Contractor pays any permits, fees, including connection and/or tap-in fees not otherwise properly due, the Owner shall be entitled to any refund and interest relating thereto and the Contractor agrees to assign any and all rights to said refund and interest or refund and interest claim to Owner. The Contractor and all Subcontractors hereby assign to Owner all rights to claim any such refund and interest claim and to any resulting refund and interest and hereby appoint the Owner as their Attorney-in-Fact to execute and acknowledge in their respective names and to prosecute such refund and interest claims before administrative agencies and courts having jurisdiction over such claims. The Owner or its agent shall have the right to review the books and records of Contractor and all Subcontractors for the purpose of documenting and substantiating

any such refund claim. Contract and all Subcontractors shall cooperate fully with Owner in pursuing any such refund claim and shall make available to Owner any applicable documents. Failure to fully cooperate in any proceeding necessary to pursue a claim shall be a material breach of the Contract.

§ 3.7.2 Contractor shall comply with all governmental requirements applicable to the Work, including without limitation, all governmental requirements as follows:

§ 3.7.2.1 **Prevailing Wage Requirements.** The Pennsylvania Prevailing Wage Act is applicable to the Contract. The prevailing minimum wage rate determinations for this project as determined by the Secretary of Labor and Industry are made a part of the Contract Documents. Contractor shall pay, and shall require each Subcontractor to pay, each employee engaged on the Work not less than the hourly rates set forth in such prevailing minimum wage determinations. Contractor shall comply with, and shall cause each Subcontractor to comply with, all other requirements of the Pennsylvania Prevailing Wage Act (including but not limited to the provision of Contractor's certified payroll records).

§ 3.7.2.2 **Competent Workmen.** Pursuant to Section 752 of the Public School Code of 1949, Contractor shall employ no person except competent and first-class workmen, mechanics and technicians. No workman shall be regarded as competent and first class except those who are duly skilled in their respective branches of labor and who shall be paid not less than such rates of wages and for such hours' work as shall be the established and current rates of wages paid for such hours by employers of organized labor in doing similar work in the district where the Work is being done.

§ 3.7.2.3 **Safety and Health Regulations.** The Contract is to be governed at all times by applicable provisions of federal law, including but not limited to the following:

Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596.

Part 1910 – Occupational Safety and Health Standards, Chapter XIII of Title 29, Code of Federal Regulations.

Nothing contained in the Contract shall be construed as relieving Contractor in any way of Contractor's responsibility for strict compliance with all governmental requirements pertaining to health and safety.

§ 3.7.2.4 **Records.** Contractor shall maintain accurate and complete records pertaining to the Work (including daily logs for each person engaged on the Work) which shall be open to the inspection of Owner at all reasonable times. Contractor shall preserve such records for a minimum of three (3) years after completion of the Work.

§ 3.7.3 Not used.

§ 3.7.4 If the Contractor performs Work knowing or having reason to know it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Architect and Owner, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.8 Not used.

### § 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in regular attendance at the Project site full time during the performance of the Work until the day of Substantial Completion, and for such additional time thereafter as the Architect may determine to be necessary for the expedition completion of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case by the superintendent.

§ 3.9.2 The Project Superintendent must be approved by the Owner and Architect prior to the start of Work. Within ten (10) days following receipt of Notice to Proceed, the Contractor shall submit a resume of the proposed Superintendent who will be on site full time. The resume shall include at least three (3) recent projects of similar contract scope with the names and telephone numbers of Owner and Architect representatives for each project. The Superintendent shall be on site full time and shall not be changed except with the consent of the Owner and Architect, unless the Superintendent ceases to be in Contractor's employ. In any event, a replacement Superintendent shall be subject to the approval of the Owner and Architect.

§ 3.9.3 If during the course of the Project, it is the opinion of the Architect or Owner that the Superintendent is not competent or is not managing the progress of the Work or is not coordinating the various trades under the Contractor's supervision, then the Architect may document such opinion to the Contractor and require the replacement of the Superintendent with an acceptable Superintendent with no increase to Contract Sum.

§ 3.9.4 The Contractor may not substitute another job superintendent without prior consent of the Owner. Each Contractor shall maintain a full time qualified Project Superintendent on site at all times. Owner reserves the right to deduct \$500.00 from Contract amount for each day that a qualified Project Superintendent is not on site. The aforesaid deduction shall be in the nature of liquidated damages and not as a penalty as actual damages resulting from Contractor's failure to maintain a full-time qualified Project Superintendent on site at all times are impossible to determine. The Owner also reserves the right to interview and approve the proposed substitute superintendent.

### § 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit to the Owner, Architect, and the Contractor for General Construction, for review and approval, an initial Project Schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents (including but not limited to failing to meet the construction milestones set forth in the Contract Documents), shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The construction schedule shall not be changed without the written consent of the Owner and Architect. The Owner's or Architect's silence as to a submitted schedule that exceeds time limits current under the Contract Documents shall not relieve the Contractor of its obligation to meet those time limits, nor shall it make the Owner or Architect liable for any of Contractor's damages incurred as a result of increased construction time or not meeting those time limits. Similarly, the Owner's or Architect's silence as to a Contractor's schedule showing performance in advance of such time limits shall not create or infer any rights in favor of the Contractor for performance in advance of such time limits.

§ 3.10.2 The Contractor shall prepare and keep current, for the Architect's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Architect reasonable time to review submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Architect, and Contractor for General Construction.

§ 3.10.4 An updated Project Schedule shall be submitted with each monthly application for payment.

§ 3.10.4.1 The Project Schedule and each monthly update shall contain the following statement and the signature of the Contractor: "Our company understands that the meeting of the milestone dates listed in this schedule is critical to maintaining the Project Schedule and meeting the Substantial Completion Date of each Phase. In signing this schedule our company agrees to this schedule and further agrees to dedicate whatever resources that are required to complete the work of our Contract in order to meet these dates." Persons signing the progress Schedule shall be the same party as executed the Owner/Contractor Agreement or an individual authorized to commit the Contractor's resources to the schedule.

### § 3.10.5 GENERAL SCHEDULING REQUIREMENTS

§ 3.10.5.1 The Work under the Contract Documents shall be planned, scheduled, executed, reported and accomplished using sequential and logical activities, in calendar days. The provisions of the General Requirements and the directions of the Project Coordinator (as defined by SECTION 011200 MULTIPLE CONTRACT SUMMARY) are to be followed by Contractor in scheduling his construction activities.

§ 3.10.5.1 Contractor is responsible for determining the sequence and logic of activities, the time estimates of the detailed construction activities and the means, methods, techniques and procedures to be employed with regard to his portion of the Work. The Construction Schedule shall represent Contractor's best judgment of how he shall prosecute the Work in compliance with the requirements of the Contract Documents. Contractor shall ensure that the Construction Schedule is current and accurate and is properly and timely monitored, updated and revised as Project conditions and the Contract Documents may require, and as may be directed by Project Coordinator.

3.10.5.1 Contractor shall consult with his major Subcontractors relating to the preparation of his construction plan and Construction Schedule. Major Subcontractors shall receive copies of those portions of Contractor's Construction Schedule which relate to their Work and shall be continually advised of any updates or revisions to the Construction Schedule as the work progresses. When Contractor submits his Construction Schedule to the CPM Scheduler or makes any proposed updates or revisions to such Schedule, it shall be concluded by Owner and Project Coordinator that Contractor has consulted with and has the concurrence of his major Subcontractors. Contractor shall be solely responsible for ensuring that all Subcontractors comply with the requirements of the Construction Schedule for their portions of the Work.

3.10.5.2 Contractor shall provide the basic data as required by Project Coordinator relating to activities, durations and sequences as part of Contractor's draft of the Construction Schedule. This data shall reflect Contractor's actual construction plan for the Project, and shall fully comply with all requirements of the Contract Documents.

3.10.5.3 Not used.

3.10.5.4 Contractor acknowledges and agrees that his Construction Schedule must be flexible in order to accommodate and allow for his coordination with the construction activities of the other Contractors, and Contractor agrees to mutually cooperate with the other Contractors in this regard.

3.10.5.5 The review by Owner or Architect of the Construction Schedule or any other schedule or plan of construction of Contractor, does not constitute an agreement by Owner or Architect of any start or finish date in the schedule or specific durations or sequences for activities of the Contractor; further, nothing herein shall be construed as modifying or changing, or excusing the performance of Contractor of required portions of the Work by the Completion Dates as set forth in the Contract Documents.

3.10.5.6 The Completion Dates set forth in the Contract Documents represent only the major items of Work and may include interface dates with the construction activities of the other Contractors or others. Completion Dates are Contract requirements and are of the essence to the Contract Documents and to the coordination of the Work by Contractor. Completion Dates represent the latest allowable completion time for those portions of the Work to which each Completion Date relates. The Completion Dates are not intended to be a complete listing of all Work under the Contract Documents or of all interfaces with Work performed by other Contractors or others. Contractor shall determine the time requirement for all such interfaces and shall be responsible for planning, scheduling and coordinating the Work in order to complete in accordance with those requirements.

3.10.5.7 Not used.

### 3.10.6 UPDATING OF CONSTRUCTION SCHEDULE/PROGRESS REPORTS

3.10.6.1 At a minimum of every other project meeting, or as requested by Owner or in accordance with the dates specified in the Contract Documents, the Project Coordinator shall update the construction schedule. Contractor shall arrange for his Superintendent to meet at the Project site with the Project Coordinator to review Contractor's report of actual progress. Said report shall set forth up-to-date and accurate progress data, shall be based upon Contractor's best judgment and shall be prepared by Contractor in consultation with all Subcontractors.

3.10.6.2 The progress report of Contractor shall show the Work activities, or portions of activities, completed during the reporting period, the actual start and finish dates for these activities, remaining durations and/or estimated dates for completion of Work for activities currently in progress.

3.10.6.3 Not used.

3.10.6.4 Contractor shall submit a written report with the updated progress analysis which shall include, but not be limited to, a description of problem areas, current and anticipated delaying factors and their impact, explanations of corrective actions taken or planned, any newly planned activities or changes in sequence, and proposed logic for a recovery schedule, if required, as further described herein. The report shall also include:

- .1 a narrative describing actual Work accomplished during the reporting period;
- .2 a list of major construction equipment used on the Project during the reporting period and any construction equipment idle during the reporting period;

- .3 the total number of personnel by craft actually engaged in the Work during the reporting period, with such total stated separately as to office, supervisory, and field personnel;
- .4 a manpower and equipment forecast for the succeeding thirty (30) days, stating such total as to office, supervisory and field personnel;
- .5 a list of Contractor-supplied materials and equipment, indicating current availability and anticipated Project site delivery dates; and
- .6 changes or additions to Contractor's supervisory personnel, if any, since the preceding progress report.

3.10.6.5 Application for Payment: Except as provided in Subparagraph 3.10.8, Contractor understands and agrees that the submission and acceptance of progress updates and the receipt of progress reports are an integral part and basic element of the Application for Payment; and that Contractor shall not be entitled to any progress payment under the Contract Documents until Contractor has fully complied with the requirements of this Paragraph 3.10.

3.10.6.6 Contractor shall be solely responsible for expediting the delivery of all materials and equipment to be furnished by or to him so that the progress of construction shall be maintained according to the currently accepted Construction Schedule for the Work. Contractor shall notify Project Coordinator in writing, and in a timely and reasonable manner, whenever Contractor determines or anticipates that the delivery date of any material or equipment to be furnished by Contractor shall be later than the delivery date indicated by the Construction Schedule, or required consistent with the completion requirements of the Contract Documents, subject to schedule updates as herein provided.

3.10.6.7 Contractor shall ensure that off the site work activities do not adversely affect progress in accordance with the Construction Schedule.

3.10.7 Initial Progress Payment: The completed Construction Schedule, including the Schedule of Values, shall be required for each Application for Payment. However, one initial provisional progress payment may be payable in the sole discretion of Architect if he determines Contractor is complying with this Paragraph 3.10 during the development of the Construction Schedule and Schedule of Values as required herein. However, no more than one Application for Payment shall be approved until all of the requirements of this Paragraph 3.10 have been met.

### 3.10.8 RECOVERY SCHEDULE

3.10.8.1 Should the updated Construction Schedule, at any time during Contractor's performance, show that Contractor is fourteen (14) or more days behind schedule for any Completion Date, Contractor shall prepare a recovery schedule at no cost to Owner (unless Owner is solely responsible for the event or occurrence which has caused the schedule slippage) explaining and displaying how Contractor intends to reschedule his Work in order to regain compliance with the Construction Schedule during the immediate subsequent pay period.

3.10.8.2 If Contractor believes that all of the time can be recovered during the subsequent pay period, Contractor shall be permitted to prepare a recovery schedule as set forth below. However, if Contractor believes it shall take more than thirty (30) days to recover all of the lost time, he shall prepare and submit a request for revision to the Construction Schedule and comply with all of the requirements of a schedule revision as set forth in this Subparagraph 3.10.10 and Subparagraph 3.10.11.

3.10.8.3 Contractor shall prepare and submit to the Owner a limited duration recovery schedule, incorporating the best available information from Subcontractors and others which shall permit return to Construction Schedule at the earliest possible time. Contractor shall prepare a recovery schedule to the same level of detail as the Construction Schedule for a maximum duration of one month. The recovery schedule shall be prepared in coordination with other Contractors.

3.10.8.4 Not used.

3.10.8.5 Contractor shall confer continuously with the Owner to assess the effectiveness of the recovery schedule. As a result of this conference:

3.10.8.5.1 If the Owner determines Contractor is still behind schedule, Owner may direct Contractor to prepare a schedule revision with the assistance of the Architect and comply with all of the requirement of a schedule revision as stated herein and the other requirements of the Contract Documents; provided, however, that nothing herein shall limit in any way the rights and remedies of Owner and Architect as provided elsewhere in the Contract Documents.

3.10.8.5.2 Not used.

3.10.8.6 Nothing herein alters the obligation of Project Coordinator to resolve coordination and scheduling issues in dispute between and amongst Contractors.

### 3.10.9 SCHEDULE REVISIONS

3.10.9.1 Should Contractor desire to or be otherwise required under the Contract Documents to make modifications or changes in his method of operation, his sequence of Work or the durations of the Work activities in his Construction Schedule, he shall do so in accordance with the requirements of this Paragraph, Division 01 Section "Construction Progress Documentation", and schedules. Revisions to the accepted Construction Schedule must be presented to and reviewed by the Project Coordinator.

3.10.9.2 Contractor shall submit requests for revisions to the Construction Schedule to the Owner, together with written rationale for revisions and description of logic for rescheduling Work and maintaining the dates for Substantial and Final Completion listed in the Contract Documents. Proposed revisions acceptable shall be incorporated into next update of the Construction Schedule.

3.10.9.3 In all instances where a revision to the Construction Schedule will affect the construction activities of other Contractors, prior to the submission by Contractor of his proposed schedule revisions, he shall meet with and gain written acceptance of the Contractors to make the revisions which shall be evidenced by the signatures of said Contractors on the proposed schedule revisions. If accepted, the revisions, shall be binding upon Contractor and all separate Contractors on the Project.

3.10.9.4 If the Contractor do not comply with all the above requirements and time lines, the Owner reserves the right to deduct \$150.00 from the Contract amount for each day the Contractor does not comply. The aforesaid deduction shall be in the nature of liquidated damages and not a penalty as actual damages resulting from Contractor's failure to comply with the above requirements and timelines are impossible to determine. The Owner may also proceed with enforcing other requirements of the Contract Documents including Article 2.4.

### § 3.11 DOCUMENTS AND SAMPLES AT THE SITE

§ 3.11.1 The Contractor shall maintain at the site for the Owner one record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record field changes and selections made during construction, and one record copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work. Record drawings shall include, but are not limited to, the location of water, sewer, telephone, electric, gas and any other utility lines. Contractor shall certify the record drawing as accurate. Delivery of such items shall be a condition precedent before final payment is made.

### § 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect without action.



§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action.

§ 3.12.6 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect. Should Contractor, Subcontractors, or anyone directly or indirectly employed by any of them, install, construct, erect or perform any portion of the Work without approval of any requisite submittal, the Contractor shall bear the costs, responsibility and delay for removal, replacement, and correction of any and all items, materials and labor necessary to rectify Work that does not conform to the Contract Documents without change to the Contract Sum or Contract time.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services which constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

### § 3.13 USE OF SITE

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. Failure to comply with such laws, statutes, ordinances, codes rules and regulations, and lawful orders that result in any delay to the Project or other cost to the Owner shall be the responsibility of the Contractor and shall promptly be remedied by the Contractor, with any cost borne by the Owner to be deducted from the Contract Sum. To the extent there is any delay resulting therefrom, the Owner shall be entitled to liquidated damages resulting from such delay, in addition to any other remedies provided by the Contract, at law or equity.

§ 3.13.2 Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the site. Protection of construction materials and equipment stored at the site from weather, theft, damage and all other adversity is solely the responsibility of the Contractor.

§ 3.13.3 No project signs shall be erected without the written approval of the Owner.

§ 3.13.4 The Contractor shall ensure that the Work is at all times performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public access areas adjacent to the site of the Work shall be free from all debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any other provision of the Contract Documents, Contractor shall not interfere with the occupancy or beneficial use of (1) any areas and building adjacent to the site of the Work or (2) the Work in the event of partial occupancy. Contractor shall assume full responsibility for any damage to the property comprising the Work or to the Owner or occupant of any adjacent land or areas resulting from the performance of the Work.

§ 3.13.5 The Contractor shall not permit any workers to use any existing facilities at the site, including, without limitation, lavatories, toilets, entrances and parking areas other than those designated by Owner. The Contractor, Subcontractors of any tier, suppliers and employees shall comply with instruction or regulations of the Owner governing access to, operation of, and conduct while in or on the premises and shall perform all Work required under the Contract Documents in such a manner as not to unreasonably interrupt or interfere with the conduct of Owner's operations.

§ 3.13.6 The Contractor shall keep the site of the Work and surrounding areas free from accumulation of waste materials, rubbish, debris, and dirt resulting from the Work and shall clean the site and surrounding areas as requested by the Architect or Owner, including mowing of grass greater than 6 inches high. The Contractor shall be responsible for the cost of cleanup and removal of debris from premises. The building and premises shall be kept clean, safe in a workmanlike manner, and in compliance with OSHA standards at all times. At completion of the Work the Contractor shall remove from and about the site tools, construction equipment, machinery, fencing and surplus materials. Further, at the completion of the Work, all dirt, stains and smudges shall be washed and entire Work shall be left broom clean in a finished state ready for occupancy. Cleaning of windows and other glass in the Project is a contractual requirement. The Contractor shall advise its Subcontractors of any tier of this provision, and the Contractor shall be fully responsible for leaving the premises in a finished state ready for use to the satisfaction of the Owner. If the Contractor fails to comply with the provisions of this paragraph, the Owner may do so and the cost thereof shall be charged to the Contractor.

#### § 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. A Contractor, Subcontractor or Sub-subcontractor requiring the cutting of openings in work installed by others shall have such openings cut and patched by the trade which installed the original work and such cutting and patching shall have the approval of Architect prior to proceeding with the work and the Contractor shall include installation of such reinforcement of the work as the Architect may direct.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.14.3 Contractor acknowledge that cutting and patching of the Work is essential for the Work to be successfully completed. Contractor shall perform any cutting, altering, patching, and fitting of the Work necessary for the Work and the existing improvements to be fully integrated and to present the visual appearance of an entire, completed and unified project. In performing any Work which requires cutting or patching, Contractor shall use its best efforts to protect and preserve the visual appearance and aesthetics of the Work to the reasonable satisfaction of the Owner and shall only be performed by skilled workers of the required trade.

**§ 3.15 CLEANING UP**

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

§ 3.15.3 The Contractor shall make provisions for and be personally responsible for removing all mud and debris from all vehicles and equipment leaving the construction site and shall remove any mud, debris and litter which may fall upon streets or adjacent properties. If the same is not removed and properly washed down within 24 hours after verbal notice from the Owner or municipal authority then in that event, said mud, debris and litter shall be removed by Owner at the Contractor's expense.

**§ 3.16 ACCESS TO WORK**

§ 3.16.1 The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.16.2 Representatives of governmental agencies shall have access at all reasonable times to the Work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection.

**§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS**

§ 3.17.1 The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

**§ 3.18 INDEMNIFICATION**

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner and its agents, directors and employees of the Owner, the architect and the architects consultants from and against claims, damages, losses, and expenses arising out of or resulting from performance of the Work, but only to the extent caused by acts or omissions of the Contractor, a Subcontractor, or anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, unless such claims, damages, losses, and expenses are caused in whole or in part by the negligent acts or omissions by the Owner and its agents, directors and employees or the Architect, Architect's consultants, the Owner's own forces or other contractors employed by the Owner, or any employee of them. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph 3.18.1.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.18.3 No provision of this Article 3.18 shall give rise to any duties on the part of the Architect or the Owner, or any of their agents, representatives, or employees to the Contractor or any of its subcontractors, employees, agents or representatives.

§ 3.18.4 Obligations of the Contractor arising under this Article 3.18 shall survive final payment or termination.

§ 3.18.5 This indemnity provision is independent of whether or not the Contractor an/or any of its Subcontractors has (have) insurance. This indemnity provision shall apply, particularly but not exclusively, to the claims of the Contractor and all of its Subcontractors, and all of their respective officers, agents, representatives and employees, against the Owner and all its offic-

ers, agents, representatives and employees. Any violation of any of the provisions of this Article 3.18 INDEMNIFICATION by the Contractor and/or any of its Subcontractors shall be deemed a material breach of this Contract. The Contractor and all of its Subcontractors, and all of their respective officers, agents, representatives and employees, shall have no claim against the School District, its officers, agents, representatives and employees for the acts, failures to act or negligence of the School District, directly or indirectly, or its officers and employees; and should this exculpatory clause be declared invalid by law, such invalidity shall in no manner affect or invalidate any or all other foregoing provisions in this Article 3.18 INDEMNIFICATION.

3.18.6 The Contractor will be solely responsible for the defense of any and all claims, demands, or suits against the Indemnified Parties, including without limitation, claims by an employee, subcontractor, agents, or servants of Contractor even though the claimant may allege that the Indemnified Parties were in charge of the Work or allege negligence on the part of the Indemnified Parties. Owner will have the right, at its sole option, to participate in the defense of any such suit, without relieving the Contractor of its obligations hereunder.

#### ARTICLE 4 ADMINISTRATION OF THE CONTRACT

##### § 4.1 ARCHITECT

§ 4.1.1 The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner and Architect.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a new Architect whose status under the Contract Documents shall be that of the former Architect.

##### § 4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents, and will be an Owner's representative for the project. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect, as a representative of the Owner, will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if the Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.2.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for site visits made necessary by the fault of the Contractor or by defects and deficiencies in the Work or supervision of the Work.

§ 4.2.3 The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, or deemed appropriate by the Owner, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect will reject Work that does not conform to the Contract Documents unless the Owner accepts nonconforming work in writing. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4.

§ 4.2.9 The Architect will conduct a maximum of two (2) inspections to determine the date or dates of Substantial Completion and a maximum of two (2) inspections to determine the date of final completion. If more than two (2) inspections for either substantial or final completion are necessary, the Contractor shall reimburse the Owner for all the Architect's expenses and costs associated with additional inspections. The Architect will receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretations until 15 days after written request is made for them.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and initial decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.12.1 Written or graphic interpretations by the Architect will be considered as minor changes in the Work. No claims for additional time or money will be honored due to such interpretation. Any interpretations offered by the Architect that Contractor determines to affect Contract Sum or time shall be submitted to the Architect within five (5) days and will be treated as a proposed Change Order Request. Provide complete substantiation of changes in Contract Time or Contract Sum as required for a proposed Change Order Request.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

#### § 4.3 CLAIMS AND DISPUTES

§ 4.3.1 It is an express condition of Contractor's right to make a claim or to receive any recovery or relief under or in connection with the Contract, that Contractor submit a written notice of potential claim labeled "Potential Claim" to the Owner and Architect in accordance with the provisions of this Article; provided, however, that with respect to requests for relief within the scope of Article 7/Changes in the Work, the Contractor shall submit a Change Order Request in accordance with the provisions of Article 7 before initiating a claim under this Paragraph 4.3.1.1. Failure to comply with the provisions hereof shall constitute a waiver by the Contractor of any right, equitable or otherwise, to bring any such claim against the Owner. Nothing in this Paragraph 4.3.1.1 is intended to expand the rights of the Contractor as they otherwise exist under the Contract.

§ 4.3.1.2 The written notice of potential claims shall set forth:

§ 4.3.1.2.1 the reasons for which the Contractor believes additional compensation will or may be due;

§ 4.3.1.2.2 the nature of the costs involved;

§ 4.3.1.2.3 Contractor's plan for mitigating such costs; and

§ 4.3.1.2.4 the amount of the potential claim.

§ 4.3.2 The Notice provided shall be given within five (5) calendar days after the happening of the event or occurrence giving rise to the potential claim; provided, however, if the event or occurrence is claimed to be an act or omission of the School District, notice shall be given prior to the time for performance of the portion of the Work to which such act or omission relates. The notice requirements of Article 4.3 are in addition to any other notice requirements set forth in the Contract Documents.

§ 4.3.2.1 Written substantiation of all aspects, direct and indirect, of any claim must be provided to the Architect and the Owner no later than twenty (20) calendar days following said act or omission which gave rise to the claim. If Contractor fails to comply with the terms and conditions of this paragraph with respect to any claim, Contractor agrees that it has irrevocably waived said claim.

§ 4.3.2.2 The Claim and Dispute procedures contained in paragraphs 4.3.1 and 4.3.2.1, above, apply only to Claims of the Contractor and are not binding upon or applicable to the Owner.

§ 4.3.3 Continuing Contract Performance. Pending final resolution of a Claim except as otherwise agreed in writing or as provided in Section 9.7.1 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 4.3.4 Claims for concealed or Unknown Conditions. If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than ten (10) days after first observance of the conditions. The Architect will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made with ten (10) days after the Architect has given notice of the decision. If the conditions encountered are materially different, the Contract Sum and Contract Time shall be equitably adjusted, but if the Owner and Contractor cannot agree on an adjustment in the Contract Sum or Contract Time, the adjustment shall be referred to the Architect for initial determination, subject to further proceedings pursuant to Section 4.4.

§ 4.3.5 Claims for Additional Cost. If the Contractor wishes to make Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.6.

§ 4.3.6 If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect, (2) an order by the Owner to stop the Work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Architect, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension or (7) other reasonable grounds, Claim shall be filed in accordance with this Section 4.3.

**§ 4.3.7 Claims for Additional Time**

§ 4.3.7.1 If the Contractor wishes to make Claim for an increase in the Contract Time, written notice as provided herein shall be given. Contractor shall not be entitled to any adjustment in the Contract Sum or to any other payment with respect to any increase in the Contract Time.

§ 4.3.7.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 4.3.8 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party in accordance with this Paragraph 4.3. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 4.3.9 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 4.3.10 Claims for Consequential Damages. The Contractor waives Claims against the Owner for consequential damages arising out of or relating to this Contract. This waiver includes; but is not limited to:

- .1 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit arising directly or indirectly from performance of the Work.

This waiver by the Contractor is applicable, without limitation, to all consequential damages due to Owner's termination in accordance with Article 14.

§ 4.3.11 Claims for Economic Loss. The Contractor shall have no claim against the Owner or the Architect for economic loss based upon negligence, negligent misrepresentation or any other tort-based theory of liability.

§ 4.3.12 No Claims After Final Payment. In no event shall claims be made by Contractor after Final Payment is made and acceptance of Final Payment by Contractor shall be deemed a waiver of all claims by Contractor.

§ 4.3.13 The Contractor shall have no claim against or any right of recovery of damages from the Owner, for any loss sustained, in whole or in part, by an act or omission of the Architect unless and only to the extent that such act or omission constitutes a breach of contract by Owner.

§ 4.3.14 The Contractor shall make no claim against the Owner or its agents for money damages arising from or relating to delay, acceleration, coordination of the Work by Contractors, interferences, hinderances, inefficiencies or similar types of damages, see also paragraph 8.3.

**§ 4.4 RESOLUTION OF CLAIMS AND DISPUTES**

§ 4.4.1 Decision of Architect. Claims, including those alleging an error or omission by the Architect but excluding those arising under Sections 10.3 through 10.5, shall be referred initially to the Architect for decision. An initial decision by the Architect shall be required as a condition precedent to dispute resolution of all Claims between the Contractor and Owner arising

prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered by the Architect. The Architect will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 4.4.2 The Architect will review Claims and within ten days of the receipt of the Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Architect is unable to resolve the Claim if the Architect lacks sufficient information to evaluate the merits of the Claim or if the Architect concludes that, in the Architect's sole discretion, it would be inappropriate for the Architect to resolve the Claim.

§ 4.4.3 In evaluating Claims, the Architect may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Architect in rendering a decision. The Architect may request the Owner to authorize retention of such persons at the Owner's expense.

§ 4.4.4 If the Architect requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either provide a response on the requested supporting data, advise the Architect when the response or supporting data will be furnished or advise the Architect that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Architect will either reject or approve the Claim in whole or in part.

§ 4.4.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefore and which shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be final and binding on the parties but subject to dispute resolution.

§ 4.4.6 When a written decision of the Architect states that (1) the decision is final but subject to dispute resolution, the Contractor must initiate the dispute resolution of a claim covered by such decision within 30 days after the date on which the party making the demand receives the final written decision, then failure to initiate the dispute resolution within said 30 days' period shall result in the Architect's decision becoming final and binding upon the Contractor.

§ 4.4.7 Upon receipt of a Claim against the Contractor or at any time thereafter, the Architect or the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Architect or the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 4.4.8 The provisions of the Article 4.4 apply only to Claims of the Contractor and are not applicable to or binding upon the Owner.

#### § 4.5 MEDIATION

§ 4.5.1 Any Claim arising out of or related to the Contract, except Claims relating to aesthetic effect and except those waived as provided for in Sections 4.3.10, 9.10.4, 9.10.5 or other provisions of this Contract after initial decision by the Architect may be submitted to mediation only upon the mutual agreement of the parties.

§ 4.5.2 If mutually agreed upon, the parties will endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be filed in writing with the other party to the Contract and with the American Arbitration Association.

§ 4.5.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

#### § 4.6 DISPUTE RESOLUTION

§ 4.6.1 Controversies and Claims. The parties agree that the Court of Common Pleas in Lancaster County, Pennsylvania, shall be the exclusive forum to resolve disputes that may arise out of or related to the Contract or the breach thereof, or the Work or the Project, through non-jury trial proceedings. Contractor, for itself, its surety, and each Subcontractor, hereby (a)



waives any right which may exist to arbitration, (b) a jury trial and (C) hereby agrees that all disputes shall be heard by a judge sitting without a jury.

§ 4.6.2 Not used.

§ 4.6.3 Contractor must initiate the dispute resolution process by the filing of a complaint within the time limits specified in Subparagraph 4.4.6, or if not submitted to the Architect for decision, within thirty (30) days of the Owner's decision, otherwise the Contractor shall have irrevocably waived such Claim. Owner shall not be subject any time limits for making a claim, except as provided by law, and shall not be deemed to have waived any claim against Contractor.

§ 4.6.4 Contractor acknowledges that it is familiar with the provisions of the Award and Execution of Public Contracts Act, 62 Pa. C.S. Section 3901, *et set.* (the "Act"), that it is aware of its rights and remedies under the Act, and that it HEREBY SPECIFICALLY WAIVES ANY RIGHT IT MIGHT HAVE TO INTEREST, PENALTIES, AND ATTORNEYS' FEES UNDER THE ACT.

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

### § 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents of the bidding requirements, the Contractor, as soon as practical after award of the Contract, shall furnish in writing to the Owner through the Architect the name of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. In all cases, this notification shall be received in writing no less than fifteen (15) days prior to a Subcontractor starting Work. The Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection.

§ 5.2.1.1 Not later than 30 days after the date of the Notice to Proceed, the Contractor shall furnish in writing to the Owner through the Architect the names of persons or entities proposed as manufactures, fabricators or material suppliers for the products, equipment and systems identified in the Project Specifications and drawings and, where applicable, the name of the installing Subcontractor. The Owner reserves the right to deduct \$500.00 from Contract amount for each additional day that all information is not furnished. The aforesaid deduction shall be in the nature of liquidated damages and not as a penalty as actual damages resulting from Contractor's failure to furnish the required information.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made objection.

§ 5.2.3 If the Owner or Architect has objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no objection. No increase in the Contract Sum or Contract Time shall be allowed for such a change.

§ 5.2.4 The Contractor shall not change a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitute.

### § 5.3 SUBCONTRACTUAL RELATIONS

§ 5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each sub-

contract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement which may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 Where Contractor sublets portions of the Work, the entire responsibility for the subdividing of Work rests with the Contractor. The Owner and the Architect are not responsible for the manner of the subdivision of the Work and neither will enter into nor settle disagreements or disputes between Contractor and Subcontractors. The arrangement of Specifications and the manner of graphic illustration of Drawings are for convenience of reference and do not comprise any exacting method of subdividing Work for purposes of subcontracting, except where the Contract Documents require an undivided responsibility for certain Work.

§ 5.3.3 Contractor shall require each Subcontractor to (1) Inspect surfaces and job conditions before beginning Work at Project site, (2) Accept or cite necessary corrections in surfaces and job conditions before beginning Work at Project site, and (3) Protect his own materials, equipment and Work from damage, injury or loss due to weather or due to Work of the Contractor, other Subcontractors, or other Contractors. The best means of protection shall be supplied, and removed when no longer required.

#### § 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

#### ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

##### § 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 Contractors are responsible for coordinating their Work and the construction process. The Owner is not responsible for coordination of the Contractor's Work.

§ 6.1.4 Failure of a Contractor to keep informed of the Work progressing on the Project site and failure to give notice of lack of progress of defective workmanship by others shall be construed as acceptance by him of the status of the Work as being satisfactory for proper coordination with his own Work. It is agreed that the Contractor shall not be entitled to any damages or extra compensation from the Owner on account of any Work performed by the Owner or other Contractors that in any way affects the work under this Contract. In case the Contractor, by his own acts or the acts of any person or persons in his employ, shall unnecessarily delay, in the opinion of the Architect, the Work of the Owner or other Contractors by not properly cooperating with them or by not affording them sufficient opportunity or facility to perform Work as may be specified, the Contractor shall, in that case, pay all costs and expenses incurred by such parties due to any such delays, and he

hereby authorizes the Owner to deduct the amount of such costs and expenses from any monies due or to become due the Contractor under this Contract, based on the investigations and recommendations of the Architect. Nothing contained in this Subparagraph 6.1.5 shall, however, relieve said Contractor from any liability or damage resulting to the Owner on account of such delay or delays.

§ 6.1.5 If, through the acts or omissions of the Contractor, any other Contractor or any Subcontractor shall suffer loss or damage to the Work, the Contractor agrees to settle with such other Contractor or Subcontractor by agreement if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim or bring any action against the Owner or the Architect on account of any damage alleged to have been sustained, the Owner or the Architect, as the case may be, shall notify the Contractor, who shall indemnify and hold harmless the Owner and/or the Architect and pay and satisfy any judgment or award entered against the Owner and/or Architect in any such action and shall pay all costs and expenses, legal, and otherwise, incurred by the Owner and/or the Architect therein or thereby.

## § 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable or paid to a separate contractor because of delays, improperly timed activities or defective construction of the Contractor.

§ 6.2.4 The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.2.6 It shall be the affirmative duty of the Contractor to cooperate and coordinate the scheduling and progress of his work with that of all other contractors. Under no circumstances shall the Owner be liable for damages for delay caused by the acts or omissions of another contractor. In the event that any other contractor performing work should hinder, delay or damage the Contractor's Work or should otherwise cause loss of injury to the Contractor, Contractor agrees that it shall look solely to such other contractor for relief therefore. Neither the Owner nor the Architect shall be responsible for any such hindrance, delay, damage, loss or injury, and the Contractor will, in no event, attempt to hold the Owner or the Architect liable for the costs thereof. The Contractor shall not make any claim for adjustment of Contract Sum, equitable, or otherwise, against the Owner based on any of the foregoing. Similarly, the Contractor agrees that it will be responsible to any other contractor performing work related to the Project for any loss, injury, damage, or delay including acceleration costs incurred as a result of delay caused by the Contractor. The Contractor shall indemnify and hold harmless the Owner and the Architect from any against any claim brought against them by another contractor including costs, expenses, and attorneys' fees incurred by any of them as a result of the Contractor's alleged acts or omissions. The Contractor agrees that it and all other Project Contractors have third-party beneficiary rights with regard to each other pursuant to this paragraph 6.2.6.

§ 6.2.7 Should the Contractor wrongfully cause damage to the Work or property of any separate contractor, the Contractor shall, upon due notice, promptly attempt to settle with the separate contractor by agreement, or otherwise to resolve the dispute. Such dispute shall not delay the completion of the Work. Work shall be continued by the separate contractor claiming damages at his expense subject to his right to recover damages. If such separate contractor sues the Owner or the Architect on account of any damage alleged to have been caused by the Contractor, the Owner or Architect shall notify the Contractor who shall defend such proceedings at the Contractor's expense, and if any judgment or award against the Owner or Architect arises therefrom the Contractor shall pay or satisfy it and shall reimburse the Owner or Architect for all attorneys' fees and court costs which the Owner, Owner's Representative or Architect has incurred.

§ 6.2.8 The Contractor agrees to adjust his work or schedule and coordinate his work with other contractors as directed by the Owner or the Architect.

#### § 6.3 OWNER'S RIGHT TO CLEAN UP

§ 6.3.1 If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

### ARTICLE 7 CHANGES IN THE WORK

#### § 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract without notice to the sureties, and without invalidating the Contract or the Bonds provided by said sureties, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.1.4 Except for Construction Change Directives and Article 7.3 and minor deviations authorized by the Architect under Article 7.4, any other deviation or change from the Contract must be duly authorized by Change Order signed by Owner before Contractor proceeds with any part of the Work affected by such deviation or change.

§ 7.1.5 If the Contractor fails to perform promptly such authorized Work by Change Order or Construction Change Directive. Owner may then arrange for the performance of said Work in any manner the Owner sees fit, and Contractor shall not interfere with such performance of the Work. The Owner may withhold payments due Contractor until any loss which may be sustained by Owner can be definitely determined by the Owner and the amount of such loss, shall be deducted from the balance due the Contractor.

§ 7.1.6 Nothing in Article 7 shall excuse the Contractor from proceeding with the Contract as changed.

#### § 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect, stating their agreement upon all of the following:

- .1 change in the Work;
- .2 the amount of the adjustment, if any, in the Contract Sum; and
- .3 the extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in Section 7.3.3.

#### § 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 as provided in Section 7.3.6.

§ 7.3.4 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3. If the Contractor does not respond within five (5) days or signs the Construction Change Directive, the Contractor shall be deemed to have indicated the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.6 If the Contractor provides the Owner and Architect with written notice of Contractor's disagreement within five (5) days of the date of the Construction Change Directive with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Architect on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, a 5% allowance for overhead and profit. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.6 shall be limited to the following:

- .1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.7 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.8 Pending final determination of the total cost of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs. For any portion of such cost that remains in dispute, the Architect will make an interim determination for purposes of monthly certification for payment for those costs. That determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a claim in accordance with Article 4.

§ 7.3.9 When the Owner and Contractor agree with the determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

#### § 7.4 MINOR CHANGES IN THE WORK

§ 7.4.1 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

## ARTICLE 8 TIME

### § 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

### § 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 hereof. The date of commencement of the Work shall not be changed by the effective date of such insurance. Unless the date of commencement is established by the Contract Documents or a notice to proceed given by the Owner, the Contractor shall notify the Owner in writing not less than five days or other agreed period before commencing the Work to permit the timely filing of mortgages, mechanic's liens and other security interests.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

### § 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed in the progress of the work by labor disputes which last more than seven (7) days, or by fire, or by other causes beyond Contractor's control and which could not have been anticipated by Contractor (and expressly excluding any delays caused by proceedings under the Occupational Health and Safety Act), then the Contract Time shall be extended for such reasonable time as the Owner may determine to the extent such delay will prevent Contractor from achieving Substantial Completion within the Contract Time, and, if the performance of the Work is not, was not, or would not have been delayed by any other cause for which Contractor is not entitled to an extension in the Contract Time under the Contract Documents. Contractor further acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay; (1) is not caused, or could not have been anticipated, by Contractor; (2) could not be limited or avoided by Contractor's timely notice to the Owner of the delay; (3) is not caused by rock excavation, weather conditions which could have been anticipated, or failure of Contractor to enclose the building for winter weather; and, (4) is of a duration not less than two (2) days, except in the case of a labor dispute in which case the duration must be more than seven (7) days. Contractor represents and warrants that the provisions herein contained for extension of time are fair and adequate and that Contractor has had an opportunity to make provision for any and all delays within the contemplation of the parties. Accordingly, it is understood and agreed that Contractor shall not have or assert any claim for damages or prosecute any suit, action, cause of action or other proceeding against the Owner for such damages arising from any delay or hindrance in the completion of the work called for in this Agreement caused by any act or omission on the part of the Owner, its agents, directors, servants, and employees or otherwise.

§ 8.3.2 Claims by Contractor relating to time shall be made in accordance with applicable provisions of Section 4.3., provided that any such claim is filed within the time frames set forth in paragraph 8.3.3 hereof.

§ 8.3.3 All claims for extension of time shall be made in writing to the Architect and the Owner no more than three (3) days after the occurrence/event/act/omission causing; otherwise they shall be waived. In the case of a continuing cause of delay only the first claim is necessary.

§ 8.3.4 Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time, to the extent granted under Paragraph 8.3.1, shall be Contractor's sole remedy for any (1) delay in the commencement, prosecution, or completion of the Work, (2) hindrance or obstruction in the performance of the Work, (3) loss of productivity, or (4) other similar claims (collectively referred to in this paragraph as "Delays") whether or not such Delays are foreseeable. In no event shall Contractor be entitled to any compensation or recovery of any damages in connection with any Delay, including, with-

out limitation, consequential damages, lost opportunity costs, lost profits, impact damages, or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents, regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be the basis of any claim for delay in Contractor's performance of the Work.

§ 8.3.5 If Contractor submits a progress report or schedule indicating, or otherwise expressing, an intention to achieve Substantial Completion or Final Completion of the Work earlier than any date of Substantial Completion or Final Completion required by the Contract Documents, no liability of the Owner to Contractor for any failure of Contractor to so complete the Work shall be created or implied.

§ 8.3.6 If the Contractor is behind the Project Schedule to such an extent that the Owner reasonably determines that the Contractor will be unable to meet any of the milestone dates set forth in the Project Schedule, as such dates may be extended by Change Order, the Owner may direct the Contractor to accelerate its work. Such acceleration shall be at the Contractor's own cost and without reimbursement from the Owner. Such acceleration may include employing such additional forces or paying such additional overtime wages as may be required to place the progress of the Work in conformity with the Project Schedule and to allow timely Substantial Completion. The Contractor shall also pay any additional sums which may become due to the Architect as a result of an acceleration.

§ 8.3.7 Actual damages to the Owner for delay beyond the required dates of completion are impossible to determine. Accordingly, each Contractor agrees, and shall be liable for and pay to the Owner as fixed, agreed, and liquidated damages, the sum or sums indicated below for each calendar day (weekends and holidays included) which the actual dates of Substantial Completion or Final Completion are delayed beyond the dates required by the Contract Documents or as amended by approved Change Orders.

**“8.3.7.1 Time is an essential part of this Contract. The general requirements of this bid set forth the minimum performance dates, namely Substantial Completion base line dates. If the Contract is completed earlier than this date, the Owner will benefit thereby. In addition, if the Contract is completed later than this date, the Owner will be damaged thereby. In recognition of this benefit or loss to the Owner, the Owner has developed a schedule (as shown in EXHIBIT “A” at the end of this specifications section) for Incentive Payments and Liquidated Damage Payments for Substantial Completion of the complete project within certain time periods.**

**8.3.7.2 The dates specified herein for the Substantial Completion dates for computation of the Incentive or the Liquidated Damage shall not be extended for any reason, including, but not limited to, delays caused by any of the Contractors, by weather, by the architectural design, by acts of God or by the Owner or the Architect. The Owner's obligation to pay the Incentive is based solely on Substantial Completion of the complete project and of the Owner's ability to use the site for its intended purpose prior to the listed completion dates. The Owner, in its sole discretion, based on the Architect's certification and Owner's inspection, shall make the final decision as to the project's Substantial Completion and its ability to use the site and its corresponding obligation to pay the Incentive. The Contractor shall have no recourse against the Owner for failure to pay the Incentive if the Owner determines that the site is not suitable for use or the Architect has not certified Substantial Completion. The Owner, in its sole discretion, may pay an incentive to a contractor if Substantial Completion of that particular Contract is deemed to have occurred by the specified dates – even though Substantial Completion of the entire Project has not occurred by the specified dates.**

- 8.3.7.3 Failure to complete the work by the specified completion date will have many different adverse impacts, including interference with educational and related activities, and direct and indirect money damages suffered by the Owner or other contractors. Therefore, it is extremely important that contractors take whatever steps are needed to complete work by the specified completion date, including where necessary overtime work and extra manpower, whether the necessity arises from the original Contract schedule or from delay events that arise during the course of the project. Every Contractor should anticipate some unforeseen events requiring compensatory work measures to keep the project on schedule.**
- 8.3.7.4 Contractors are responsible to the Owner for Owner damages resulting from Contractor delay. Because actual Owner damages for delay are in most cases impossible to determine accurately, each Contractor responsible for delay is liable to the Owner for liquidated damages. Liquidated damages shall be in the amounts set forth in the chart for each calendar day (Saturdays, Sundays, and holidays included) by which the date of Substantial Completion of the Contractor's Contract is delayed beyond the base-line completion date.**
- 8.3.7.5 These liquidated damages are solely for the purposes of compensating the Owner for Owner damages that are impossible of accurate determination. If the Owner determines that a Contractor has caused delay resulting in damage to another Contractor and if the Owner agrees to compensate the other Contractor, the Owner will assess the Contractor at fault any damages paid to the other Contractor. However, the Owner shall have no obligation to provide any such compensation to a Contractor claiming fault of another Contractor. Any such assessment is in addition to the above agreed liquidated damages, which are intended solely to compensate the Owner for Owner damages that are not susceptible to accurate determine.**
- 8.3.7.6 The Owner shall have the right to deduct the total amount of any liquidated damages for which the Contractor may be liable from any moneys otherwise due the Contractor under the Contract, including any retained percentage.**
- 8.3.7.7 The surety upon the Performance Bond furnished by the Contractor shall be liable for any liquidated damages for which the Contractor may be liable, to the extent that the Contractor has not made settlement therefor with the Owner."**

§ 8.3.7.8 If an extension of the Contract Time for a Contractor is granted due to neglect, misconduct or failure to comply with the Contract Document by another Contractor and such delay causes any Contractor to miss a milestone in the Phasing Plan, then liquidated damages for delay pursuant to subparagraph 8.3.7 shall be applied against the Contractor responsible for having caused such extension of the Contract Time.

§ 8.3.8 The Owner shall have the right to deduct the total amount of any liquidated damages for which the Contractor may be liable from any amounts otherwise due to the Contractor under the Contract, including any amounts that may become due and any retainage held by the Owner. Should amounts due to the Contractor be less than the amounts required for liquidated damages, the Contractor shall pay such amounts to the Owner within thirty (30) days of their occurrence.

§ 8.3.9 Failure on the part of the Contractor to complete the work within the Contract Time including such extensions thereof as approved by the Owner, will result in added expense, loss and damages to Owner. Liquidated damages are established because such added expense, loss and damages are not reasonably ascertainable and not as a penalty to the Contractor. Owner's right to recover liquidated damages is in addition to and not a substitute for any right of recovery for additional costs incurred to complete the Work, should the Contractor fail to do so. Nor shall Owner's right to recover liquidated damages be a substitution for or bar to recovery from the Contractor of any additional compensation Owner may be obligated to pay the Architect or contracts for other work on the project caused by Contractor's delay or other failure to perform allowable by contract or operation of law.



§ 8.3.10 The following acts by the Owner shall not constitute a waiver of the Contractor's obligation to pay liquidated damages: acceptance of or payment for any portion of the work; substantial completion of a portion of the work or occupancy by Owner; or Owner's requiring or allowing the Contractor to complete the Work.

§ 8.3.11 The surety upon the Performance Bond furnished by the Contractor shall be liable for any liquidated damages for which the Contractor is liable, to the extent that the Contractor does not make payment to the Owner for assessed liquidated damages.

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 CONTRACT SUM

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents. The Contract Sum may only be increased pursuant to a Change Order signed by the Owner. Final completion of the Work is a condition precedent to the Owner's obligation to pay the full Contract Sum.

### § 9.2 SCHEDULE OF VALUES

§ 9.2.1 Before the first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

### § 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the schedule of values. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.8, such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Such applications may not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work, subject to the following:

§ 9.3.2.1 Materials Stored On Site: Materials properly stored at the construction site may be included in the Contractor's application for payment, subject to the following conditions: (1) All materials shall be stored in strict compliance with the manufacturer's recommendations in secure, dry, and where appropriate, temperature controlled enclosures; (2) Contractor shall provide property insurance covering materials stored at the construction site to the extent that Owner's property insurance does not provide coverage; (3) Contractor shall provide an accurate inventory until the materials included for payment with each application for payment. Contractor shall maintain the inventory of all materials included for payment with each application for payment. Contractor shall maintain the inventory until the materials are installed or otherwise incorporated into Work; and (4) Payment for materials stored on the construction site shall be limited to the actual, invoiced cost to the Contractor, F.O.B. the construction site. Contractor shall warrant that all suppliers are promptly paid in full for all materials included for payment and that materials are not encumbered by any lien, claim or mortgage that would prevent the Owner from taking full possessions of the materials. Contractor shall produce satisfactory evidence of same to Owner.

§ 9.3.2.2 Materials Stored Off Site: Materials stored off the construction site shall be included in the Contractor's application for payment unless prior approval of the Owner has been obtained. Payment for materials stored off the construction site shall be subject to the conditions in subparagraph 9.3.2.1 and the following additional conditions:

- .1 Contractor shall provide property insurance for the full cost of the materials stored off the construction site;

- .2 Contractor shall provide a bill of sale for the materials granting clear title to the materials to the Owner;
- .3 Contractor shall provide waivers of liens when applicable, encumbrances or claims relating to the bailment of the materials stored off site or as otherwise required by Owner;
- .4 Contractor shall provide Owner all information necessary for the filing of any notices under the Uniform Commercial Code relating to the materials stored off the construction site as may be required by Owner;
- .5 The materials stored off the construction site shall be clearly and conspicuously labeled so as to identify Owner's title to the materials and shall be segregated and not commingled with other materials at the storage location;
- .6 Contractor shall pay all storage costs, shall be responsible for any damage or deterioration of the materials while in storage or in transit to the construction site and shall pay the costs of inspection of the materials in storage by the Owner;
- .7 Contractor shall be responsible for and shall pay all costs of transportation of the materials to the construction site; and
- .8 Neither Owner's payment for materials stored off the construction site nor the transfer of title to Owner shall in any way reduce Contractor's liability for the complete installation and construction relating to said materials, the value of the materials or liability under any performance bond provided for the Project.

§ 9.3.2.3 No separate payment will be made for submittal preparation.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.3.4 The Contractor warrants and certifies with the submission of each Application for Payment that Contractor has or will supply the Owner, through the Architect, Wage Certifications that comply with the Secretary of Labor and Industry's requirements. The Contractor shall further certify that all Wage Certifications have been received from all subcontractors. Failure to submit Wage Certificates will be deemed to be reason to withhold all or part of the amount covered by an Application for Payment and shall be a default under the Contract.

#### § 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1. With regard to Certificates of Payment presented to Owner and approved by its School Board, not more than once each month, payments shall be made by the Owner as follows: Provided that there is no specific cause for greater withholding, the Contractor shall be paid 90% of the earned sum when payment is due, 10% being retained to assure faithful performance of the Contract until the Work is 50% complete. Upon the completion of 50% of the Work, one-half of the amount retained will be paid to Contractor; provided, however, that Contractor is making satisfactory progress and there is no specific cause for greater withholding. After the Work is 50% completed, the Contractor shall be paid 95% of the earned sum when payment is due, 5% being retained until Substantial Completion. When Substantial Completion is achieved, the retainage shall be reduced as specified in Paragraph 9.8. Subsequent to the reduction in retainage, the Owner may, at its sole discretion, reinstitute the full ten percent (10%) retainage, if it is determined that Contractor is behind schedule, or is not prosecuting the Work with his best possible efforts or is not strictly adhering to directives issued by Owner or Architect. Final payment shall be due the Contractor within forty-five (45) days after completion and acceptance by the Architect of all work included in the Contract, including all punch list items, and fulfillment by Contractor of all requirements of the Contract Documents for final acceptance. The date of Substantial Completion shall be determined in accordance with Paragraphs 8.1.3 and 9.8.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that the Work has progressed to the

point indicated and that, to the best of the Architect's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to future evaluations of the Work for conformance with the Contract Documents, to results of subsequent tests and inspections, to correction of deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

#### § 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 Notwithstanding any other provision of the Contract Documents or any statutory provision, including without limitation 62 Pa. C.S. Section 3901, *et seq.*, Contractor acknowledges and agrees that the Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 failure to carry out the Work in accordance with the Contract Documents.
- .8 Failure to comply with government statutes, regulations and laws.
- .9 If the Contractor is adjudged bankrupt or files for bankruptcy or creditor protection under the laws of the United States, Contractor shall provide Owner with thirty days written notice before filing.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld. The Owner shall not be deemed to be in default of the Contract by reason of withholding payment while any of the above grounds remain uncured.

§ 9.5.3 If the Architect withholds certification of an Application for Payment in whole or in part, the Contractor may assert a claim for any amount in dispute. The Contractor may not stop or delay work or terminate the Contract because the Architect withholds certification for an Application for Payment in whole or in part.

§ 9.5.4 No interest shall accrue or owe to the Contractor on account of payments withheld hereunder. The Architect's determination regarding issuance shall be final and binding and not subject to dispute resolution requirements. Withheld payments shall not subject the Owner, Architect or any agents thereof to liability from the Contractor or Surety.

#### § 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued and the Owner's School Board has approved a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of such Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

§ 9.6.5 Payment to material suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 To ensure satisfactory completion of the Work under the Contract Documents, the Owner shall withhold retainage from each progress payment in the amount of ten percent (10%) of the amount due the Contractor until fifty percent (50%) of the Work is completed. When fifty percent (50%) of the Work is completed, one-half (1/2) of the amount retained by Owner shall be returned to Contractor provided the Architect approves the Application for Payment and provided further that the Contractor is making satisfactory progress and there is no specific cause for greater withholding. Thereafter, the Owner shall withhold retainage from each progress payment in the amount of five percent (5%) of the value of the Work completed based on monthly progress payment requests. However, in the event a dispute arises between Owner and a separate contractor, which dispute is based upon increased costs claimed by the separate contractor occasioned by delays or other actions of the Contractor, additional retainage in the sum of one and a half (1-1/2) times the amount of any possible liability may be withheld until such time as a final resolution is agreed to by all parties directly or indirectly involved unless the Contractor furnishes a bond satisfactory to Owner. All money retained by Owner will be withheld from Contractor and disbursed as part of the Final Payment.

#### § 9.7 FAILURE OF PAYMENT

§ 9.7.1 If the Owner does not pay the Contractor within ten (10) business days after the date established in the Contract Documents the amount certified by the Architect and approved by the Owner's School Board, or awarded by dispute resolution, then the Contractor may, upon fourteen (14) additional business days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

#### § 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion of the Project shall be deemed to occur when the Architect determines and the Owner approves that all requirements of the Contract Documents for Substantial Completion, including, but not limited to, the following conditions, have been fulfilled as follows:

§ 9.8.1.1 the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended purpose;

§ 9.8.1.2 the Contractor has delivered an accurate and complete set of as-built drawings, record specifications, record product data, record samples and maintenance manuals to the Architect;

§ 9.8.1.3 the Contractor has delivered to the Architect all written warranties and related documents required by the Contract Documents; and,

§ 9.8.1.4 the cost to complete the Work, as reasonably determined by the Architect, is one-half percent (1/2%) or less of the Contract Sum.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion which upon approval by the Owner shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 Not used..

§ 9.8.6 If, after the Architect issues the Certificate of Substantial Completion, subsequent information discloses that Substantial Completion has not been achieved, the Architect, after three (3) days written notice to Contractor, will revoke the Certificate of Substantial Completion.

§ 9.8.7 In no case shall the time established for the completion and correction of items on the list extend beyond sixty days after Certification of Substantial Completion, unless extended in writing by Owner. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect and his consultants for any work required after that date that are due to the failure of Contractor to complete and correct the Work on the punch list or to submit documentation and items required for Final Completion and final payment. The Owner is further permitted to withhold or deduct from the final payment and/or remaining retainage 1 -1/2 times the amount of any possible liability to pay for any such additional services and labor made necessary as a result of the Contractor's failure to timely fully complete the Work.

#### § 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 Owner will occupy the site and existing building during the entire construction period. Contractor shall confine construction to areas of the existing building where work is shown on the Drawings. Contractor shall cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Further, Contractor shall perform the Work so as not to interfere with Owner's operations.

§ 9.9.3 Unless otherwise agreed upon, occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

#### § 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Owner's School Board approves the final Certificate for Payment and the Contractor submits to the Architect (i) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work or which the Owner and Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (ii) consent of surety, if any, to final payment and (iii) if required by Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. IF a Contractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien re-

mains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such line, including all costs and reasonable attorneys' fees.

§ 9.10.3 Not used.

§ 9.10.4 Not used.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously preserved in strict accordance with the Contract Documents.

§ 9.10.6 Owner shall not release/make final payment to the Contractor, nor shall the Contractor release/make final payment to any Subcontractor unless required payroll audits have been successfully completed and the insurer has certified that the Contractor and Subcontractors have supplied and/or made records and information available to the insurer as required by paragraph 11.1.9 of this Contract and that audits have been successfully completed.

§ 9.10.7 Contractor shall complete in full all Punch List items prior to submitting request for Final Payment. Final Completion shall be achieved no later than thirty(30) days after Substantial Completion unless modified by a Change Order. Failure of the Contractor to achieve Final Completion pursuant to this Paragraph shall be considered a material breach of the Contract.

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 SAFETY PRECAUTIONS AND PROGRAMS

§ 10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

### § 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be used therefore or incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.3.1 During the performance of the Work, the contractor shall be responsible for providing and maintaining warning signs, lights, signal devices, barricades, guard rails, fences, and other devised appropriately located on site which shall give proper and understandable warning to all persons of danger of entry onto land, structures or equipment.

§ 10.2.3.2 The Contractor shall maintain at his own cost and expense, adequate safe and sufficient walkways, platforms, scaffolds, ladders, hoists and all necessary, proper and adequate equipment, apparatus, and appliances useful in carrying on the Work and which are necessary to make the place of Work safe and free from avoidable danger, and as may be required by safety provisions of applicable laws, ordinances, rules regulations and building and construction codes.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3, except damage or loss solely attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

### § 10.3 HAZARDOUS MATERIALS

§ 10.3.1 If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 The Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless.

§ 10.3.3 Not used.

§ 10.4 The Owner shall not be responsible under Section 10.3 for materials and substances brought to the site by the Contractor unless such materials or substances were required by the Contract Documents.

§ 10.5 If, without negligence on the part of the Contractor, the Contractor is held liable for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

### § 10.6 EMERGENCIES

§ 10.6.1 In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Section 4.3 and Article 7.

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage;
- .5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 claims for bodily injury or property damage arising out of completed operations; and
- .8 claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1. The insurance required by Subparagraph 11.1.1 shall be written for not less than any limits of liability required by law or those shown below and shall include contractual liability insurance as applicable to the Contractor's obligations under Paragraph 3.1.8. The following amounts of coverage shall be provided by the Contractor.

1. Workers' Compensation  
Employer's Liability: As required by law but not less than:
  - \$ 100,000 Each Accident
  - \$ 500,000 Disease – Policy Limit
  - \$ 100,000 Disease – Each Employee
2. General Liability: \$1,000,000 Combined Single Limit
3. Auto Liability: \$1,000,000 Combined Single Limit
4. Umbrella \$5,000,000

Except for Workers' Compensation Insurance, Owner and the Architect shall be named as an additional insured with respect to the Project on all such insurance.

§ 11.2.1 The insurance required by subparagraph 11.1.1 shall name the Owner and the Architect as additional insured. If coverage is written on a "claims made" basis, Contractor warrants the purchase of an extended reporting period of not less than two (2) years.

§ 11.2.2 Liability insurance shall include all major divisions of coverage and be on a comprehensive general basis including:

- .1 Premises – Operations (including X-C-U).
- .2 Owner's and Contractor's Protective.
- .3 Products and Completed Operations.
- .4 Contractual – including specific provision for the Contractor's obligations under Paragraph 3.1.8.
- .5 Owned, unowned, and hired motor vehicles.
- .6 Broad form property damage.

§ 11.2.3 Furnish in duplicate certificates herein called for and specifically set forth evidence of all coverage required for 11.1.1. and 11.1.2 and the Contractor shall furnish to the Architect written notice as evidenced by return receipt of registered mail any endorsements, reductions or cancellations that are subsequently issued amending coverage or limits.

§ 11.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These certificates or the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Section 9.10.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief. Certificates called for herein shall be furnished in duplicate and shall specifically set forth evidence of all coverage required under Subparagraph 11.1.2 or by law (whichever is greater) and the Contractor shall furnish to the Architect copies of all endorsements that are subsequently issued amending coverage or limits.

#### § 11.2 OWNER'S LIABILITY INSURANCE

§ 11.2.1 The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

#### § 11.3 PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE

§ 11.3.1 Optionally, the Owner may require the Contractor to purchase and maintain Project Management Protective Liability insurance from the Contractor's usual sources as primary coverage for the Owner's, Contractor's and Architect's vicarious liability for construction operations under the Contract. Unless otherwise required by the Contract Documents, the Owner shall reimburse the Contractor by increasing the Contract Sum to pay the cost of purchasing and maintaining such optional insurance coverage, and the Contractor shall not be responsible for purchasing any other liability insurance on behalf of the Owner. The minimum limits of liability purchased with such coverage shall be equal to the aggregate of the limits required for Contractor's Liability Insurance under Sections 11.1.1.2 through 11.1.1.5.



§ 11.3.2 To the extent damages are covered by Project Management Protective Liability insurance, the Owner, Contractor and Architect waive all rights against each other for damages, except such rights as they may have to the proceeds of such insurance. The policy shall provide for such waivers of subrogation by endorsement or otherwise.

§ 11.3.3 The Owner shall not require the Contractor to include the Owner, Architect or other persons or entities as additional insureds on the Contractor's Liability Insurance coverage under Section 11.1.

#### § 11.4 PROPERTY INSURANCE

§ 11.4.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis subject to Owner's deductibles. Such property 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 as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.4 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.4.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.4.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance which will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.4.1.3 Contractor shall be responsible for losses and costs not covered by Owner's deductibles. The owners deductible is \$5,000 .

§ 11.4.1.4 Contractor shall be responsible for insurance with respect to all portions of the Work not located at the Site.

§ 11.4.1.5 The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or in accordance with an appropriate Court Order.

§ 11.4.1.6 Rebuilding, replacement or repair after any loss shall be performed promptly by the Contractor without awaiting the collection of the proceeds of insurance or the determination of the distribution thereof. The occurrence of a loss by fire or other casualty shall in no way relieve the Contractor from the responsibility of completing a portion of the Work in accordance with the Contract.

§ 11.4.2 Boiler and Machinery Insurance. The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.4.3 Loss of Use Insurance. The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

§ 11.4.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.4.7 Waivers of Subrogation. The Contractor waive all rights against (1) any of its subcontractors, sub-subcontractors, agents and employees, and (2) the Architect, the Owner, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.4 or other property insurance applicable to the Work. The Contractor shall require of its subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise.

§ 11.4.8 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner for the insureds, as their interests may appear.

§ 11.4.9 The Owner shall have power to adjust and settle a loss with insurers.

#### § 11.4.10 INDEMNIFICATION

§ 11.4.10.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting there from and is caused in whole or in part by any negligent act or omission of the Contractor, and Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this paragraph.

§ 11.4.10.2 In claims against any person or entity indemnified under the above paragraph I by an employee of the Contractor, anyone directly or indirectly employed by them or anyone for whose act they maybe liable, the indemnification obligation under paragraph I shall not be limited by a limitation on amount or type of damages, compensation of benefits payable by or for the subcontractor under Workers Compensation acts, disability benefit acts or other employee benefit acts.

#### § 11.4.11 CONTRACT STATEMENTS

§ 11.4.11.1 The amount and coverage of insurance provided in the aforementioned insurance coverage shall not be construed to be a limitation of the liability on the part of the subcontractor.

#### § 11.5 PERFORMANCE BOND AND PAYMENT BOND

§ 11.5.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bond must be obtained through a source acceptable to the Owner and the cost thereof shall be included in the Contract Sum. The amount of the bond shall be equal to 100% of the Contract Sum.

§ 11.5.1.1 The bond shall be dated on or before the date of the Contract.

The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

§ 11.5.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

§ 11.5.3 The bonds shall be executed on the forms provided in the Bid Documents. The bonds shall be executed by a corporate surety licensed and qualified to do business in the Commonwealth of Pennsylvania. The surety company shall be named in the current list of companies holding certificates of authority as accepted sureties on federal bonds and as acceptable re-insuring companies as published in Circular 570 (as amended) by the audit staff, Bureau of Government Financial Operations, U.S. Treasury Department, and the amount of the bonds shall not exceed the underwriting risk of such surety as set

forth in said Circular or revision thereof. The bonds shall be accompanied by a current and certified power of attorney evidencing the authority of the agent of the surety to execute the bonds as of the date of the bonds.

§ 11.5.4 All insurance and bonds required pursuant to the Contract Documents must be issued by insurance providers that are licensed and authorized to conduct business in the Commonwealth of Pennsylvania. The insurance carriers of whom the Contractor has purchased insurance coverage are to have an "A" or better rating, plus a financial rating of "VI" or better with the A.M. Best's Company (KT Rating Guide – Latest edition).

## ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

### § 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered which the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

### § 12.2 CORRECTION OF WORK

#### § 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

§ 12.2.1.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion, or period of Contractor warranty expiration as otherwise required by the Construction Documents, and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.1.2 It shall be clearly understood that "Punch List" items and "items to be corrected" are different categories. All items called for by the Contract Documents to be installed, supplied or otherwise incorporated into the Project, but which, at the time of substantial completion, are found not to be in compliance with the Contract Documents, shall be considered punch list items. All items which at any other time after, are found not to be in compliance with the Contract Documents, shall be considered items to be corrected by the Contractor under the terms of the Contract.

#### § 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 If any of the Work is found at any time, either before or after substantial completion, to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.3 The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to obligations which the Contractor might have under the Contract Documents nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations.

### § 12.3 ACCEPTANCE OF NONCONFORMING WORK

§ 12.3.1 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may in writing do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

§ 13.1.1 This Contract shall be interpreted, construed, enforced and regulated under and by the laws of the Commonwealth of Pennsylvania. Whenever possible, each provision of this Contract shall be interpreted in a manner as to be effective and valid under applicable law. If however, any provision of this Contract or a portion thereof, is prohibited by law or found invalid under any law, only such provision or portion thereof shall be ineffective, without invalidating or affecting the remaining provisions of this Contract or valid portions of such provision, which are hereby deemed severable. Contractor and Owner further agree that in the event any provision of this Contract or portion thereof, is prohibited by law or found invalid under any law, this Contract shall be reformed to replace such prohibited or invalid provision or portion thereof with a valid and enforceable provision which comes as close as possible to expressing the intention of the prohibited or invalid provision. Any ambiguity in the Contract shall be construed in a manner favorable to the intent and purpose of the Owner.

§ 13.1.2 **DISCRIMINATION PROHIBITED:** According to Section 62 Pa. C.S.A. 3701, the Contractor agrees that:

§ 13.1.2.1 In the hiring of employees for the performance of Work under this Contract, or any sub-contract, no Contractor, Subcontractor, or any person acting on behalf of the Contractor or Subcontractor shall, by reason of gender, race, creed or color, discriminate against any citizen of this Commonwealth who is qualified and available to perform the Work to which the employment relates.

13.1.2.2 No Contractor, Subcontractor, or any person acting on their behalf, shall in any manner discriminate against or intimidate any employee hired for the performance of Work under this Contract on account of gender, race, creed or color.

13.1.2.3 The Contract may be canceled or terminated by the government agency, and all money due or to become due under the Contract may be forfeited, for violation of the terms or conditions of that portion of the Contract.

§ 13.1.3 HUMAN RELATIONS ACT

§ 13.1.3.1 The provisions of the Pennsylvania Human Relations Act, Act 222 of October 27, 1955 (P.L. 744) (43 P.S. Section 951, et .seq.) of the Commonwealth of Pennsylvania prohibit discrimination because of race, color, religious creed, ancestry, age, sex, national origin, handicap or disability by employers, employment agencies, labor organizations, Contractors and others. The Contractor shall agree to comply with the provisions of this Act as amended that is made part of this specification. Your attention is directed to the language of the Commonwealth's non-discrimination clause in 16 PA. Code 49.101.

§ 13.1.4 PROVISIONS FOR THE USE OF STEEL AND STEEL PRODUCTS MADE IN THE U.S.

§ 13.1.4.1 In accordance with Act 3 of the 1978 General Assembly of the Commonwealth of Pennsylvania, if any steel or steel products are to be used or supplied in the performance of the Contract, only those produced in the United States as defined therein shall be used or supplied in the performance of the Contract or any Subcontracts there under.

§ 13.1.4.2 In accordance with Act 161 of 1982, cast iron products shall also be included and produced in the United States. Act 144 of 1984 further defines "steel product" to include machinery and equipment. The act also provides clarification and penalties.

§ 13.1.5 NO CASH ALLOWANCES

§ 13.1.5.1 Cash allowances are not included in these bid specifications.

§ 13.1.6 RIGHT TO KNOW ACT

§ 13.1.6.1 Contractor shall comply with all terms and conditions of the Pennsylvania Right to Know Act, Act No. 3 of 2008, 65 P.S. 67.101 et. Seq., and its implementing regulations.

§ 13.1.7 1-111 PUBLIC SCHOOL CODE

§ 13.1.7.1 NOTICE TO PRIME CONTRACTORS

- .1 ALL CONTRACTORS SHALL HAVE BACKGROUND CHECKS ON ALL EMPLOYEES AND ALL SUBCONTRACTORS EMPLOYEES WORKING ON THE PROJECT. BACKGROUND CHECKS SHALL BE IN ACCORDANCE WITH THE PENNSYLVANIA PUBLIC SCHOOL CODE SECTION 111.

Reports shall include both the "State Criminal History Record" and the "Federal (FBI) Criminal History Report". Current requirements are available at:

<http://www.teaching.state.pa.us/teaching/cwp/view.asp?a=13&q=32413>

§ 13.1.7.2 Act 34 of 1985 as amended provides as follows:

GENERAL CONDITIONS

- .1 Section 1.111 Background Checks of Prospective Employees
- .2 This section shall apply to all prospective employees of public and private schools”
- .3 N.B. ALL EMPLOYEES WORKING WITHIN ANY SCHOOL BUILDING IN THE DISTRICT OR ON GROUNDS OF THE SCHOOL DISTRICT USED BY STUDENTS FOR INGRESS AND EGRESS TO THE BUILDINGS BEFORE AND AFTER SCHOOL HOURS MUST HAVE IDENTIFICATION BADGES AND CLEARANCES.
- .4 (Contractors are) required... “to produce the original document for each prospective employee of such Contractor prior to employment”. CRIMINAL HISTORY REPORTS SHALL BE NO MORE THAN ONE (1) YEAR OLD AT THE TIME OF EMPLOYMENT.

§ 13.1.7.3 All employees on the Project site must have Act 34 Clearances. Each Contractor for himself and for his Subcontractors shall maintain a log of all Workmen on the job requiring Act 34 Clearances. The Act 34 Clearance of these Workmen shall be kept on the job site in the Contractors’ trailers.

§ 13.1.7.4 The School District reserves the right to review the Contractors’ documents required above to determine compliance with this Act. Failure to comply with this Act may result in referral to the Pennsylvania Department of Education to determine violators of this section for the assessment of a civil penalty under the Act.

§ 13.1.7.5 Failure to comply with the terms of this directive shall be deemed a breach of the Contract between the Owner and the Contractors involved and may result in the withholding payment of wages from any monthly invoice of an individual for whom wages are claimed and for whom no Act 34 Clearance is on file with the District. This applies to all employees of Subcontractors. Contractors are responsible for the compliance of all Subcontractors.

1. ATTENTION: UNDER THE ACT YOU MUST PROVIDE ACT 34 CLEARANCE CERTIFICATES TO THE OWNER FOR YOU AND YOUR SUBCONTRACTORS’ EMPLOYEES PRIOR TO THEM WORKING ON DISTRICT PROJECTS.

#### § 13.1.8 CHILD PROTECTIVE SERVICES BACKGROUND CHECKS

§ 13.1.8.1 Prior to commencing the Work under the Contract, Contractor shall submit for any employee or independent contractor who would be working on the school district site, pursuant to any Work contemplated in the Contract, an official clearance statement obtained from the Pennsylvania Department of Public Welfare, pursuant to the Child Protective Services Act 23 PA. C.S. Section 6301 et Seq.. Contractor shall not allow any prospective employee or independent contractor on the job site prior to providing Owner with the above-referenced clearance statement for prospective employees or independent contractors.

See “Child Abuse Report” at: <http://www.teaching.state.pa.us/teaching/cwp/view.asp?a=13&q=32413>

#### § 13.1.9 BLASTING

§ 13.1.9.1 When blasting has been authorized in writing, comply with the following: All storage, handling and use of explosives for the purpose of excavation shall be performed by the Contractor in strict accordance with Title 35, Chapter 211, of the Pennsylvania Code, as well as any applicable local regulations. Strict control of blasting must be maintained to prevent fly rock, and blasting mats must be used where conditions dictate their use. When blasting within 25 feet of utility lines, such blasting must be performed according to Section 211.52 of Title 25 of the Pennsylvania Code.

#### § 13.1.10 SITE EXCAVATION

§ 13.1.10.1 Contractor agrees that, not less than three (3) business days or for complex projects, ten business days, prior to beginning excavation or demolition of Work as defined in Act 181 of December 2006 of the Commonwealth of Pennsylvania, amending Act 287 of December 10, 1974 he shall contact the One Call System at 811 or 1-800-242-1776 and request the information required by Section 5 of the Act and shall inform each excavator employed at the Project site of the information received with respect to location of underground installations. Contractor shall agree to report immediately to the user of the underground installations and to the Owner and Architect, any break in its lines or dent gouge, groove or other damage to such lines, their coating or cathodic protection, made or discovered in the course of the excavation or demolition Work. Contractor shall comply with all other provisions of the Act, as amended including conducting pre-construction meeting when necessary and paying all associated fees.

#### § 13.1.11 PREVENTION OF ENVIRONMENTAL POLLUTION

§ 13.1.11.1 Section 3301 of the Pennsylvania Commonwealth Procurement Code requires that all Invitations for Bids and requests for proposals for construction projects issued by any governmental agencies shall set forth any

provision of Federal and State statutes, rules, and regulations dealing with prevention of environmental pollution and the preservation of public natural resources that affect the Project.

**§ 13.1.12 EMPLOYMENT VERIFICATION ACT**

**§ 13.1.12.1** All contractors are advised that the School District will require compliance as follows with the Employment Verification Act:

1. The Pennsylvania Public Works Employment Verification Act (43 P.S. §§ 167.1-167.11) requires Contractors and Subcontractors performing work on “public works projects” to comply with federal employment eligibility requirements, including verification through the U.S. Department of Homeland Security’s E-Verify program which compares I-9 employment verification data to data from the Department of Homeland Security and Social Security Administration records, in order to confirm that employees are authorized to work in the United States.
2. All Contractors shall submit a “Public Works Employment Verification Form” to the Owner through the Architect at the same time when performance and payments bonds are submitted. Submission of this form is a precondition of the Contract being awarded and executed. These requirements apply to all employees hired by the Contractor or Subcontractor regardless of whether the employee will be working onsite or offsite.
3. Subcontracts between the Contractor and its Subcontractors or between any Subcontractor and its Subcontractors are required to contain notification of applicability of the Act, the requirement to provide a “Public Works Employment Verification Form” as stated under number 4 below, and reference to the Department of General Services website as stated under item number 6 below.
4. All Subcontractors shall submit a “Public Works Employment Verification Form” to the Contractor, who shall submit the form to the Owner through the Architect prior to the Subcontractor beginning either onsite or offsite work. Submission of this form shall be a precondition of the Subcontract remaining in force, and the Contractor shall terminate the Subcontract if the Subcontractor does not comply. These requirements apply to all employees hired by the Subcontractor regardless of whether the employee will be working onsite or offsite. “Subcontractor” includes any entity that performs work on the project other than the prime Contractor and other than an individual. The term does not include an entity that is solely a material supplier for the project.
5. The Contractor or Subcontractor shall be responsible for any penalties imposed for failure to comply with this Act.
6. Contractors and Subcontractors may access the form at [www.dgs.state.pa.us](http://www.dgs.state.pa.us). The Chapter 66 Guidelines may be located at <http://www.pabulletin.com/secure/data/vol42/42-52/index.html>.

**§ 13.2 SUCCESSORS AND ASSIGNS**

**§ 13.2.1** The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

**§ 13.2.2** The Owner may, without consent of the Contractor, assign the Contract to an institutional lender providing construction financing for the Project. In such event, the lender shall assume the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

**§ 13.3 WRITTEN NOTICE**

**§ 13.3.1** Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

**§ 13.4 RIGHTS AND REMEDIES**

**§ 13.4.1** Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

**§ 13.4.2** No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded

them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

#### § 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections or approvals which do not become requirements until after bids are received or negotiations concluded.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5.7 When work has been installed contrary to any Contract requirements and the Contractor requests the privilege of testing in lieu of removal, such testing shall be at the Contractor's expense.

#### § 13.6 INTEREST

§ 13.6.1 No payment due or unpaid shall bear any interest charges.

#### § 13.7 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

§ 13.7.1 Any applicable statute of limitations or statute of response with regard to a claim by the Contractor shall commence to run and any alleged cause of action shall be deemed to have accrued as provided by the laws of the Commonwealth of Pennsylvania. The Contractor agrees that the statute of limitations does not apply with regard to claims by the Owner, a Pennsylvania Public School District.

### ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Not used.

#### § 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor:

- .1 refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 disregards or fails to comply with laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
- .4 otherwise is guilty of breach of a provision of the Contract Documents;
- .5 breaches any warranty made pursuant to the Contract Documents;
- .6 fails to furnish the Owner, within 3 days of the Owner's demand, with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all the requirements of the Con-

tract Documents;

- .7 fails, after commencement of the Work, to proceed continuously with the construction and completion of the Work, except as permitted under the Contract Documents; and,
- .8 fails to achieve completion of the Work (or any portion thereof) in accordance with one or more of the construction milestones set forth in the Contract Documents.
- .9 If the Contractor is adjudged bankrupt or files for bankruptcy or creditor protection under the laws of the United States, Contractor shall provide Owner with thirty days written notice before filing.

§ 14.2.2 When any of the above reasons exist, the Owner, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor written notice, terminate employment of the Contractor and may:

- .1 take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 accept assignment of subcontracts pursuant to Section 5.4;
- .3 finish the Work by whatever reasonable method the Owner may deem expedient.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment.

§ 14.2.4 If the costs of finishing the Work, including compensation for the Architect's additional services, attorneys' fees, all costs, and expenses made necessary thereby exceed the unpaid balance, the Contractor and the Contractor's Surety, jointly and severally, shall pay the difference to the Owner within 30 days of Contractor receiving written demand for payment from Owner.

§ 14.2.5 In the event the Owner terminates the Contract for cause, and such cause is determined to be valid and justified in addition and without prejudice to all other rights, remedies and relief which the Owner may obtain under this Agreement and pursuant to the law, the Owner shall be entitled to payment by Contractor of all reasonable professional fees, including attorneys' fees and costs, architectural fees and consulting fees (together with reasonable expenses and disbursements incurred in connection therewith) which the Owner may incur in connection with any legal proceedings or action (including professional fees rendered in anticipation of such proceedings or action). This provision shall create no rights to the Contractor or to any other person or entity for payment of such costs or expenses.

#### § 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall not include profit. No adjustment shall be made to the extent:

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

#### § 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall:

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed.

§ 14.4.4 The payment provided for in Paragraphs 14.1 and 14.3, if any, shall be the Contractor's exclusive remedy for termination of this Contract by the Contractor or for termination of this Contract or of the Contractor's right to proceed with the Work by the Owner. The Contractor irrevocably waives any right to rescind this Contract. **NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN THE CONTRACT DOCUMENTS, IN NO EVENT SHALL THE CONTRACTOR BE ENTITLED TO ANY PAYMENT PURSUANT TO THIS ARTICLE 14 OR OTHERWISE ON**  
GENERAL CONDITIONS



ACCOUNT OF LOST PROFITS OR CONSEQUENTIAL OR SPECIAL DAMAGES.

END OF SECTION

**EXHIBIT "A"**

**SCHEDULE OF INCENTIVE AND LIQUIDATED DAMAGES  
SOLANCO HIGH SCHOOL ACTIVITY BUILDING**

<b>BID "A" - First Floor Only (Wrestling Area, Locker Rooms, Toilet/Shower Facilities, Office, Entry Vestibule, Mechanical Room) NO INCENTIVE</b>						<b>1-Oct-19</b>	<b>After October 15, 2019</b>
	<b>Contract Amounts</b>	<b>% Share TBD</b>	<b>Base</b>	<b>Minimum TBD</b>		<b>Base Contract</b>	<b>Charge</b>
<b>BID "A"</b>	\$ -		\$ -		\$ -		
General	\$ -		\$ -	\$ -	\$ -	0	\$1,000 per day
Heating	\$ -		\$ -	\$ -	\$ -	0	\$1,000 per day
Plumbing	\$ -		\$ -	\$ -	\$ -	0	\$1,000 per day
Electrical	\$ -		\$ -	\$ -	\$ -	0	\$1,000 per day
<b>BID "B" - Completion of Basement</b>					<b>On or Before August 7, 2019</b>	<b>30-Aug-19</b>	<b>After September 15, 2019</b>
	<b>Contract</b>	<b>% Share TBD</b>	<b>Base</b>	<b>Minimum TBD</b>	<b>Full Incentive</b>	<b>Base Contract</b>	<b>Charge</b>
<b>BID "B"</b>	\$ -				\$ 50,000		
General	\$ -		\$ -		\$ -	0	\$1,000 per day
Heating	\$ -		\$ -		\$ -	0	\$1,000 per day
Plumbing	\$ -		\$ -		\$ -	0	\$1,000 per day
Electrical	\$ -		\$ -		\$ -	0	\$1,000 per day
Combined					\$ -		

Total Incentive allocation for both Phases	
General	
Heating	
Plumbing	
Electrical	

## EXHIBIT "B"

### SUMMARY

This document is an explanation of Act 45 of 1998 which created an exemption called "Building Machinery and Equipment" (BME). The BME carve-out sets aside certain materials and items that are commonly used during a construction project with certain exempt entities and designates them exempt from sales tax.

This document was originally used as a guide in a seminar at the Department of Revenue but can be used as a reference for anyone. Please keep in mind that this document and the list that accompanies it is meant only to serve as a guideline and is NOT all-inclusive. Questions about certain items would need to be directed to the Office of Chief Counsel at the Department of Revenue in the form of a letter ruling request.

### ACT 45 OF 1998

Act 45 of 1998 defines a real estate structure. Basically, a construction contractor owes tax on all components of a real estate structure. A real estate structure includes:

Airport runways  
Antennas  
Bridges  
Building machinery and equipment-exemption carve-out  
Canopies  
Ceilings  
Conduit  
Dams  
Dikes  
Doors  
Ductwork and coverings for it  
Elevators  
Floors  
Foundations  
Guardrail posts  
Highways  
Insulation  
Junction boxes  
Millwork

Land, developed and undeveloped  
Outdoor advertising boards  
Outdoor advertising signs  
Parking lots  
Pipes, fittings, pipe supports and hangers  
Receptacle boxes  
Recreational courts Roads .  
Roofs  
Satellite dishes  
Sidewalks  
Stadiums and stadium seating  
Streets  
Structural supports  
Structures similar to others in this list  
Traffic control devices including traffic signs  
Underground tanks  
Valves  
Walls  
Windows and external window coverings  
Wire

## **The Exemption Carve-out:**

### **Building Machinery and Equipment**

Generation Equipment

Storage Equipment

Conditioning Equipment

Distribution Equipment

Termination Equipment, which shall be limited to the following:

- (1) Air conditioning limited to heating, cooling, purification, humidification, dehumidification and ventilation;
- (2) Electrical, but not wire, conduit, receptacles and junction boxes;
- (3) Plumbing, but not pipes, fittings, pipe supports and hangers and underground tanks;
- (4) Communications limited to voice, video, data, sound, master clock and noise abatement;
- (5) Alarms limited to fire, security and detection;
- (6) Control system limited to energy management, traffic and parking lot and building access;
- (7) Medical system limited to diagnosis and treatment equipment, medical gas, nurse call and doctor paging;
- (8) Laboratory system;
- (9) Cathodic protection system; or
- (10) Furniture, cabinetry and kitchen equipment.

The term "building machinery and equipment" also includes (in alphabetical order):

Actuators

Air cleaners

Boilers

Card access devices

Chillers

Dampers

Fans  
Floor troughs and grates  
Grills  
Guardrails  
Horns  
Humidifiers  
Laundry equipment  
Medical devices  
Motion detectors  
Pumps  
Registers Sensors  
Speakers  
Switchgear  
Telephones  
Traffic signals

- together with integral coverings and enclosures,
- whether or not the item constitutes a fixture or is otherwise affixed to the real estate,
- whether or not damage would be done to the item or its surroundings upon removal or
- whether or not the item is physically located within a real estate structure.

### **Other Important Definitions from Act 45**

#### CONSTRUCTION CONTRACT

A written or oral contract or agreement for the construction, reconstruction, remodeling, renovation or repair of any real estate structure.

#### CONSTRUCTION CONTRACTOR

A person who performs an activity pursuant to a construction contract including a subcontractor.

## **How Do I Know If I Qualify For A Sales Tax Exemption?**

Just ask yourself:

Am I a party to a construction contract?

**YES**            **NO**

Am I purchasing "building machinery and equipment"?

**YES**            **NO**

Is the other party to the contract an exempt entity, such as a charity, a government entity or a qualified business in a Keystone Opportunity Zone?

**YES**            **NO**

If the answers to all three questions are YES, you are entitled to an exemption and should submit to your suppliers an exemption certificate, Form REV-1220, claiming the exemption.

### **Effective Date:**

The effective date of Act 45 is **July 1, 1998**. However, this exemption does not apply to fixed price construction contracts entered into prior to July 1, 1998, or entered into under the obligation of an unalterable, formal written bid issued prior to July 1, 1998.

**WHAT IF the CONTRACTOR OR TAX-EXEMPT ENTITY PAID TAX on "building machinery and equipment" after JULY 1, 1998?**

>The Commonwealth may not be legally entitled to the money,

**IF**

- ⌚ -Contractor or the party that actually paid the tax
  - ⌚ -File a Petition for Refund with the Board of Appeals
  - ⌚ -Within THREE YEARS of the date of paying the tax (no exceptions; Board of Appeals has no jurisdiction if Petition is filed after three years from the payment date.)
- Petition for Refund (Form REV-65) should include specifics of the purchase; proof of payment of the tax.

**Questions already presented:**

1. When working for a school district or municipality, when are materials taxable or non-taxable?

**Answer:** Beginning July 1, 1998, a contractor working for a school district or municipality, may purchase **exempt from tax** any item of property found in the definition of "building machinery and equipment? The contractor owes sales tax on all other components for the project.

To claim the exemption on "building machinery and



equipment," the contractor should submit a **Sales Tax Exemption Certificate** to its supplier stating the reason for the exemption. The Department of Revenue suggests using language such as this:

**Under Act 45, this property (or service) qualifies as exempt "building machinery and equipment" that will be transferred pursuant to a construction contract to \_\_\_\_\_, (Here fill in the contract owner) holding Sales Tax Exemption # \_\_\_\_\_ (Here fill in the # if there is one.)**

**To qualify for the exemption the contract must be with a:**

- Purely public charity, having exemption number beginning with "75", provided the construction is not for an unrelated trade or business;
- The federal government;
- The Commonwealth of PA;
- An instrumentality of the Commonwealth-department, board, commission of the Commonwealth, public authorities;

- A political subdivision-county, city, borough, incorporated towns, townships, school district (with a "76" number, vocational school districts;
- State university;
- Qualified business in a Keystone Opportunity Zone, having a "72" number. The effective date for construction in a Keystone Opportunity Zone is January 1, 1999.

Continuation of Question 1: The example that the person asking the question used is that if something is removable it is non-taxable but if it can't be removed it is taxable.

**Answer:** Under Act 45 of 1998, the Department no longer can consider how something is attached to a building. Now if a contractor is working for an exempt entity, either a charity, the government or a qualified business in a Keystone Opportunity Zone, he or she can purchase anything in the "building machinery and equipment" category without paying tax by submitting an exemption certificate to the vendor.

### **Contractors' Purchases for Exempt Entities**

Please note that the following list of purchases made by contractors for exempt entities is meant *for* guidance purposes only. It includes an alphabetized listing of materials needed for various parts of a construction contract. Each item is identified as taxable (T) or nontaxable (NT). The list also provides clarifying comments from the Department of Revenue (D /R) as well as supporting legal cites.

Questions may be forwarded to:

***Pennsylvania Department of Revenue  
Office of Chief Counsel  
Department of Revenue P.O. Box 281061  
Harrisburg PA 17128-1061 717-787-1382***

Solanco School District – Sales Tax – Construction projects

1. Solanco School District (Solanco SD) is a Pennsylvania tax-exempt entity. As a non-profit educational institution, Solanco SD is exempt from paying Pennsylvania Sales and use tax on certain products, services and activities.
2. General: No sales and use tax is imposed upon the sale at retail to or use by a Contractor of *building, machinery, and equipment, and service* thereto, that are transferred to Solanco SD so long as the building, machinery, equipment and services are not used in any unrelated trade or business. Solanco SD confirms that it will not use the building, machinery and equipment in any unrelated trade or business.
3. Contractors must understand and abide by state regulations concerning sales tax. Solanco SD is *not* completely exempt from paying sales and use tax, further, certain construction activities may be subject to sales tax and construction work must be bid or priced in advance (via RFI's, estimates or quotes) accordingly.
4. The Contractor should check all materials, equipment and labor entering into the work to be performed and keep full and detailed accounts as necessary for proper financial determination of any particular items taxable status. The contractor understands that applying for sales tax exemption for items NOT subject to the exemption (See Act 45 of 1998) may result in penalties and fines for which the contractor may be held liable.
5. See Attached Act 45 of 1998 summary.

**SECTION 00 73 46 – WAGE DETERMINATION SCHEDULE**

1.1 PART 1 – GENERAL

1.2 Prevailing Wage Rates

- A. The provisions of the Pennsylvania Prevailing Wage Act, approved August 15, 1961, as amended are applicable to this project. The Owner has received the prevailing minimum wage determination for the project by the Secretary of Labor and Industry of the Commonwealth of Pennsylvania and it is bound herewith and made a part thereof.
- B. The Contractor will be required to pay, and to require any subcontractor to pay, each employee engaged on the Project not less than the hourly rates prescribed in the prevailing minimum wage issued by the Secretary of Labor and Industry of the Commonwealth of Pennsylvania.
- C. The Contractor will be required to file with the School District weekly and final Certification of Payroll on the latest Pennsylvania Department of Labor and Industry, Prevailing Wage Division's forms for their employees and their subcontractors. Properly executed and notarized forms must be submitted with each Application for Payment or payment will be withheld until receipt of forms.
- D. Contractor's and Subcontractor's Certification Concerning Prevailing Wage Requirements Form must be completed by each contractor and subcontractor and sent to the Prevailing Wage Division.
- E. The attached Minimum Wage Rates for Labor performed on the Project as determined by the Commonwealth of Pennsylvania, Department of Labor and Industry, and by inclusion are hereby made part of this Project Manual and thereby part of the contract for this project. The Contractor shall obtain a copy of the Wage Rates for the various crafts and classifications and post same in a conspicuous place. In submitting each Application for Payment, the Contractor warrants that no employee of the Contractor, their subcontractors or sub-subcontractors was paid less than the minimum hourly rate as posted for his particular craft or trade or classification for all work performed.
- F. The Minimum Wage Rates can be accessed on the website for the Commonwealth of Pennsylvania, Department of Labor and Industry.

END OF SECTION 00 73 46

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

Project Name:	Activity Building
Awarding Agency:	Solanco School District
Contract Award Date:	2/14/2019
Serial Number:	19-00147
Project Classification:	Building/Highway
Determination Date:	1/8/2019
Assigned Field Office:	Harrisburg
Field Office Phone Number:	(717)787-4763
Toll Free Phone Number:	(800)932-0665
Project County:	Lancaster County

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 19-00147 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Asbestos & Insulation Workers	6/26/2017		\$32.00	\$26.51	\$58.51
Asbestos & Insulation Workers	7/2/2018		\$32.80	\$26.76	\$59.56
Asbestos & Insulation Workers	7/2/2019		\$32.80	\$28.26	\$61.06
Asbestos & Insulation Workers	7/2/2020		\$32.80	\$30.01	\$62.81
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2017		\$28.52	\$18.22	\$46.74
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2018		\$29.52	\$18.22	\$47.74
Boilermaker (Commercial, Institutional, and Minor Repair Work)	1/1/2019		\$29.26	\$18.48	\$47.74
Boilermakers	1/1/2018		\$46.26	\$33.36	\$79.62
Boilermakers	3/1/2018		\$45.89	\$33.73	\$79.62
Boilermakers	1/1/2019		\$45.51	\$34.11	\$79.62
Bricklayer (Pointer, Cleaner, Caulker, Cement Mason, Plasterer, Tile Setter)	5/1/2018		\$29.00	\$21.30	\$50.30
Bricklayer (Pointer, Cleaner, Caulker, Cement Mason, Plasterer, Tile Setter)	5/1/2018		\$29.40	\$20.35	\$49.75
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2017		\$32.54	\$16.06	\$48.60
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2018		\$32.95	\$16.45	\$49.40
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2019		\$33.43	\$16.87	\$50.30
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2020		\$33.99	\$17.31	\$51.30
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2021		\$34.62	\$17.78	\$52.40
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2021		\$31.77	\$17.41	\$49.18
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2020		\$30.88	\$17.10	\$47.98
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2019		\$30.18	\$16.65	\$46.83
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2018		\$29.53	\$16.20	\$45.73
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2017		\$30.05	\$16.05	\$46.10
Cement Finishers	5/1/2017		\$28.05	\$21.30	\$49.35
DockBuilder/Pile Drivers (Building, Heavy & Highway)	5/1/2018		\$43.45	\$34.47	\$77.92
Dockbuilder/Piledriver (Building, Heavy, Highway)	5/1/2018		\$44.70	\$33.22	\$77.92
Dockbuilder/Piledriver (Building, Heavy, Highway)	11/1/2017		\$43.45	\$33.22	\$76.67
Drywall Finisher	5/1/2017		\$23.30	\$12.39	\$35.69
Electricians	9/1/2019		\$37.77	\$22.57	\$60.34
Electricians	9/1/2018		\$36.02	\$22.51	\$58.53
Electricians	9/1/2020		\$39.27	\$22.63	\$61.90
Electricians	9/1/2017		\$34.77	\$21.77	\$56.54
Elevator Constructor	1/1/2018		\$45.35	\$33.00	\$78.35
Floor Layer	5/1/2017		\$30.80	\$16.71	\$47.51
Glazier	5/1/2019		\$25.63	\$12.45	\$38.08
Glazier	5/1/2020		\$25.63	\$12.95	\$38.58

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 19-00147 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Glazier	5/1/2021		\$25.63	\$13.45	\$39.08
Glazier	5/1/2018		\$25.63	\$11.95	\$37.58
Glazier	5/1/2017		\$25.63	\$11.45	\$37.08
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2019		\$33.76	\$28.42	\$62.18
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2018		\$32.53	\$28.42	\$60.95
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2017		\$31.33	\$28.42	\$59.75
Laborers (Class 01 - See notes)	5/1/2018	4/30/2019	\$21.84	\$13.93	\$35.77
Laborers (Class 01 - See notes)	5/1/2017		\$21.39	\$13.33	\$34.72
Laborers (Class 01 - See notes)	5/1/2019	4/30/2020	\$22.29	\$14.53	\$36.82
Laborers (Class 01 - See notes)	5/1/2020		\$22.74	\$15.13	\$37.87
Laborers (Class 02 - See notes)	5/1/2018		\$23.84	\$13.93	\$37.77
Laborers (Class 02 - See notes)	5/1/2019	4/30/2020	\$24.29	\$14.53	\$38.82
Laborers (Class 02 - See notes)	5/1/2020		\$24.74	\$15.13	\$39.87
Laborers (Class 02 - See notes)	5/1/2017		\$23.39	\$13.33	\$36.72
Laborers (Class 03 - See notes)	5/1/2019	4/30/2020	\$24.82	\$14.82	\$39.64
Laborers (Class 03 - See notes)	5/1/2017		\$23.77	\$13.62	\$37.39
Laborers (Class 03 - See notes)	5/1/2018	4/30/2019	\$24.27	\$14.22	\$38.49
Laborers (Class 03 - See notes)	5/1/2020		\$24.74	\$15.13	\$39.87
Laborers (Class 04 - See notes)	5/1/2018	4/30/2019	\$25.77	\$14.22	\$39.99
Laborers (Class 04 - See notes)	5/1/2017		\$25.27	\$13.62	\$38.89
Laborers (Class 04 - See notes)	5/1/2019	4/30/2020	\$26.32	\$14.82	\$41.14
Laborers (Class 04 - See notes)	5/1/2020		\$24.74	\$15.13	\$39.87
Laborers (Class 05 - See notes)	5/1/2020		\$24.74	\$15.13	\$39.87
Laborers (Class 05 - See notes)	5/1/2017		\$25.77	\$13.62	\$39.39
Laborers (Class 05 - See notes)	5/1/2019	4/30/2020	\$26.82	\$14.82	\$41.64
Laborers (Class 05 - See notes)	5/1/2018	4/30/2019	\$26.27	\$14.22	\$40.49
Laborers (Class 06 - See notes)	5/1/2019	4/30/2020	\$24.29	\$14.53	\$38.82
Laborers (Class 06 - See notes)	5/1/2020		\$24.74	\$15.13	\$39.87
Laborers (Class 06 - See notes)	5/1/2017		\$23.39	\$13.33	\$36.72
Laborers (Class 06 - See notes)	5/1/2018	4/30/2019	\$23.84	\$13.93	\$37.77
Marble Mason	5/1/2018		\$29.88	\$16.01	\$45.89
Marble Mason	5/1/2020		\$31.02	\$16.87	\$47.89
Marble Mason	5/1/2021		\$31.55	\$17.34	\$48.89
Marble Mason	5/1/2017		\$29.27	\$15.62	\$44.89
Marble Mason	5/1/2019		\$30.46	\$16.43	\$46.89
Millwright	7/1/2017		\$36.49	\$18.93	\$55.42
Millwright	5/1/2018		\$37.84	\$19.64	\$57.48
Operators (Building, Class 01 - See Notes)	5/1/2021		\$41.41	\$26.40	\$67.81
Operators (Building, Class 01 - See Notes)	5/1/2017		\$35.24	\$24.58	\$59.82
Operators (Building, Class 01 - See Notes)	5/1/2018		\$36.78	\$25.03	\$61.81
Operators (Building, Class 01 - See Notes)	5/1/2019		\$38.32	\$25.49	\$63.81
Operators (Building, Class 01 - See Notes)	5/1/2020		\$39.87	\$25.94	\$65.81



**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 19-00147 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Operators (Building, Class 01A - See Notes)	5/1/2017		\$37.49	\$25.23	\$62.72
Operators (Building, Class 01A - See Notes)	5/1/2018		\$39.03	\$25.69	\$64.72
Operators (Building, Class 01A - See Notes)	5/1/2021		\$43.66	\$27.06	\$70.72
Operators (Building, Class 01A - See Notes)	5/1/2019		\$40.57	\$26.15	\$66.72
Operators (Building, Class 01A - See Notes)	5/1/2020		\$42.12	\$26.60	\$68.72
Operators (Building, Class 02 - See Notes)	5/1/2019		\$38.05	\$25.39	\$63.44
Operators (Building, Class 02 - See Notes)	5/1/2018		\$36.50	\$24.95	\$61.45
Operators (Building, Class 02 - See Notes)	5/1/2020		\$39.59	\$25.84	\$65.43
Operators (Building, Class 02 - See Notes)	5/1/2017		\$34.96	\$24.49	\$59.45
Operators (Building, Class 02 - See Notes)	5/1/2021		\$41.13	\$26.30	\$67.43
Operators (Building, Class 02A - See Notes)	5/1/2017		\$37.21	\$25.16	\$62.37
Operators (Building, Class 02A - See Notes)	5/1/2021		\$43.38	\$26.98	\$70.36
Operators (Building, Class 02A - See Notes)	5/1/2018		\$38.75	\$25.61	\$64.36
Operators (Building, Class 02A - See Notes)	5/1/2019		\$40.30	\$26.06	\$66.36
Operators (Building, Class 03 - See Notes)	5/1/2020		\$36.86	\$25.05	\$61.91
Operators (Building, Class 03 - See Notes)	5/1/2021		\$38.41	\$25.50	\$63.91
Operators (Building, Class 03 - See Notes)	5/1/2018		\$33.78	\$24.12	\$57.90
Operators (Building, Class 03 - See Notes)	5/1/2019		\$35.32	\$24.59	\$59.91
Operators (Building, Class 03 - See Notes)	5/1/2017		\$32.23	\$23.68	\$55.91
Operators (Building, Class 04 - See Notes)	5/1/2021		\$37.26	\$25.18	\$62.44
Operators (Building, Class 04 - See Notes)	5/1/2018		\$32.63	\$23.80	\$56.43
Operators (Building, Class 04 - See Notes)	5/1/2019		\$34.17	\$24.27	\$58.44
Operators (Building, Class 04 - See Notes)	5/1/2017		\$30.33	\$22.12	\$52.45
Operators (Building, Class 04 - See Notes)	5/1/2020		\$35.73	\$24.71	\$60.44
Operators (Building, Class 05 - See Notes)	5/1/2017		\$29.87	\$21.99	\$51.86
Operators (Building, Class 05 - See Notes)	5/1/2020		\$35.28	\$24.59	\$59.87
Operators (Building, Class 05 - See Notes)	5/1/2019		\$33.73	\$24.14	\$57.87
Operators (Building, Class 05 - See Notes)	5/1/2021		\$36.82	\$25.04	\$61.86
Operators (Building, Class 05 - See Notes)	5/1/2018		\$32.18	\$23.69	\$55.87
Operators (Building, Class 06 - See Notes)	5/1/2020		\$34.40	\$24.32	\$58.72
Operators (Building, Class 06 - See Notes)	5/1/2019		\$32.86	\$23.86	\$56.72
Operators (Building, Class 06 - See Notes)	5/1/2021		\$35.95	\$24.77	\$60.72
Operators (Building, Class 06 - See Notes)	5/1/2017		\$29.00	\$21.72	\$50.72
Operators (Building, Class 06 - See Notes)	5/1/2016		\$29.00	\$21.73	\$50.73
Operators (Building, Class 06 - See Notes)	5/1/2018		\$31.31	\$23.41	\$54.72
Operators (Building, Class 07A- See Notes)	5/1/2019		\$46.15	\$29.22	\$75.37
Operators (Building, Class 07A- See Notes)	5/1/2017		\$42.44	\$28.13	\$70.57
Operators (Building, Class 07A- See Notes)	5/1/2018		\$44.29	\$28.68	\$72.97
Operators (Building, Class 07A- See Notes)	5/1/2021		\$49.86	\$30.31	\$80.17
Operators (Building, Class 07A- See Notes)	5/1/2020		\$48.00	\$29.77	\$77.77
Operators (Building, Class 07B- See Notes)	5/1/2020		\$47.65	\$29.67	\$77.32
Operators (Building, Class 07B- See Notes)	5/1/2019		\$45.80	\$29.12	\$74.92
Operators (Building, Class 07B- See Notes)	5/1/2021		\$49.51	\$30.20	\$79.71
Operators (Building, Class 07B- See Notes)	5/1/2018		\$43.95	\$28.58	\$72.53

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 19-00147 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Operators (Building, Class 07B- See Notes)	5/1/2017		\$42.09	\$28.03	\$70.12
Painters Class 1 (see notes)	5/1/2018		\$23.92	\$14.37	\$38.29
Painters Class 1 (see notes)	5/1/2017		\$23.47	\$13.32	\$36.79
Painters Class 2 (see notes)	5/1/2016		\$25.60	\$12.82	\$38.42
Painters Class 2 (see notes)	5/1/2018		\$26.05	\$14.37	\$40.42
Painters Class 2 (see notes)	5/1/2017		\$25.60	\$13.32	\$38.92
Painters Class 3 (see notes)	5/1/2018		\$31.80	\$14.37	\$46.17
Painters Class 3 (see notes)	5/1/2016		\$31.35	\$12.82	\$44.17
Painters Class 3 (see notes)	5/1/2017		\$31.35	\$13.32	\$44.67
Piledrivers	1/1/2018		\$33.55	\$18.55	\$52.10
Piledrivers	1/1/2019		\$34.30	\$19.30	\$53.60
Plasterers	5/1/2017		\$24.23	\$21.38	\$45.61
Plasterers (Use Cement Masons)	5/1/2018		\$29.00	\$21.30	\$50.30
Plumber/Pipefitter	5/1/2017		\$35.82	\$24.51	\$60.33
Plumber/Pipefitter	5/1/2018	4/30/2019	\$36.87	\$25.26	\$62.13
Roofers (Composition)	5/1/2018		\$37.15	\$31.27	\$68.42
Roofers (Composition)	5/1/2017		\$36.15	\$30.22	\$66.37
Roofers (Shingle, Slate, Tile)	5/1/2018		\$27.50	\$20.37	\$47.87
Roofers (Shingle, Slate, Tile)	5/1/2016		\$25.70	\$19.17	\$44.87
Roofers (Slate & Tile)	5/1/2016		\$28.70	\$19.17	\$47.87
Roofers (Slate & Tile)	5/1/2018		\$30.50	\$20.37	\$50.87
Sheet Metal Workers	6/1/2018		\$34.78	\$36.45	\$71.23
Sheet Metal Workers	6/1/2017		\$33.98	\$35.40	\$69.38
Sheet Metal Workers	6/1/2016		\$33.60	\$33.43	\$67.03
Sprinklerfitters	4/1/2017		\$37.40	\$21.74	\$59.14
Sprinklerfitters	4/1/2018		\$38.80	\$22.74	\$61.54
Terrazzo Finisher	5/1/2018		\$32.35	\$15.91	\$48.26
Terrazzo Finisher	5/1/2017		\$31.64	\$15.62	\$47.26
Terrazzo Finisher	5/1/2019		\$33.04	\$16.22	\$49.26
Terrazzo Setter	5/1/2019		\$31.81	\$19.67	\$51.48
Terrazzo Setter	5/1/2018		\$31.23	\$19.25	\$50.48
Terrazzo Setter	5/1/2017		\$30.63	\$18.85	\$49.48
Tile & Marble Finisher	5/1/2019		\$28.29	\$14.46	\$42.75
Tile & Marble Finisher	5/1/2020		\$28.96	\$14.79	\$43.75
Tile & Marble Finisher	5/1/2018		\$27.60	\$14.15	\$41.75
Tile & Marble Finisher	5/1/2017		\$26.89	\$13.86	\$40.75
Tile & Marble Finisher	5/1/2021		\$29.61	\$15.14	\$44.75
Tile Setter	5/1/2018		\$29.88	\$16.01	\$45.89
Tile Setter	5/1/2021		\$31.55	\$17.34	\$48.89
Tile Setter	5/1/2017		\$29.27	\$15.62	\$44.89
Tile Setter	5/1/2019		\$30.46	\$16.43	\$46.89
Tile Setter	5/1/2020		\$31.02	\$16.87	\$47.89
Truckdriver class 1(see notes)	5/1/2017		\$34.47	\$0.00	\$34.47
Truckdriver class 1(see notes)	5/1/2018		\$35.32	\$0.00	\$35.32

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 19-00147 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Truckdriver class 1 (see notes)	5/1/2019		\$36.12	\$0.00	\$36.12
Truckdriver class 2 (see notes)	5/1/2017		\$34.54	\$0.00	\$34.54
Truckdriver class 2 (see notes)	5/1/2018		\$35.39	\$0.00	\$35.39
Truckdriver class 3 (see notes)	5/1/2017		\$35.03	\$0.00	\$35.03
Truckdriver class 3 (see notes)	5/1/2018		\$35.88	\$0.00	\$35.88
Truckdriver class 3 (see notes)	5/1/2019		\$36.19	\$0.00	\$36.19
Truckdriver class 3 (see notes)	5/1/2019		\$36.68	\$0.00	\$36.68

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 19-00147 - Heavy/Highway</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Carpenter - Chief of Party (Surveying & Layout)	5/1/2016		\$30.13	\$13.83	\$43.96
Carpenter - Instrument Person (Surveying & Layout)	5/1/2016		\$27.12	\$13.83	\$40.95
Carpenter - Rodman I (Survey & Layout)	5/1/2015		\$20.39	\$13.83	\$34.22
Carpenter - Rodman I (Survey & Layout)	5/1/2016		\$21.09	\$13.83	\$34.92
Carpenter - Rodman II (Survey & Layout)	5/1/2015		\$18.07	\$13.83	\$31.90
Carpenter - Rodman II (Survey & Layout)	5/1/2016		\$18.69	\$13.83	\$32.52
Carpenters	6/1/2017		\$30.92	\$14.14	\$45.06
Cement Finishers	1/1/2017		\$27.70	\$22.20	\$49.90
Electric Lineman	5/29/2017		\$44.22	\$23.94	\$68.16
Electric Lineman	5/28/2018		\$45.25	\$24.94	\$70.19
Electric Lineman	5/27/2019		\$46.32	\$25.97	\$72.29
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2017		\$31.33	\$28.42	\$59.75
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2018		\$32.53	\$28.42	\$60.95
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2019		\$33.76	\$28.42	\$62.18
Laborers (Class 01 - See notes)	5/1/2016		\$19.81	\$15.79	\$35.60
Laborers (Class 01 - See notes)	5/1/2017		\$20.36	\$16.29	\$36.65
Laborers (Class 01 - See notes)	5/1/2018		\$20.96	\$16.79	\$37.75
Laborers (Class 01 - See notes)	5/1/2019		\$21.61	\$17.29	\$38.90
Laborers (Class 02 - See notes)	5/1/2016		\$26.43	\$15.79	\$42.22
Laborers (Class 02 - See notes)	5/1/2017		\$26.98	\$16.29	\$43.27
Laborers (Class 02 - See notes)	5/1/2018		\$27.58	\$16.79	\$44.37
Laborers (Class 02 - See notes)	5/1/2019		\$28.23	\$17.29	\$45.52
Laborers (Class 03 - See notes)	5/1/2016		\$23.42	\$15.79	\$39.21
Laborers (Class 03 - See notes)	5/1/2017		\$23.97	\$16.29	\$40.26
Laborers (Class 03 - See notes)	5/1/2018		\$24.57	\$16.79	\$41.36
Laborers (Class 03 - See notes)	5/1/2019		\$25.22	\$17.29	\$42.51
Laborers (Class 04 - See notes)	5/1/2016		\$23.77	\$15.79	\$39.56
Laborers (Class 04 - See notes)	5/1/2017		\$24.32	\$16.29	\$40.61
Laborers (Class 04 - See notes)	5/1/2018		\$24.92	\$16.79	\$41.71
Laborers (Class 04 - See notes)	5/1/2019		\$25.57	\$17.29	\$42.86
Laborers (Class 05 - See notes)	5/1/2016		\$24.44	\$15.79	\$40.23
Laborers (Class 05 - See notes)	5/1/2017		\$24.99	\$16.29	\$41.28
Laborers (Class 05 - See notes)	5/1/2018		\$25.59	\$16.79	\$42.38
Laborers (Class 05 - See notes)	5/1/2019		\$26.24	\$17.29	\$43.53
Laborers (Class 06 - See notes)	5/1/2016		\$23.86	\$15.79	\$39.65
Laborers (Class 06 - See notes)	5/1/2017		\$24.41	\$16.29	\$40.70
Laborers (Class 06 - See notes)	5/1/2018		\$25.01	\$16.79	\$41.80
Laborers (Class 06 - See notes)	5/1/2019		\$25.66	\$17.29	\$42.95
Laborers (Class 07 - See notes)	5/1/2016		\$24.15	\$15.79	\$39.94
Laborers (Class 07 - See notes)	5/1/2017		\$24.70	\$16.29	\$40.99
Laborers (Class 07 - See notes)	5/1/2018		\$25.30	\$16.79	\$42.09
Laborers (Class 07 - See notes)	5/1/2019		\$25.95	\$17.29	\$43.24

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Laborers (Class 08 - See notes)	5/1/2016		\$24.63	\$15.79	\$40.42
Laborers (Class 08 - See notes)	5/1/2017		\$25.18	\$16.29	\$41.47
Laborers (Class 08 - See notes)	5/1/2018		\$25.78	\$16.79	\$42.57
Laborers (Class 08 - See notes)	5/1/2019		\$26.43	\$17.29	\$43.72
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2017		\$33.80	\$24.16	\$57.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2020		\$38.44	\$25.52	\$63.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2019		\$36.90	\$25.06	\$61.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2018		\$35.35	\$24.61	\$59.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2021		\$39.98	\$25.97	\$65.95
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2016		\$32.16	\$22.64	\$54.80
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2018		\$37.60	\$25.27	\$62.87
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2017		\$36.05	\$24.82	\$60.87
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2021		\$42.24	\$26.64	\$68.88
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2019		\$39.14	\$25.73	\$64.87
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2020		\$40.69	\$26.19	\$66.88
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2021		\$39.70	\$25.89	\$65.59
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2017		\$33.52	\$24.07	\$57.59
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2018		\$35.07	\$24.52	\$59.59
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2019		\$36.61	\$24.98	\$61.59
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2020		\$38.16	\$25.44	\$63.60
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2017		\$35.78	\$24.72	\$60.50
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2018		\$37.32	\$25.19	\$62.51
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2021		\$41.95	\$26.56	\$68.51
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2019		\$38.87	\$25.64	\$64.51
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2020		\$40.41	\$26.10	\$66.51
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2020		\$35.23	\$24.57	\$59.80
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2017		\$30.60	\$23.21	\$53.81
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2018		\$32.15	\$23.66	\$55.81
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2019		\$33.69	\$24.11	\$57.80
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2021		\$36.78	\$25.03	\$61.81
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2017		\$29.47	\$22.88	\$52.35
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2018		\$31.01	\$23.32	\$54.33
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2021		\$35.64	\$24.69	\$60.33
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2019		\$32.55	\$23.78	\$56.33
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2020		\$33.65	\$24.11	\$57.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2018		\$30.56	\$23.20	\$53.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2017		\$29.02	\$22.74	\$51.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2021		\$35.20	\$24.56	\$59.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2019		\$32.11	\$23.65	\$55.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2020		\$33.65	\$24.11	\$57.76
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2018		\$29.68	\$22.93	\$52.61
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2017		\$28.14	\$22.49	\$50.63
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2021		\$34.31	\$24.31	\$58.62
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2019		\$31.22	\$23.40	\$54.62

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Operators (Building/Heavy, Class 06 - See Notes)	5/1/2020		\$32.78	\$23.84	\$56.62
Operators (Heavy, Class 07A - See Notes)	5/1/2017		\$40.73	\$27.63	\$68.36
Operators (Heavy, Class 07A - See Notes)	5/1/2021		\$48.14	\$29.83	\$77.97
Operators (Heavy, Class 07A - See Notes)	5/1/2018		\$42.58	\$28.18	\$70.76
Operators (Heavy, Class 07A - See Notes)	5/1/2019		\$44.43	\$28.73	\$73.16
Operators (Heavy, Class 07A - See Notes)	5/1/2020		\$46.28	\$29.27	\$75.55
Operators (Heavy, Class 07B - See Notes)	5/1/2017		\$40.38	\$27.53	\$67.91
Operators (Heavy, Class 07B - See Notes)	5/1/2019		\$44.09	\$28.63	\$72.72
Operators (Heavy, Class 07B - See Notes)	5/1/2018		\$42.23	\$28.09	\$70.32
Operators (Heavy, Class 07B - See Notes)	5/1/2020		\$45.94	\$29.17	\$75.11
Operators (Heavy, Class 07B - See Notes)	5/1/2021		\$47.79	\$29.71	\$77.50
Operators (Highway, Class 01 - See Notes)	5/1/2021		\$39.10	\$25.70	\$64.80
Operators (Highway, Class 01 - See Notes)	5/1/2020		\$37.56	\$25.24	\$62.80
Operators (Highway, Class 01 - See Notes)	5/1/2018		\$34.47	\$24.33	\$58.80
Operators (Highway, Class 01 - See Notes)	5/1/2017		\$32.93	\$23.87	\$56.80
Operators (Highway, Class 01 - See Notes)	5/1/2016		\$32.16	\$22.64	\$54.80
Operators (Highway, Class 01 - See Notes)	5/1/2019		\$36.02	\$24.79	\$60.81
Operators (Highway, Class 01a - See Notes)	5/1/2016		\$34.41	\$23.32	\$57.73
Operators (Highway, Class 01a - See Notes)	5/1/2017		\$35.18	\$24.56	\$59.74
Operators (Highway, Class 01a - See Notes)	5/1/2018		\$36.72	\$25.01	\$61.73
Operators (Highway, Class 01a - See Notes)	5/1/2019		\$38.27	\$25.46	\$63.73
Operators (Highway, Class 01a - See Notes)	5/1/2020		\$39.81	\$25.92	\$65.73
Operators (Highway, Class 01a - See Notes)	5/1/2021		\$41.35	\$26.38	\$67.73
Operators (Highway, Class 02 - See Notes)	5/1/2018		\$33.30	\$23.98	\$57.28
Operators (Highway, Class 02 - See Notes)	5/1/2016		\$30.98	\$22.31	\$53.29
Operators (Highway, Class 02 - See Notes)	5/1/2017		\$31.75	\$23.53	\$55.28
Operators (Highway, Class 02 - See Notes)	5/1/2021		\$37.93	\$25.35	\$63.28
Operators (Highway, Class 02 - See Notes)	5/1/2019		\$34.84	\$24.44	\$59.28
Operators (Highway, Class 02 - See Notes)	5/1/2020		\$36.38	\$24.90	\$61.28
Operators (Highway, Class 03 - See Notes)	5/1/2016		\$30.28	\$22.10	\$52.38
Operators (Highway, Class 03 - See Notes)	5/1/2017		\$31.06	\$23.32	\$54.38
Operators (Highway, Class 03 - See Notes)	5/1/2018		\$32.59	\$23.80	\$56.39
Operators (Highway, Class 03 - See Notes)	5/1/2019		\$34.14	\$24.25	\$58.39
Operators (Highway, Class 03 - See Notes)	5/1/2020		\$35.69	\$24.69	\$60.38
Operators (Highway, Class 03 - See Notes)	5/1/2021		\$37.23	\$25.16	\$62.39
Operators (Highway, Class 04 - See Notes)	5/1/2020		\$35.23	\$24.57	\$59.80
Operators (Highway, Class 04 - See Notes)	5/1/2016		\$29.82	\$21.98	\$51.80
Operators (Highway, Class 04 - See Notes)	5/1/2017		\$30.60	\$23.20	\$53.80
Operators (Highway, Class 04 - See Notes)	5/1/2019		\$33.68	\$24.12	\$57.80
Operators (Highway, Class 04 - See Notes)	5/1/2021		\$36.77	\$25.03	\$61.80
Operators (Highway, Class 04 - See Notes)	5/1/2018		\$32.14	\$23.66	\$55.80
Operators (Highway, Class 05 - See Notes)	5/1/2021		\$36.26	\$24.87	\$61.13
Operators (Highway, Class 05 - See Notes)	5/1/2016		\$29.31	\$21.83	\$51.14
Operators (Highway, Class 05 - See Notes)	5/1/2017		\$30.08	\$23.06	\$53.14

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Operators (Highway, Class 05 - See Notes)	5/1/2020		\$34.72	\$24.42	\$59.14
Operators (Highway, Class 05 - See Notes)	5/1/2019		\$33.18	\$23.97	\$57.15
Operators (Highway, Class 05 - See Notes)	5/1/2018		\$31.63	\$23.51	\$55.14
Operators (Highway, Class 06 - See Notes)	5/1/2018		\$34.71	\$24.39	\$59.10
Operators (Highway, Class 06 - See Notes)	5/1/2016		\$32.40	\$22.70	\$55.10
Operators (Highway, Class 06 - See Notes)	5/1/2017		\$33.17	\$23.94	\$57.11
Operators (Highway, Class 06 - See Notes)	5/1/2020		\$37.79	\$25.30	\$63.09
Operators (Highway, Class 06 - See Notes)	5/1/2019		\$36.25	\$24.85	\$61.10
Operators (Highway, Class 06 - See Notes)	5/1/2021		\$39.33	\$25.78	\$65.11
Operators (Highway, Class 06/A - See Notes)	5/1/2018		\$36.96	\$25.05	\$62.01
Operators (Highway, Class 06/A - See Notes)	5/1/2016		\$34.65	\$23.36	\$58.01
Operators (Highway, Class 06/A - See Notes)	5/1/2017		\$35.42	\$24.59	\$60.01
Operators (Highway, Class 06/A - See Notes)	5/1/2019		\$38.50	\$25.52	\$64.02
Operators (Highway, Class 06/A - See Notes)	5/1/2020		\$40.04	\$25.97	\$66.01
Operators (Highway, Class 06/A - See Notes)	5/1/2021		\$41.58	\$26.43	\$68.01
Operators (Highway, Class 07/A - See Notes)	5/1/2019		\$43.37	\$28.41	\$71.78
Operators (Highway, Class 07/A - See Notes)	5/1/2017		\$39.66	\$27.31	\$66.97
Operators (Highway, Class 07/A - See Notes)	5/1/2018		\$41.52	\$27.84	\$69.36
Operators (Highway, Class 07/A - See Notes)	5/1/2016		\$38.56	\$25.99	\$64.55
Operators (Highway, Class 07/A - See Notes)	5/1/2020		\$45.23	\$28.94	\$74.17
Operators (Highway, Class 07/A - See Notes)	5/1/2021		\$47.08	\$29.49	\$76.57
Operators (Highway, Class 07/B - See Notes)	5/1/2018		\$40.10	\$27.44	\$67.54
Operators (Highway, Class 07/B - See Notes)	5/1/2016		\$37.17	\$25.57	\$62.74
Operators (Highway, Class 07/B - See Notes)	5/1/2017		\$38.25	\$26.89	\$65.14
Operators (Highway, Class 07/B - See Notes)	5/1/2021		\$45.66	\$29.08	\$74.74
Operators (Highway, Class 07/B - See Notes)	5/1/2019		\$43.37	\$28.41	\$71.78
Operators (Highway, Class 07/B - See Notes)	5/1/2020		\$43.81	\$28.53	\$72.34
Painters Class 1 (see notes)	5/1/2018		\$23.92	\$14.37	\$38.29
Painters Class 2 (see notes)	5/1/2018		\$26.05	\$14.37	\$40.42
Painters Class 3 (see notes)	5/1/2018		\$31.80	\$14.37	\$46.17
Piledrivers	5/1/2009		\$25.30	\$9.86	\$35.16
Piledrivers	5/1/2010		\$25.98	\$10.83	\$36.81
Piledrivers	5/1/2011		\$27.03	\$11.43	\$38.46
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2017		\$40.98	\$32.53	\$73.51
Truckdriver class 1(see notes)	5/1/2019		\$36.12	\$0.00	\$36.12
Truckdriver class 1(see notes)	5/1/2016		\$33.57	\$0.00	\$33.57
Truckdriver class 1(see notes)	5/1/2017		\$34.47	\$0.00	\$34.47
Truckdriver class 1(see notes)	5/1/2018		\$35.32	\$0.00	\$35.32
Truckdriver class 2 (see notes)	5/1/2018		\$35.39	\$0.00	\$35.39
Truckdriver class 2 (see notes)	5/1/2016		\$33.64	\$0.00	\$33.64
Truckdriver class 2 (see notes)	5/1/2017		\$34.54	\$0.00	\$34.54
Truckdriver class 2 (see notes)	5/1/2019		\$36.19	\$0.00	\$36.19
Truckdriver class 3 (see notes)	5/1/2016		\$34.13	\$0.00	\$34.13
Truckdriver class 3 (see notes)	5/1/2018		\$35.88	\$0.00	\$35.88

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Truckdriver class 3 (see notes)	5/1/2017		\$35.03	\$0.00	\$35.03
Truckdriver class 3 (see notes)	5/1/2019		\$36.68	\$0.00	\$36.68



## SECTION 01 10 00 - SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

A. Section includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work by Owner.
5. Work under separate contracts.
6. Future work.
7. Purchase contracts.
8. Owner-furnished products.
9. Contractor-furnished, Owner-installed products.
10. Access to site.
11. Coordination with occupants.
12. Work restrictions.
13. Specification and drawing conventions.

B. Related Section:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

#### 1.3 PROJECT INFORMATION

A. Project Identifications:

Solanco High School Activities  
Building Addition

1. Project Location:  
Solanco High School  
585 Solanco Road, Quarryville, PA 17566

B. Owner: Solanco School District, 121 South Hess Street, Quarryville, PA 17566

1. Owner's Representative: Bruce Bennett, Maintenance Director, (717) 786-8401, address as stated above.

C. Architect: Frederick Ward Associates, 5 South Main Street, Bel Air, Maryland 21014 (410) 879-2090, Project Architect is Barry A. Miller, AIA, bmillier@fredward.com.

D. Project Coordinator: The Field Superintendent for the General Contractor will serve as Project coordinator.

E. Project Mechanical/Electrical Coordinator for Multiple Contracts: The Field Superintendent for the Mechanical Contractor will serve as Project Mechanical/Electrical coordinator.

#### 1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of the Project is defined by the Contract Documents and consists of the following:  
Project Overview

The Solanco High School Activities Building Addition is a replacement building for the activities building which sustained structural damage during a snow storm in March 2018. Demolition consist of the removal of approximately 4550sf of concrete slab and the foundation from the previously demolished pole building.

The project will be bid as two options: **BID A** and **BID B**; both as prevailing wage jobs.

### **BID A**

Bid A will consist of a 5,790 sf one story building 113'-4" long and 51'-2" wide with a 257 sf entry vestibule that is 34'-4" by 7'-6". This proposed one story structure will be slab on grade construction with CMU exterior bearing walls with a veneer of split face and metal siding and a standing seam metal roof on top of scissor trusses. It is the school's intention for this bidding option to represent as a complete replacement of the previous building damaged in March 2018. A three-hour fire wall will be required to separate the existing building from this proposed addition.

Bid A will also have an alternate; the addition of a one-story girls locker room, toilet/shower facility and storage. This alternate is 59'-4" x 18' and is attached Northwest side of the proposed building and will be constructed with the same materials as Bid A, but with flat bottom chord wood trusses that will frame into the main building

This proposed addition will be separated from the existing activities building by the use of a proposed 3-hour fire rated wall.

The First Floor contains the following programmed spaces:

- Wrestling area for two 40x40 mats
- Storage -Alternate
- Boys Locker Room and Toilet/Shower Facilities
- Girls Locker Room and Toilet/Shower Facilities - Alternate
- Office
- Entry Vestibule
- Mechanical Room

The Proposed Mechanical Systems are as follows:

Provide and install one floor mounted 100% outside air unit, one grade mounted condensing unit, one propane gas fired duct heater and one inline exhaust fan. Provide and install all ductwork per SMACNA standards and all ductwork to be wrapped in insulation. Provide and install volume dampers, motor operated dampers, smoke detectors, louvers and incorporate all controls into existing building automation system (BAS).

The Proposed Plumbing Systems are as follows:

Provide and install all plumbing fixtures and floor drains throughout the building and install all sanitary, sanitary vent, domestic water, hot water recirculation, condensate and propane gas piping. The building will have a separate locker room with showers containing approximately six showers, three urinals and three floor mounted flush valve water closets, three lavatories and additional plumbing fixtures for ancillary spaces. The alternate (Girls Locker Room and Toilet/Shower Facilities) shall contain approximately six showers, tsix floor mounted flush valve water closets and three lavatories.

The Proposed Electrical Systems are as follows:

Provide and install 480v/ phase service extended from existing service locate near the bleachers. Provide and install a step down transformer to 120v/280v distribution panel for receptacles. Provide and install LED lighting throughout building and install lighting controls per energy code.

### **BID B**

Bid B will consist of .a one story building with a basement. This proposed addition will consist of a 5500sf basement and a 7400sf first floor. The construction of the proposed building is type 3B with CMU interior walls and CMU exterior bearing walls and with a veneer of split face and metal siding and a standing seam metal roof. The first floor framing consist of steel beams and composite metal deck/concrete topping, slab on grade reinforced concrete and the roof is framed with wood trusses.

This proposed addition will be separated from the existing activities building by the use of a proposed 3-hour fire rated wall.

The Basement contains the following programmed spaces:

- Football Locker Room and Toilet/Shower Facilities
- Two Coaches Office
- Conference Room
- Storage
- Laundry
- Training Room
- Mechanical Room

The First Floor contains the following programmed spaces:

- Wrestling area for two 40x40 mats
- Storage
- Boys Locker Room and Toilet/Shower Facilities
- Girls Locker Room and Toilet/Shower Facilities
- Office
- Entry Vestibule
- Mechanical Room

The Proposed Mechanical Systems are as follows:

Provide and install two floor mounted 100% outside air units, two grade mounted condensing units, two propane gas fired duct heaters, one propane fired unit heater, and two inline exhaust fans. Provide and install all ductwork per SMACNA standards and all ductwork to be wrapped in insulation. Provide and install volume dampers, motor operated dampers, smoke detectors, louvers and incorporate all controls into existing building automation system (BAS).

The Proposed Plumbing Systems are as follows:

Provide and install all plumbing fixtures and floor drains throughout the building and install all sanitary, sanitary vent, domestic water, hot water recirculation, condensate and propane gas piping. The building will have three separate locker rooms with showers containing a total of approximately twenty showers, seven urinals and twelve floor mounted flush valve water closets, ten lavatories and additional plumbing fixtures for ancillary spaces.

The Proposed Electrical Systems are as follows:

Provide and install 480v/ phase service extended from existing service locate near the leachers. Provide and install a step down transformer to 120v/280v distribution panel for receptacles. Provide and install LED lighting throughout building and install lighting controls per energy code.

B. Type of Contract

1. Project will be constructed under coordinated, concurrent multiple contracts. See Division 01 Section "Multiple Contract Summary" for a description of work included under each of the multiple contracts and for the responsibilities of the Project coordinator. Contracts for this Project include the following:

- a. Contract No. 1 – General Construction (referred to as GC)
- b. Contract No. 2 – Heating, Ventilation & Air Conditioning Construction (referred to as HC or MC)
- c. Contract No. 3 – Plumbing Construction (referred to as PC)
- d. Contract No. 4 – Electrical Construction (referred to as EC)

1.5 PHASED CONSTRUCTION

A. The Work shall be conducted in phases, with each phase substantially complete as indicated:

1. Refer to 011300 PHASING REQUIREMENTS

B. Before commencing Work of each phase, submit an updated copy of the Contractor's construction schedule showing the sequence, commencement and completion dates, and move-out and -in dates of Owner's personnel for all phases of the Work.

1.6 WORK BY OWNER

- A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

1.7 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.
- B. Concurrent Work: Owner will award separate contract(s) for the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.

1.8 OWNER-FURNISHED PRODUCTS

- A. Owner may furnish products as indicated in the Contract Documents. The Work includes providing support systems to receive Owner's equipment and making plumbing, mechanical, and electrical connections.
  - 1. Owner will arrange for and deliver Shop Drawings, Product Data, and Samples to Contractor.
  - 2. Owner will arrange and pay for delivery of Owner-furnished items according to Contractor's Construction Schedule.
  - 3. After delivery, Owner will inspect delivered items for damage. Contractor shall be present for and assist in Owner's inspection.
  - 4. If Owner-furnished items are damaged, defective, or missing, Owner will arrange for replacement.
  - 5. Owner will arrange for manufacturer's field services and for delivery of manufacturer's warranties to Contractor.
  - 6. Owner will furnish Contractor the earliest possible delivery date for Owner-furnished products. Using Ownerfurnished earliest possible delivery dates, Contractor shall designate delivery dates of Owner-furnished items in Contractor's Construction Schedule.
  - 7. Contractor shall review Shop Drawings, Product Data, and Samples and return them to Architect noting discrepancies or anticipated problems in use of product.
  - 8. Contractor is responsible for receiving, unloading, and handling Owner-furnished items at Project site.
  - 9. Contractor is responsible for protecting Owner-furnished items from damage during storage and handling, including damage from exposure to the elements.
  - 10. If Owner-furnished items are damaged as a result of Contractor's operations, Contractor shall repair or replace them.
  - 11. Contractor shall install and otherwise incorporate Owner-furnished items into the Work.

1.9 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
  - 1. Limits: Confine constructions operations to within the indicated contract limit lines.
  - 2. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.
  - 3. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
    - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
    - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.10 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
  - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
  - 2. Notify the Owner not less than 72 hours in advance of activities that will affect Owner's operations.
- B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
  - 1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
  - 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
  - 3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
  - 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

#### 1.11 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
  - 1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 4:00 p.m., Monday through Friday, except as otherwise indicated.
  - 1. Weekend Hours: Permitted with Owner's prior consent.
  - 2. Early Morning Hours: Permitted with Owner's prior consent and consent of local municipality.
  - 3. Hours for Utility Shutdowns: Negotiated with owner in advance but must be during non-school hours.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
  - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
  - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
  - 1. Notify Owner not less than two days in advance of proposed disruptive operations.
  - 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Property: Smoking is not permitted on any area of the property.
- F. Controlled Substances: Use of tobacco products and other controlled substances within the property is not permitted.
- G. Employee Identification: Owner will provide identification tags for Contractor personnel working on the Project site. Require personnel to utilize identification tags at all times.
- H. Employee Screening: Comply with Owner's requirements regarding background screening of Contractor personnel working on the Project site.
  - 1. Maintain list of approved screened personnel with Owner's Representative.

#### 1.12 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
  3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

## SECTION 01 12 00 - MULTIPLE CONTRACT SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.
- B. Specific requirements for work of each contract are also indicated in individual Specification Sections and on Drawings.
- C. Related Sections:
  - 1. Division 01 Section "Summary" for the Work covered by the Contract Documents, restrictions on use of the Project site, phased construction, coordination with occupants, and work restrictions.
  - 2. Division 01 Section "Project Management and Coordination" for general coordination requirements.

#### 1.3 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, the condition at which roofing is insulated and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures equivalent in weather protection to permanent construction.

#### 1.4 PROJECT COORDINATOR

- A. Project coordinator shall be responsible for coordination between the General Construction Contract, Plumbing Contract, HVAC Contract, Electrical Contract, and Bore Field Contract.
  - 1. General Construction Contractor shall act as project coordinator.
- B. Mechanical/electrical coordinator, who shall be under the direction of the Project coordinator, shall be responsible for coordination between the Plumbing Contract, HVAC Contract and Electrical Contract.
  - 1. HVAC Contractor shall act as mechanical/electrical coordinator.

#### 1.5 COORDINATION ACTIVITIES

- A. Coordination activities of Project coordinator include, but are not limited to, the following:
  - 1. Provide overall coordination of the Work.
  - 2. Coordinate shared access to workspaces.
  - 3. Coordinate product selections for compatibility.
  - 4. Provide overall coordination of temporary facilities and controls.
  - 5. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.

6. Coordinate construction and operations of the Work with work performed by each Contract, Owner's construction forces, and separate contracts.
  7. Prepare coordination drawings in collaboration with each contractor to coordinate work by more than one contract.
    - a. Prepare a coordination drawing of the utilities on the site. Drawing should include stormwater lines, propane lines, electrical lines, fire protection lines, data lines, water main, propane tanks, etc. All utilities lines should be indicated on this drawing with elevations indicated. G.C. to coordinate sequence of activities. All other primes shall coordinate their activities and information with GC. Indicate foundations and details for installing utilities in association with foundations.
    - b. Coordinate information with Mechanical/Electrical Coordinator in regards to completing MPE Systems Coordination Drawings. Mechanical/Electrical Coordinator is responsible for the completion of the MPE Systems drawings as indicated in SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION. GC to confirm backgrounds (and any other equipment information supplied by GC) to Mechanical/Electrical Coordinator for inclusion in MPE Systems drawings.
    - c. Excludes work required by Mechanical /Electrical Coordinator included in item 1.5.C6.a of this section.
  8. Coordinate sequencing and scheduling of the Work. Include the following:
    - a. Initial Coordination Meeting: At earliest possible date, arrange and conduct a meeting with contractors for sequencing and coordinating the Work; negotiate reasonable adjustments to schedules.
    - b. Prepare a combined Contractors' construction schedule for entire Project. Base schedule on preliminary construction schedule. Secure time commitments for performing critical construction activities from contractors. Show activities of each contract on a separate sheet. Prepare a simplified summary sheet indicating combined construction activities of contracts.
      - 1) Submit schedules for approval.
      - 2) Distribute copies of approved schedules to contractors.
  9. Provide photographic documentation.
  10. Provide quality-assurance and quality-control services specified in Division 01 Section "Quality Requirements."
  11. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
  12. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
  13. Locate existing permanent benchmarks, control points, and similar reference points, and establish permanent benchmarks on Project site.
  14. Provide field surveys of in-progress construction and site work.
  15. Provide progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
  16. Coordinate cutting and patching.
  17. Coordinate protection of the Work.
  18. Coordinate firestopping.
  19. Coordinate completion of interrelated punch list items.
  20. Coordinate preparation of Project record documents if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
  21. Print and submit record documents if installations by more than one contractor are indicated on the same contract drawing or shop drawing.
  22. Collect record Specification Sections from contractors, collate Sections into numeric order, and submit complete set.
  23. Coordinate preparation of operation and maintenance manuals if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
- B. Responsibilities of Project coordinator for temporary facilities and controls include, but are not limited to, the following:
1. Provide common-use field office for use by all personnel engaged in construction activities.
  2. Provide telephone service and internet connection for common-use facilities.
- C. Mechanical/Electrical Coordinator: Coordination activities of mechanical/electrical coordinator include, but are not limited to, the following:
1. Schedule and sequence mechanical and electrical activities.
  2. Coordinate sharing access to workspaces by mechanical and electrical contractors.



3. Coordinate integration of mechanical and electrical work into limited spaces.
4. Coordinate protection of mechanical and electrical contractors' work.
5. Coordinate cutting and patching for mechanical and electrical work.
6. Prepare mechanical and electrical coordination drawings.
  - a. MPE Systems drawings as specified in SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION .
7. Coordinate tests and inspections for mechanical and electrical work.
8. Coordinate mechanical and electrical temporary services and facilities.

#### 1.6 GENERAL REQUIREMENTS OF CONTRACTS

- A. Extent of Contract: Unless the Agreement contains a more specific description of the work, requirements indicated on Drawings and in Specification Sections determine which contract includes a specific element of Project.
1. Unless otherwise indicated, the work described in this Section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
  2. Unless otherwise indicated, Trenches for the Work of each contract shall be provided by each contract for its own Work including erosion and sediment control measures required by authorities having jurisdiction. Each contractor is responsible for dewatering trenches for the Work of their contract.
  3. Unless otherwise indicated, Blocking, backing panels, sleeves, and metal fabrication supports for the work of each contract shall be the work of each contract for its own work.
  4. Unless otherwise indicated, Furnishing of access panels for the work of each contract shall be the work of each contract for its own work. Installation of access panels shall be the work of each contract for its own work.
  5. Unless otherwise indicated, Equipment pads for the work of each contract shall be the work of each contract for its own work.
  6. Unless otherwise indicated, Roof-mounted equipment curbs for the work of each contract shall be the work of each contract for its own work.
  7. Unless otherwise indicated, Painting for the work of each contract shall be the work of each contract for its own work.
  8. Unless otherwise indicated, Cutting and Patching: Provided under each contract for its own work.
  9. Unless otherwise indicated, Through-penetration firestopping for the work of each contract shall be provided by each contract for its own work.
  10. Contractors' Preliminary Construction Schedule: Within five working days after preliminary horizontal bar-chart-type construction schedule and preliminary network diagram submittal has been received from Project coordinator, submit a matching preliminary horizontal bar-chart schedule and preliminary network diagram showing construction operations sequenced and coordinated with overall construction.
  11. Project closeout requirements.
  12. Office administration personnel and field superintendents shall be capable of sending and receiving electronic communications in the office and on-site. Operating systems shall be capable with Microsoft Windows systems.
  13. Contractor shall have file of all submittals and approvals on-site.
- B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the work.
1. Project coordinator shall coordinate substitutions.
- C. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Division 01 Section "Temporary Facilities and Controls," each contractor is responsible for the following:
1. Installation, operation, maintenance, and removal of each temporary facility necessary for its own normal construction activity, and costs and use charges associated with each facility, except as otherwise provided for in this Section.

2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
3. Its own field office, complete with necessary furniture, utilities, and telephone service.
4. Its own storage and fabrication sheds.
5. Temporary enclosures for its own construction activities.
6. Staging and scaffolding for its own construction activities.
7. General hoisting facilities for its own construction activities, up to **2 tons(2000 kg)**.
8. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
9. Progress cleaning of work areas affected by its operations on a daily basis.
10. Secure lockup of its own tools, materials, and equipment.
11. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
12. Containerized bottled-water drinking water units for its staff, laborers, and subcontractors.
13. Temporary wash facilities for its staff, laborers, and subcontractors.
14. Two mobilizations/demobilizations of its own field offices and trailers.

D. Temporary Heating, Cooling, and Ventilation: The General Construction Contract is responsible for temporary heating, cooling, and ventilation before permanent enclosure of building is complete and the permanent HVAC system is operational and the General Contractor is responsible for these use charges. The Mechanical Contractor is responsible for temporary heating, cooling, and ventilation after permanent enclosure of building is complete and the permanent HVAC system is operational and Owner will pay these utility-use charges.

1. Permanent HVAC system will be operational for use as temporary heating, cooling, and ventilation by milestone stated in Sequence of Construction on Phasing Drawings.

E. Use Charges: Comply with the following:

1. Electrical Power Service:
  - a. E.C. shall install the specified temporary power to each contractor's trailer located in the staging area and to the general construction site. This temporary power is to be supplied from existing building electrical service. Extend required service from the existing "Water Heater" fused QMB switch. This is a 200 amp switch currently fused at 175 amps. E.C. shall provide transformer as required for 120/208 Volt service. E.C. shall be responsible for all costs associated with installing this temporary service.
2. Water service:
  - a. Permanent water system is to be extended from Owner's existing on-site system. Temporary water system can be extended from the Owner's existing on-site system and Owner will be responsible for these usage costs. GC is responsible for any temporary water usage costs that can not be provided from the Owner's existing on-site system.

## 1.7 GENERAL CONSTRUCTION CONTRACT

A. Work in the General Construction Contract includes, but is not limited to, the following:

1. Remaining work not identified as work under other contracts.
2. Construction work indicated in divisions 02-14 and divisions 31-33.
3. Site preparation, including clearing, building demolition and relocations, and earthwork.
4. Site improvements, including roadways, parking lots, pedestrian paving, site development furnishings and equipment, and landscaping.
5. All Site work outside a limit of five feet outside the perimeter of all new buildings including but not limited to the following:
  - a. Work does not include items specifically indicated to be provided by other Contractors in this section or in Contract Documents.
  - b. Site storm sewer.
  - c. Site fuel distribution.
  - d. Site special plumbing systems.
  - e. Site water supply and distribution. Extension for temporary service is indicated on site drawings.

- f. Site sanitary sewer.
  6. Selective demolition.
  7. Foundations, including footings, foundation walls.
  8. Slabs-on-grade, including earthwork, subdrainage systems, and insulation.
  9. Below-grade building construction, including excavation, backfill, and thermal and moisture protection.
  10. Superstructure, including floor and roof construction, sprayed fire-resistive materials, and board fire protection.
  11. Exterior closure, including walls, parapets, doors, windows, and louvers.
  12. Roofing, including coverings, flashings roof specialties and glazed openings.
  13. Interior construction, including partitions, doors, interior glazed openings, and fittings.
  14. Fire-protection specialties.
  15. Stairs, including railings and finishes.
  16. Interior finishes finish carpentry architectural woodwork and built-in casework.
  17. Conveying systems, including modifications to elevators and wheelchair lifts.
  18. Equipment, including the following:
    - a. Stage equipment.
    - b. Projection screens.
  19. Furnishings, including casework, window treatments, floor grilles and mats.
- B. Temporary facilities and controls in the General Construction Contract include, but are not limited to, the following:
1. Temporary facilities and controls that are not otherwise specifically assigned to the Plumbing Contract, HVAC Contract, Electrical Contract, and Bore Field Contract.
  2. Soil and erosion control measures indicated on drawings and as required by authorities.
  3. Unpiped sewers and drainage, including drainage ditches, dry wells, stabilization ponds, and containers.
  4. Stormwater control.
  5. Unpiped temporary toilet fixtures, wash facilities, and drinking water facilities, including disposable supplies.
  6. Temporary enclosure for building exterior, except as indicated.
  7. Temporary roads and paved areas.
  8. Dewatering facilities and drains.
  9. Excavation support and protection, unless required solely for the Work of another contract.
  10. Project identification and temporary signs.
  11. General waste disposal facilities.
  12. Pest control.
  13. Temporary stairs.
  14. Temporary fire-protection facilities.
  15. Barricades, warning signs, and lights.
  16. Site enclosure fence.
  17. Covered walkways.
  18. Security enclosure and lockup.
  19. Environmental protection.
  20. Restoration of Owner's existing facilities used as temporary facilities.
  21. Field office that includes a room of not less than 200 S.F. that can house a meeting of 20 people including conference table and chairs for all fourteen people. Include a minimum of (2) 8' tackboards.
  22. Temporary Heat and humidity control before the building is enclosed and the new HVAC system is operational.
  23. Snow removal outside and inside perimeter of building including construction staging areas, access to all field offices, and areas of the site with construction activities.
  24. Temporary traffic control signs and pavement striping.
  25. Temporary water service until permanent system is operational.

## 1.8 PLUMBING CONTRACT

- A. Work in the Plumbing Contract includes, but is not limited to, the following:

1. Plumbing work described in Division 22.
2. Plumbing fixtures.
3. Domestic water distribution.
4. Sanitary waste and stormwater drainage system.
5. Excavation and backfill of the following systems inside a limit of five feet beyond the perimeter of all new buildings including but not limited to the following:
  - a. Sanitary waste.
  - b. Stormwater drainage.
  - c. Water supply and distribution.
6. Special plumbing systems, including the following:
  - a. Liquid propane – complete system.
7. Plumbing connections to equipment furnished by the General Construction Contract, Plumbing Contract, Electrical Contract.
8. Final connections to the stormwater, sanitary, and water utilities at the 5' demarcation line beyond the building perimeter.

B. Temporary facilities and controls in the Plumbing Contract include, but are not limited to, the following:

1. Piped sewerage and drainage inside a limit of five feet beyond the perimeter of all new buildings.
2. Piped liquid propane service.
3. Plumbing connections to existing systems and temporary facilities and controls furnished by the General Construction Contract, Plumbing Contract, Electrical Contract, owner.
4. Temporary fire hoses and signs.

#### 1.9 HVAC CONTRACT

A. Work in the HVAC Contract includes, but is not limited to, the following:

1. Energy supply, including loop water supply systems.
2. HVAC systems and equipment.
3. HVAC instrumentation and controls.
4. HVAC testing, adjusting, and balancing - Preliminary.
5. Building automation system.
6. HVAC connections to equipment furnished by the General Construction Contract, Plumbing Contract, Mechanical Contract, Electrical Contract, and owner. Work includes but is not limited to controls, piping and sheet metal.
7. HVAC work described in Division 23.
8. Building Security System specified in Section 230950 INTEGRATED SECURITY SYSTEM.
9. Earthwork associated with HVAC work inside a limit of 5 feet beyond the perimeter of all new buildings.
10. Starting and commissioning of HVAC systems and equipment.

B. Temporary facilities and controls in the HVAC Contract include, but are not limited to, the following:

1. Temporary Heat using the permanent HVAC system once the building is enclosed and the new HVAC system is operational.
2. Temporary controls of the permanent HVAC system once the building is enclosed and the new HVAC system is operational.

#### 1.10 ELECTRICAL CONTRACT

A. Work in the Electrical Contract includes, but is not limited to, the following:

1. Site electrical distribution.
2. Site lighting.
3. Site communications.
4. Electrical service and distribution.
5. Exterior and interior lighting.
6. Communication systems.
7. Special electrical systems, including the following:

- a. Packaged engine generator systems.
  8. Electrical connections to equipment furnished by the General Construction Contract, Plumbing Contract, Electrical Contract, and owner.
  9. Electrical/Communications work described in Division 26.
- B. Temporary facilities and controls in the Electrical Contract include, but are not limited to, the following:
1. Electric power service and distribution including 220 volt service required by not limited to terrazzo grinders/polishers.
  2. Lighting, including site lighting.
  3. Electrical connections to existing systems and temporary facilities and controls furnished to equipment furnished by the General Construction Contract, Plumbing Contract, Electrical Contract, and owner.
  4. Connections for illuminated signs.
  5. Temporary electric service for storage trailers and field offices of all Prime Contractors including owner's field office for Construction Representative.
  6. Temporary internet service to staging area for use by all contractors. Extend service from telephone utility to demark location that is acceptable to telephone utility company. Prime Contractors will extend their own internet service line from demark location to their construction trailers.
  7. Temporary lighting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 12 00



## **SECTION 01 13 00 – PHASING REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This project is being bid as two options:

Bid A will be for a slab on grade one story building as defined in Section 01 10 00 – Summary of Work. In this scenario, the work can begin upon NTP, though work on the 3-hour fire wall may not begin until after April 01, 2019. All work in Bid A must be substantially completed by October 01, 2019.

Bid B will be for a one story building with basement, as documented in the construction documents and as defined in Section 01 10 00 – Summary of Work. In this scenario, the work can begin upon NTP, though work on the 3-hour fire wall may not begin until after April 01, 2019. The basement work in Bid B must be substantially completed by August 30, 2019 and the first floor work must be substantially completed by October 01, 2019. This section includes a brief summary of the work to be performed along with special requirements and schedule constraints. Each Prime Contractor shall be responsible for reviewing the phasing plan and determining its effect on their work as it relates to the scope of work for each phase, temporary protection, temporary utilities, capping off of utilities, re-feed and back-feed systems, material deliveries, manpower schedule, etc.

#### **1.3 RELATED REQUIREMENTS**

- A. Section 011000 – Summary.
- B. Section 011200 – Summary of Multiple Contracts.
- C. Section 013100 – Project Management and Coordination
- D. Section 013200 – Construction Progress Documentation

#### **1.4 CONSTRUCTION PROGRAM**

- A. The entire work of the Project as indicated on the drawings and specifications, including all addenda and modifications thereto, shall be completed within the time element outlined and in accordance with the hereinafter specified requirements. It shall be the responsibility of each Contractor to inform all subcontractors of the construction program procedures. No additional compensation will be made for failing to include or meeting all requirements as set forth in the construction program.
- B. Each Contractor and all their subcontractors are expected to employ a sufficient number of employees and to have access to and use equipment and project resources, all as required to meeting these dates hereinafter set by the Owner's scholastic program requirements. Since the project, and various portions thereof, shall be Substantially Complete

within the time period set forth in the Contract Documents, the Contractors shall perform the Work on several shifts during each 24-hour day period, if necessary, all as required to complete the project and achieve Substantial Completion.

- C. Coordinate with the Owner any scheduling requirements to avoid disruption of school programs and activities, as well as the location of the various structures to be constructed (i.e. temporary trailers, temporary construction fence, and temporary access corridors).
- D. It is understood that during the duration of the project, reasonable changes may be made to the phasing plan without additional costs or time to the contract.
- E. The Owner reserves the right to delay or suspend any work, without compensation due any of the Contractors, in the event that the Owner determines that any work would disrupt educational activities in or around the school.
- F. Failure to achieve the milestones established with the approved Project Schedule will result in liquidated damages and costs to the contractors.
- G. In the event the Contractor fails to man the job properly, to maintain the schedule, or achieve the milestones, the Owner may supplement the work (supervision, manpower, equipment, materials, etc.) to ensure the schedule is maintained. All costs associated with such actions shall be deducted from the Contractor's contract value.
- H. Contractors are to ensure existing systems remain operational and can tie into new systems for fire alarm, sound, communications, HVAC, plumbing, electrical, etc. Make all necessary provisions to facilitate keeping all the School's systems operational for the safe/normal/efficient functional school year operation. During renovations, both new and existing systems must be functional. Owner occupied spaces must be totally operational.
- I. The General Construction Contractor will be responsible to provide temporary partitions, barriers and signage, as necessary, to keep construction areas safe. Also, the General Construction Contractor is to provide signage and safe passageways for emergency-only egresses through the construction areas.
- J. All Contractors are responsible for maintaining safe access and circulation for students and staff to maintain daily school activities.
- K. Contractors are responsible to coordinate and work with one another to complete work as scheduled.
- L. All Contractors are responsible to remove all construction debris on a daily basis to avoid interference with other contractors' work.
- M. Before any excavation is performed, the contractor will take all necessary steps to locate underground utilities, etc.
- N. Contractors shall test all equipment after installation and before the end of completion of each phase of the work.
- O. Demolition of mechanical, plumbing, electrical, and bore field work should be coordinated into the phases of the project to avoid interference with completed work, or the contractor will be responsible to replace finishes.

#### 1.5 PHASING MILESTONES

- A. The time schedule for each construction phase is stated above.
- B. The existing facility must remain operational and occupied during the school year. Renovations will be completed in each phase after the areas are vacated by the School and turned over to the Contractors. Work must be totally completed and accepted for use by the school including local occupancy approvals, so the school can reoccupy the space and free up other areas for renovations.



- C. Time is of the essence to the Owner. The completion dates for each phase are critical to the overall project schedule and to the Owner who has adopted a schedule for periodically relocating students, assigning and reassigning teaching spaces, interrupting food service, etc.; therefore, failure of the Contractors to meet the scheduled completion dates of any phase will cause the implementation of liquidated damages and costs or the Owner may opt to supplement the work.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION – Not Used

END OF SECTION 01 13 00



## **SECTION 01 22 00 - UNIT PRICES**

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Sections:
  - 1. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
  - 2. Division 01 Section "Quality Requirements" for general testing and inspecting requirements.

#### 1.3 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

#### 1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 SCHEDULE OF GENERAL CONSTRUCTION UNIT PRICES

- A. Unit Price #G-1: Removal and Replacement of Unsuitable Soils
  - 1. Description: As described in Section 312000 Earth Moving, Contractor shall remove and replace unsuitable soils as described in the Geotechnical Report and as directed in the field by the Owner's Geotechnical representative.

2. Unit of Measurement: 1 cubic yard of removed and replaced material.

### 3.4 SCHEDULE OF ELECTRICAL CONSTRUCTION UNIT PRICES

#### A. Unit Price #E-1: Duplex Receptacles and Wiring

1. Description: Provide an additional duplex receptacle assembly including 20A, 120V duplex receptacle, back box, cover plate, 3/4" conduit/raceway with two (2) #12 conductors and one (1) #12 ground wire to a point of authorized connection, necessary wall penetration, cutting and patching, terminations and labeling. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: One assembly

#### B. Unit Price #E-2: Exit Sign and Wiring

1. Description: Provide an additional exit sign assembly ( 2-luminaire type F14, 2-luminaire type F4 ) including appropriate mounting equipment, 3/4" conduit/raceway with two (2) #10 conductors and one (1) #12 ground wire, necessary wall penetration, cutting and patching, terminations and connections. Connect to closest normal/emergency "Exit Sign" circuit. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: One assembly.

#### C. Unit Price #E-3: 2x4 Light Fixture and Wiring

1. Description: Provide an additional 2' x 4' light assembly consisting of (1) luminaire type RC1, appropriate mounting equipment, 3/4" conduit with two (2) #12 conductors and one (1) #12 ground wire to a point of authorized connection, necessary wall penetration, cutting and patching, terminations and connections. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: One assembly

#### D. Unit Price #E-4: 1x4 Light Fixture and Wiring

1. Description: Provide an additional 2' x 4' light assembly consisting of (1) luminaire type RC3, appropriate mounting equipment, 3/4" conduit with two (2) #12 conductors and one (1) #12 ground wire to a point of authorized connection, necessary wall penetration, cutting and patching, terminations and connections. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: One assembly.

#### E. Unit Price #E5 – Heat or Smoke Detector & Wiring:

1. Description: Provide an additional heat or smoke detector assembly, consisting of detector of type required for application, appropriate backbox (as applicable) and mounting equipment, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, and programming required. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: Per assembly
3. Maximum Distance: 100'

#### F. Unit Price #E6 – Duct Detector & Wiring:

1. Description: Provide an additional duct detector assembly, consisting of detector of type required for application, appropriate backbox (as applicable) and mounting equipment, remote indicating, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, and programming required. Perform in accordance with drawing requirements for similar work.
2. Unit of Measurement: Per assembly
3. Maximum Distance: 100'

#### G. Unit Price #E7 – Fire Alarm Pull Station & Wiring:

1. Description: Provide an additional pull station assembly, consisting of pull station device, Backbox, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, and programming required. Perform in accordance with and drawing requirements for similar work.
2. Unit of Measurement: Per assembly
3. Maximum Distance: 100'

- H. Unit Price #E8 – Fire Alarm Audible/Visual Device & Wiring:
1. Description: Provide an additional fire alarm A/V device assembly, consisting of A/V device, backbox, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, programming, and additional power supplies required. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
- I. Unit Price #E9 – Fire Alarm Addressable Device & Wiring:
1. Description: Provide an additional fire alarm addressable device assembly, consisting of addressable device, backbox, cabling, conduit, necessary wall penetration cutting and patching, terminations, connections to fire alarm system, programming, and additional power supplies required. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
- J. Unit Price #E10: Intercom Speaker and Wiring:
1. Description: Provide an additional intercom speaker (type as required for space) consisting of backbox, mounting equipment, cabling, conduit and all terminations and connections to program system. Perform in accordance with drawing requirements for similar work.
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'
- K. Unit Price #E11: Secondary Clock and Wiring:
1. Description: Provide an additional secondary clock (type as required for space) consisting of backbox, mounting equipment, cabling, conduit and all terminations and connections to master clock system. Perform in accordance with drawing requirements for similar work..
  2. Unit of Measurement: Per assembly
  3. Maximum Distance: 100'

END OF SECTION 01 22 00



## **SECTION 01 23 00 - ALTERNATES**

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

#### 1.3 DEFINITIONS

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

#### 1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 SCHEDULE OF ALTERNATES FOR GENERAL CONSTRUCTION CONTRACT

- A. General Construction Contract:





1. **Alternate Bid No. G-1 (General Construction Contract)** – State the amount to be added or deducted to the Base Bid “A” to provide the addition of the Girls Locker Room and Storage Room as indicated in the Contract Documents.
  
- B. Heating, Ventilation and Air Conditioning Contract
  1. **Alternate Bid No. H-1 (Heating, Ventilation and Air Conditioning Contract)** - State the amount to be added or deducted to the Base Bid “A” to provide the addition of the Girls Locker Room and Storage Room as indicated in the Contract Documents.
  
- C. Plumbing Construction Contract
  1. **Alternate Bid No. P-1 (Plumbing Construction Contract)** - State the amount to be added or deducted to the Base Bid “A” to provide the addition of the Girls Locker Room and Storage Room as indicated in the Contract Documents.
  
- D. Electrical Construction Contract
  1. **Alternate Bid No. E-1 (Electrical Construction Contract)** – State the amount to be added or deducted to the Base Bid “A” to provide the addition of the Girls Locker Room and Storage Room as indicated in the Contract Documents.

END OF SECTION 01 23 00

ALTERNATES 01 23 00-2

ALTERNATES

01 23 00-1



## SECTION 01 25 00 - SUBSTITUTION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Sections:
  - 1. Division 01 Section "Alternates" for products selected under an alternate.
  - 2. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

#### 1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

#### 1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use CSI Form 13.1A attached to this section.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
    - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
    - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures. e. Samples, where applicable or requested.
    - f. Certificates and qualification data, where applicable or requested.
    - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
    - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - i. Research reports evidencing compliance with building codes in effect for Project.
    - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
    - k. Cost information, including a proposal of change, if any, in the Contract Sum.

- l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
  - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

## 1.6 PROCEDURES

- A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

## PART 2 - PRODUCTS

### 2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
  1. Conditions: Architect will consider Contractor's request for substitution when **all** of the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    - a. Statement indicating why specified material or product cannot be provided.
    - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
    - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures. e. Samples, where applicable or requested.
    - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
    - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
    - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
    - j. Cost information, including a proposal of change, if any, in the Contract Sum.
    - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
    - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

- m. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: **Strictly forbidden.**

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00



## SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections:
  - 1. Division 01 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

#### 1.3 MINOR CHANGES IN THE WORK

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

#### 1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
  - 2. Within time specified in Proposal Request or 5 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include costs of labor and supervision directly attributable to the change.
    - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
    - e. Quotation Form: Use CSI Form 13.6B "Proposal Worksheet Summary" and 13.6C "Proposal Worksheet Detail".
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - 4. Include costs of labor and supervision directly attributable to the change.

5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use CSI Form 13.6A "Change Order Request (Proposal)" with attachments CSI Form 13.6B "Proposal Worksheet Summary" and 13.6C "Proposal Worksheet Detail".

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Unit Price Adjustment: Refer to Division 01 Section "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit price work.

1.6 CHANGE ORDER PROCEDURES

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

1.7 CONSTRUCTION CHANGE DIRECTIVE

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00



## SECTION 01 29 00 - PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections:
  - 1. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
  - 2. Division 01 Section "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.
  - 3. Division 01 Section "Submittal Procedures" for administrative requirements governing the preparation and submittal of the submittal schedule.

#### 1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

#### 1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule. Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.
  - 1. Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with continuation sheets.
    - b. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
  - 4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values correlated with each element.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
  - 1. Identification: Include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Name of Architect.
    - c. Architect's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  - 2. Arrange schedule of values consistent with format of AIA Document G703.
  - 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed: a. Related Specification Section or Division.

- b. Description of the Work.
  - c. Name of subcontractor.
  - d. Name of manufacturer or fabricator.
  - e. Name of supplier.
  - f. Change Orders (numbers) that affect value.
  - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
    - 1) Labor.
    - 2) Materials.
    - 3) Equipment.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of Contract Sum.
- a. Include separate line items under Contractor and principal subcontracts for project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
- a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
9. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
- a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
10. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is the fourteen days before the School Board Meeting for each month. Owner will provide School Board meeting schedule. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends before the date that the Owner's Scheduling Consultant receives the approved "pencil copy" for each progress payment. The following schedule indicates the allowable time for submissions and processing by various parties. This procedure will be strictly adhered to and Payment Applications that do not follow this procedure or time schedule will be rejected.
- C. Contractor provides initial "pencil copy" of payment Application to Owner's Construction Representative & Architect for review and approval. Contractor may project work through the end of this review period/phase only. Allow (5) days for this review phase.
- D. Contractors receive the "official" activity progress summary and inputs this exact information on to the AIA Document G702 and AIA Document G703 Continuation Sheets. Contractor fully executes, signs, and notarizes three (3) original Payment Application Forms and forwards to the Architect.
- E. Architect receives (3) Payment Application Forms from the Contractors. Architect reviews for conformance to "official" activity progress summary. Architect takes appropriate action-if documents are in full conformance, they are signed, approved and forwarded to the Owner for processing. Allow seven (7) days for the Architect's review. Owner must have approved Application for Payment forms by fourteen days before the School Board Meeting for each month for processing. Applications for Payments after that date will be processed the following month.

- F. Contractors are solely responsible to start their monthly Application for Payment requests in sufficient time to permit all parties to have enough time (as documented in this section) to review and process the Applications for Payments so that the Owner receives them by the first day of the month.
- G. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- H. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
  - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
  - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- I. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site. Owner will pay for items stored off-site.
  - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
  - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  - 3. Provide summary documentation for stored materials indicating the following:
    - a. Materials previously stored and included in previous Applications for Payment.
    - b. Work completed for this Application utilizing previously stored materials.
    - c. Additional materials stored with this Application.
    - d. Total materials remaining stored, including materials with this Application.
- J. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
  - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- K. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
  - 1. List of subcontractors.
  - 2. Schedule of values.
  - 3. Contractor's construction schedule (final).
  - 4. Products list (preliminary if not final).
  - 5. Schedule of unit prices.
  - 6. Submittal schedule.
  - 7. List of Contractor's staff assignments.
  - 8. List of Contractor's principal consultants.
  - 9. Copies of building permits.
  - 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  - 11. Initial progress report.
  - 12. Report of preconstruction conference.
  - 13. Certificates of insurance and insurance policies.
  - 14. Performance and payment bonds.
  - 15. Data needed to acquire Owner's insurance.
  - 16. Estimated Draw Schedule.
- L. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
  - 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  - 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

- M. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  6. AIA Document G707, "Consent of Surety to Final Payment."
  7. Evidence that claims have been settled.
  8. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

## **SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Administrative and supervisory personnel.
  - 3. Coordination drawings.
  - 4. Requests for Information (RFIs).
  - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Sections:
  - 1. Division 01 Section "Multiple Contract Summary" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
  - 2. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
  - 3. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 4. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

#### **1.3 DEFINITIONS**

- A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.

#### **1.4 COORDINATION**

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
  - 4. Maintain current file of all submittals and approvals on-site available for review by other Prime Contractors.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination.

Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

#### 1.5 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

- a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
- b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
- c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
- d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
- e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
- f. Indicate required installation sequences.
- g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. MPE Systems Coordination Drawings: MPE Systems Coordination drawings shall be provided by the Contractors. The MC shall be responsible for monitoring the process of this work.

- a. Process will start with a MPE Drawing Coordination meeting. All contractors shall be present with Owner, Architect, and MPE Engineers.

- b. General Contractor will sign off on general backgrounds of building and structural framing plans.  
Any proposed revisions will be made at this time. All alternates selected by Owner will be properly documented. Major systems components or substitutions must be confirmed at this time by all contractors.
  - c. MPE Systems drawings will be submitted and processed as AutoCAD documents. Backgrounds will be made available by the Architect.
  - d. MC will overlay and draft their HVAC systems on the backgrounds.
  - e. After MC has completed their work, the PC shall overlay and draft their plumbing systems including sprinkler systems on the MPE Systems backgrounds.
  - f. After PC has completed their work, the EC shall overlay and draft their electrical systems including power, lighting and data systems on the MPE Systems backgrounds. EC shall draft ceiling grid on drawings.
  - g. After all contractors have completed and approved their work and MPE Systems drawings, the MC shall provide the electronic files to the Architect and other contractors. The MC shall provide (1) set of MPE Systems Drawings to all contractors, (1) set to Owner, (1) set to Architect, and (2) sets to MPE Engineers. Drawings shall be printed in color and drawn to 1/4" = 1'-0" scale minimum.
  - h. Process shall progress as follows:
    - (1) Start-up meeting: 3 days after Notice to Proceed is issued.
    - (2) General Contractor sign-off: 1 days after start-up meeting.
    - (3) MC shall complete their initial drafting of the HVAC systems 1 days after GC sign-off.
    - (4) PC shall complete their initial drafting of the Plumbing systems 1 days after MC initial drafting.
    - (5) EC shall complete their initial drafting of the Electrical systems 1 days after PC initial drafting.
    - (6) MPE Systems Drawings completed 10 days after Notice-To-Proceed is issued.
2. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire protection, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
  3. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
  4. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire protection, fire alarm, and electrical equipment.
  5. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
  6. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
  7. Mechanical and Plumbing Work: Show the following:
    - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
    - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    - c. Fire-rated enclosures around ductwork.
    - d. Manufacturer's recommended access to equipment. Revise if necessary to provide required access. Indicate filter replacement access to HVAC units.
  8. Electrical Work: Show the following:
    - a. Runs of vertical and horizontal conduit 1-1/4 inch diameter and larger.
    - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire alarm locations.
    - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
    - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
  9. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility. If the Architect determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Architect will so inform the Contractor, who shall make changes as directed and resubmit.

10. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Division 01 Section "Submittal Procedures."

C. Coordination Digital Data Files: Prepare coordination digital data files in accordance with the following requirements:

1. File Preparation Format: Same digital data software program, version, and operating system as the original Drawings.
2. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format.
3. Architect will furnish Contractor one set of digital data files of the Drawings for use in preparing coordination digital data files.
  - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to the Drawings.
  - b. Digital Data Software Program: The Drawings are available in Auto CAD 2016.
  - c. Contractor shall execute a data licensing agreement in the form of Agreement included in this Project Manual.

#### 1.6 KEY PERSONNEL

A. Key Personnel Names: Within 7 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

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

#### 1.7 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.



13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches. C. RFI Forms: CSI Form 13.2A.
  - D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
    1. The following RFIs will be returned without action:
      - a. Requests for approval of submittals.
      - b. Requests for approval of substitutions.
      - c. Requests for coordination information already indicated in the Contract Documents.
      - d. Requests for adjustments in the Contract Time or the Contract Sum.
      - e. Requests for interpretation of Architect's actions on submittals.
      - f. Incomplete RFIs or inaccurately prepared RFIs.
    2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
    3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
      - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 5 days of receipt of the RFI response.
  - E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within five days if Contractor disagrees with response.
  - F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Use CSI Log Form 13.2B. Include the following:
    1. Project name.
    2. Name and address of Contractor.
    3. Name and address of Architect.
    4. RFI number including RFIs that were dropped and not submitted.
    5. RFI description.
    6. Date the RFI was submitted.
    7. Date Architect's response was received.
    8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
    9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
- 1.8 PROJECT MEETINGS
- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
    1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
    2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
    3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
  - B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
    1. Conduct the conference to review responsibilities and personnel assignments.

2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  3. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and long-lead items.
    - d. Designation of key personnel and their duties.
    - e. Lines of communications.
    - f. Procedures for processing field decisions and Change Orders.
    - g. Procedures for RFIs.
    - h. Procedures for testing and inspecting.
    - i. Procedures for processing Applications for Payment.
    - j. Distribution of the Contract Documents.
    - k. Submittal procedures.
    - l. Sustainable design requirements.
    - m. Preparation of record documents.
    - n. Use of the premises and existing building.
    - o. Work restrictions.
    - p. Working hours.
    - q. Owner's occupancy requirements.
    - r. Responsibility for temporary facilities and controls.
    - s. Procedures for moisture and mold control.
    - t. Procedures for disruptions and shutdowns.
    - u. Construction waste management and recycling.
    - v. Parking availability.
    - w. Office, work, and storage areas.
    - x. Equipment deliveries and priorities.
    - y. First aid.
    - z. Security. aa. Progress cleaning.
  4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.
    - g. Submittals.
    - h. Review of mockups.
    - i. Possible conflicts.
    - j. Compatibility problems.
    - k. Time schedules.
    - l. Weather limitations.
    - m. Manufacturer's written recommendations.
    - n. Warranty requirements.
    - o. Compatibility of materials.

- p. Acceptability of substrates.
  - q. Temporary facilities and controls.
  - r. Space and access limitations.
  - s. Regulations of authorities having jurisdiction.
  - t. Testing and inspecting requirements.
  - u. Installation procedures.
  - v. Coordination with other work.
  - w. Required performance results.
  - x. Protection of adjacent work.
  - y. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time convenient to Owner and Architect, but no later than 14 days prior to the scheduled date of Substantial Completion.
- 1. Conduct the conference to review requirements and responsibilities related to Project closeout.
  - 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
    - a. Preparation of record documents.
    - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    - c. Submittal of written warranties.
    - d. Requirements for preparing sustainable design documentation.
    - e. Requirements for preparing operations and maintenance data.
    - f. Requirements for demonstration and training.
    - g. Preparation of Contractor's punch list.
    - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
      - i. Submittal procedures.
    - j. Coordination of separate contracts.
    - k. Owner's partial occupancy requirements.
    - l. Installation of Owner's furniture, fixtures, and equipment.
    - m. Responsibility for removing temporary facilities and controls.
  - 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- E. Project Construction Progress Meetings: Architect will Conduct progress meetings at 2-week intervals.
- 1. Coordinate dates of meetings with preparation of payment requests.
  - 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from

parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

- 1) Review schedule for next period.
- b. Review present and future needs of each entity present, including the following:
- 1) Interface requirements.
  - 2) Sequence of operations.
  - 3) Status of submittals.
  - 4) Deliveries.
  - 5) Off-site fabrication.
  - 6) Access.
  - 7) Site utilization.
  - 8) Temporary facilities and controls.
  - 9) Progress cleaning.
  - 10) Quality and work standards.
  - 11) Status of correction of deficient items.
  - 12) Field observations.
  - 13) Status of RFIs.
  - 14) Status of proposal requests.
  - 15) Pending changes.
  - 16) Status of Change Orders.
  - 17) Pending claims and disputes.
  - 18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- F. Weekly Coordination Meetings: Project Coordinator will conduct coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
    - c. Review present and future needs of each contractor present, including the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.

- 7) Site utilization.
- 8) Temporary facilities and controls.
- 9) Work hours.
- 10) Hazards and risks. 11) Progress cleaning.
- 12) Quality and work standards.
- 13) Change Orders.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00



## **SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Daily construction reports.
  - 2. Material location reports.
  - 3. Field condition reports.
  - 4. Special reports.
- B. Related Sections:
  - 1. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
  - 2. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. PDF electronic file.
- B. Daily Construction Reports: Submit at bi-weekly intervals.
- C. Material Location Reports: Submit at bi-weekly intervals.
- D. Field Condition Reports: Submit at time of discovery of differing conditions.
- E. Special Reports: Submit at time of unusual event.
- F. Qualification Data: For scheduling consultant.

#### **1.4 COORDINATION**

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from entities involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

### **PART 2 - PRODUCTS**

#### **2.1 START-UP CONSTRUCTION SCHEDULE**

- A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within seven days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

## 2.2 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
  - 1. List of subcontractors at Project site.
  - 2. List of separate contractors at Project site.
  - 3. Count of personnel at Project site.
  - 4. Equipment at Project site.
  - 5. Material deliveries.
  - 6. Accidents.
  - 7. Meetings and significant decisions.
  - 8. Unusual events (refer to special reports).
  - 9. Stoppages, delays, shortages, and losses.
  - 10. Emergency procedures.
  - 11. Orders and requests of authorities having jurisdiction.
  - 12. Change Orders received and implemented.
  - 13. Construction Change Directives received and implemented.
  - 14. Services connected and disconnected.
  - 15. Equipment or system tests and startups.
  - 16. Partial completions and occupancies.
  - 17. Substantial Completions authorized.
- B. Material Location Reports: At bi-weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

## 2.3 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner and Architect within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

## PART 3 - EXECUTION

END OF SECTION 01 32 00



## **SECTION 01 32 15 - CPM SCHEDULES**

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the critical path method (CPM) of scheduling and reporting progress of the Work.
  - 1. Refer to the General Conditions and the Agreement for additional applicable definitions and specific dates of Contract Time.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Submittals" specifies requirements for submitting the Submittal Schedule.
  - 2. Division 1 Section "Project Meetings" specifies requirements for submitting and distributing meeting and conference minutes.
  - 3. Division 1 Section "Quality Control" specifies requirements for submitting inspection and test reports.
  - 4. Division 1 Section "Materials and Equipment" specifies requirements for submitting the list of products.
  - 5. Division 1 Section "Payments and Completion."

#### 1.3 DEFINITIONS

- A. Critical Path Method (CPM): A method of planning and scheduling a construction project where activities are arranged based on activity relationships and network calculations that determine the critical path of the project and when activities can be performed.
- B. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall project duration.
- C. Network Diagram: A graphic diagram of a network schedule - showing the activities and activity relationships.
- D. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical activities are activities on the critical path.
  - 2. Predecessor activity is an activity that must be completed or partially completed before a given activity can be started.
- E. Event: An event is the starting or ending point of an activity.
- F. Milestone: A key or critical point in time for reference or measurement.
- G. Float is the measure of leeway in activity performance. Accumulative float time belongs to the Owner.
  - 1. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
  - 2. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned project completion date.

- H. Time Impact Analysis (TIA): is a fragment network (fragnet), that demonstrates a logical flow of events that impact the critical path or paths of the Project schedule, due to unforeseen conditions and/or change orders. The TIA contains a fragment network illustrating a continuous time line, with no unidentified time gaps, with a detailed written narrative identifying the cause and effect of each change. The TIA for each change utilizes the CPM schedule database with a data date closest to the time the change occurred.

1.4 GENERAL

- A. A Preliminary CPM schedule illustrating in detail the first ninety (90) calendar days of work and the Prime Contractors general approach for the balance of the Project, shall be created within twenty one (21) calendar days after the Notice of Award to the Contractors. The Preliminary schedule shall be in the form of an activity oriented network and shall met all contractual requirements, such as Contract duration, phases, and phasing restraints. The Preliminary schedule activities and data shall be included in the Prime Contractors detailed as planned schedule submittal without modifications to either logic or durations pertaining to the first ninety (90) calendar days of the preliminary schedule.
- B. A detailed as planned CPM schedule will be created within sixty (60) calendar days after Notice to Proceed in compliance with the specified time requirements and milestones and shall be used by all parties on the Project to plan, schedule, and monitor the work for the entire construction duration.
- C. The General Contractor, all Prime Contractors, and all subcontractors, as determined by the General Contractor, shall participate fully in the development, review, monitoring, and progressing of the total Project CPM schedule. Prior to the submission of the original, as-planned CPM schedule to the Owner, the General Contractor and all other Prime Contractors shall sign the CPM schedule, indicating their full and complete approval of the CPM schedule as the plan for the execution of the work on the Project, with a signed acknowledgement as listed below,

“The undersigned Contractor certifies that the sequenced Construction Schedule which is comprised of the computerized mathematical documents issued on \_\_\_\_\_ is an acceptable as planned Construction schedule as required by the Contract Documents; and that said schedule is a true and accurate representation of his plan of construction for his work and fully complies with the requirements of the Contract Documents. The Contractor further certifies that he will prosecute the work in accordance with this schedule, subject to any change therein which is implemented in accordance with the Contract Documents; and the undersigned acknowledges that adequate manpower will be available to perform the schedule tasks with-in the time duration allotted; and the Contractor certifies he has fully complied with all the requirements of the Contract Documents relating to coordination of said Schedule with separate contractors.” In addition, the Contractor acknowledges that updated progress for each installation and procurement activity included within the schedule will be issued to the Owners representative prior to the draft review of each monthly application for payment, and that the schedule of values will be correlated to the detailed areas represented within the schedule.

\_\_\_\_\_  
Contractor’s Name

\_\_\_\_\_  
Contractors representative signature  
And Date.

- D. It shall be the responsibility of the General Contractor to manage and coordinate the activities of the other contractors on the Project. The General Contractor will provide direction, coordination, and management to (a) provide the information which will form the basis of the detailed CPM schedule and (b) carry forth the Project in accordance with the detailed CPM schedule.

1.5 DEVELOPMENT OF THE CPM SCHEDULE

- A. The General Contractor shall be responsible for the CPM schedule.

- B. It shall be the responsibility of the General Contractor to coordinate CPM scheduling meeting times with other Contractors on the Project, the Architect, and Owner and to assure that all of the parties have reviewed the Contract Documents and are prepared to provide detailed information regarding the development of the schedule, including,
1. Schedule activities, including procurement and work activities
  2. Durations (in work days) for each activity
  3. Sequencing of activities
  4. Manpower required to perform each activity, excluding supervision.
- C. At no additional cost to the Owner, the General Contractor and Prime Contractors shall fully participate in all required scheduling meetings during the life of the Project.
- D. The GC will meet with the other prime Contractors in a place proximate to the Project site, and at times mutually agreed to by the parties, for the purpose of developing a detailed total Project CPM schedule. The GC will construct the schedule from information provided by the Contractors.
- E. The activities defined by the Contractors shall have definitive descriptions which will provide for measurable boundaries. No activity of work will have a duration greater than twenty (20) work days. The Contractor will allow a minimum of fifteen (15) work days for the Architect's review of all shop drawings. The procurement of all critical materials and equipment items will be included in the CPM schedule.
- F. The CPM schedule shall allot the following time frames for closing out each milestone phase after the Contractors have completed their internal/in-house punch-out of each milestone phase.
1. Allow ten (10) work days for the Architect/Owner to develop a punch-list.
  2. Allow five (5) work days for the Contractors to perform and complete the Architect/Owner punchlist.
  3. Allow three (3) work days for the Architect/Owner to perform a final inspection and acceptance of the Phase.
  4. Allow three (3) work days for the Owner to move into the Phase.
- G. Fourteen (14) calendar days after the complete development of the as planned schedule logic and durations, the GC will meet with the Contractors to review the output of the scheduling information provided the Contractors. The Contractors will review and comment upon this information in writing. Should the duration of the schedule exceed any of the milestone/phase completion dates, the Contractors shall revise the CPM schedule to meet all milestones/phased completion dates indicated in the Contract Documents.
- H. The Contractors shall participate in the process of creating a schedule by which the Project can be built and which meets all of the criteria delineated in the Contract Documents. The General Contractor and the Prime Contractors will have an authorized representative of each of the Prime Contractors sign off on the schedule, signifying their full acceptance and approval of the as-planned CPM schedule, as illustrated in Section 1.4-C
- I. At the conclusion of the development of the as-planned CPM schedule, the GC will issue the scheduling documents to the Architect, Owner, and to the Prime (General) Contractor for their use.
- J. The CPM schedule will not be cost loaded; however, the Contractor's schedule of values shall be correlated to the detailed Phases and/or areas represented within the CPM schedule.
- K. The durations on the installation activities shall be developed utilizing the planned manpower required to perform the task in the time frame allotted. The CPM schedule shall be man loaded for each installation activity utilizing the number of men needed to perform the work. The man power per each installation activity will only include the number of men needed to perform the physical work, and shall exclude supervision. The GC will issue a spread sheet listing the installation activities, in which each Contractor will incorporate, the manpower as number of men.
- L. Tentative Schedule for development of the as planned schedule will be as follows,
1. The GC will first meet with the General Contractor to develop the following logic for the initial critical site work required to start substructure work and the logic for the substructure, superstructure, and enclosure.

2. The GC will then consult with the mechanical, electrical, and plumbing Contractors regarding time frames critical to constructing the Project through the Building enclosure work, after which the Consultant will issue a draft schedule detailing the initial critical site work through the Building enclosure
3. The GC will then work with each Contractor to develop the logic for interior rough-ins and finishes of each Phase and/or area.

#### 1.6 SCHEDULE UPDATE REQUIREMENTS

- A. Once each month the GC will update the CPM schedule with the approved progress including percent complete and actual dates through the last Friday of each month. The information for actual progress data for all activities on the Project will be provided by the Prime Contractors to the Owner on the last Friday of each month. In the event a Contractor fails to supply the process information to the Owner prior to the last Friday of each month, the Owner shall not approve the monthly application for payment, until the progress information is provided.

At a time mutually agreed to between the parties, the Consultant will transmit to the Prime Contractors a "Progress Input Form", which will provide a vehicle for the input of all progress information. The Consultant will input the progress information and issue selective schedule information to be reviewed by each Contractor. This initial progress information will be issued in a PDF format via Email. The Contractors will then have three (3) work days to comment on schedule regarding modification which need to be incorporated and/or additional progress to the Consultant. In the event the Contractors do not notify the Consultant of errors, logic modifications needed, or additional progress, the update will be deemed as correct.

#### 1.7 CPM SCHEDULE DOCUMENTS

- A. Within five (5) calendar days of the approval of the as-planned CPM schedule by the Contractors, the GC will produce and issue to each of the prime contractors, at no additional cost to the Contractors, the following document package:
1. 8.5" x 11" report package containing the following sorts: Critical Path bar chart sort, Area bar chart sort by early dates for installation activities, Division/Trade bar-chart by early dates for installation activities, and procurement bar-charts by Division activity number.
- B. After acknowledgment of each monthly update by the Contractor's, the GC will produce and issue to each of the Prime Contractors, at no additional cost to the Contractors, the following document package in PDF format via email.
1. Critical Path bar chart sort, Area bar chart sort by early dates for installation activities, Division/Trade bar-chart by early dates for installation activities, procurement bar-charts by Division activity number, and update reports for the next months progress update.

#### 1.9 CHANGE ORDERS, DELAYS AND TIME EXTENSIONS

- A. The Contractors must comply with the General Conditions, including but not limited to Articles 4.3, 7, and 8.3, with respect to change orders, delays, and time extensions. Failure to comply with the General Conditions will constitute a waiver of any claim delay and/or request for time extension. When proposed change orders are initiated or delays are experienced, the Contractors shall submit to the Architect a written Time Impact Analysis illustrating the influence of each change or delay on any specified milestone/phase completion dates. Each Time Impact Analysis shall incorporate the change or delay and the Contractor's recovery schedule into the detailed progress schedule. Submission of justification shall be based on revised activity logic and durations, in addition to such other supporting evidence, as the Architect deems necessary. The event times used in the analysis shall be those included by mutual agreements. The Contractor shall submit each Time Impact Analysis in two (2) copies and within ten (10) calendar days after a delay occurs or notice or direction is given to the Contractor. If the Contractor fails to provide the TIA within 10 calendar days as specified herein, then the Contractor irrevocably waives any claim that the change in the work has any time impact on the Contract schedule and, accordingly, no time extension is required and none will be granted. The Architect will, within a reasonable time after the receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing thereof. Upon agreement by both parties, the influence of changes and delays will be incorporated into the detailed progress schedule at the next monthly update.

- B. Where the Architect has not yet made a final determination as to the amount of time extension, or the parties are unable to agree as to the amount of time extension to be reflected, the Contractor shall reflect that amount of time extension in the detailed progress schedule as the Architect may determine to be appropriate for such interim purpose. It is understood and agreed that any such interim determination for the purpose of this paragraph shall not be binding upon either party for any other purpose, in that, after the Architect has made a final determination as to any time extension, the Contractor shall cause the detailed progress schedule to be revised in accordance with the final decision.
- C. The Contractors shall include anticipated weather delays in the CPM schedule. No time extensions will be granted unless weather delays exceed both the available float along the affected chains of activities and weather delays which could be anticipated by the Contractors using the table below.

At a minimum, the Contractors shall utilize a weather calendar containing the following anticipate work days lost per month, Monday through Friday, due to weather.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8	9	8	7	5	3	3	2	3	4	6	6

- D. The schedule float time belongs to the Project Owner. Extensions of time for performance under any and all of the provisions of this Contract will be granted only to the extent that the equitable time adjustments for the activity or activities affected exceed the total float along the logic chain(s) involved at the time the delay occurred or notification was issued for the change.
- E. Should the critical path fall more than five (5) work days behind schedule on any of the milestone/phase completion dates and/or the final Project completion date, the Architect and/or Owner may direct the Contractor to prepare a "Recovery Schedule", which will demonstrate how the Contractors propose to recover lost time that is the result of nonexcusable delays. All measures taken by the Contractors, such as, but not limited to: overtime, shift work, increased crew sizes and added equipment, material expediting, and other similar actions, will be at no additional cost to the Owner.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 013215



## SECTION 01 32 33 - PHOTOGRAPHIC DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

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

1. Preconstruction photographs.
2. Periodic construction photographs.
3. Final completion construction photographs. B. Related Sections:

1. Division 01 Section "Submittal Procedures" for submitting photographic documentation.
2. Division 01 Section "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.
3. Division 02 Section "Structure Demolition" for photographic documentation before building demolition operations commence.
4. Division 02 Section "Selective Structure Demolition" for photographic documentation before selective demolition operations commence.
5. Division 31 Section "Site Clearing" for photographic documentation before site clearing operations commence.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

- B. Digital Photographs: Submit image files within three days of taking photographs.

1. Digital Camera: Minimum sensor resolution of 8 megapixels.
2. Format: Minimum 1600 by 1200 pixels, dpi minimum, in unaltered original files, with same aspect ratio as the sensor, uncropped, date- and time- stamped, in folder named by date of photograph, accompanied by key plan file.
3. Identification: Provide the following information with each image description in file metadata tag:
  - a. Name of Project.
  - b. Name and contact information for photographer.
  - c. Name of Architect.
  - d. Name of Contractor.
  - e. Date photograph was taken.
  - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
  - g. Unique sequential identifier keyed to accompanying key plan.

#### 1.4 COORDINATION

- A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs.

## 1.5 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

## PART 2 - PRODUCTS

### 2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 1600 by 1200 pixels and 400 dpi.

## PART 3 - EXECUTION

### 3.1 CONSTRUCTION PHOTOGRAPHS

- A. Photographer: Engage a qualified photographer to take construction photographs.
  - 1. If photographs are unacceptable to the Architect, the Contractor shall provide engage an alternate photographer.
- B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
  - 1. Date and Time: Include date and time in file name for each image.
  - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect.
- D. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
  - 1. Flag excavation areas before taking construction photographs.
  - 2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.
  - 3. Take 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
  - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- E. Time-Lapse Sequence Construction Photographs: Take 20 photographs as indicated, to show status of construction and progress since last photographs were taken.
  - 1. Frequency: Take photographs monthly, coinciding with the cutoff date associated with each Application for Payment.



2. Vantage Points: Following suggestions by Architect and Contractor, photographer to select vantage points. During each of the following construction phases, take not less than two of the required shots from same vantage point each time to create a time-lapse sequence as follows:
  - a. Commencement of the Work, through completion of subgrade construction.
  - b. Above-grade structural framing.
  - c. Exterior building enclosure.
  - d. Interior Work, through date of Substantial Completion.
  
- F. Final Completion Construction Photographs: Take 20 color photographs after date of Substantial Completion for submission as project record documents. Architect will inform photographer of desired vantage points.
  1. Do not include date stamp.
  
- G. Concealed Conditions Photographs: Take photographs of concealed utilities, systems, or conditions before they are concealed by on-going construction.
  1. Utilities in trenches, show junctions, and general depth.
  2. Mechanical, Plumbing, and Electrical systems concealed behind finished materials or underslabs.
  
- H. Additional Photographs: Architect may request photographs in addition to periodic photographs specified.
  1. Three days' notice will be given, where feasible.
  2. In emergency situations, take additional photographs within 24 hours of request.
  3. Circumstances that could require additional photographs include, but are not limited to, the following:
    - a. Immediate follow-up when on-site events result in construction damage or losses.
    - b. Photographs to be taken at fabrication locations away from Project site.
    - c. Substantial Completion of a major phase or component of the Work.
    - d. Extra record photographs at time of final acceptance.

END OF SECTION 01 32 33



## SECTION 01 33 00 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections:
  - 1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
  - 2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
  - 3. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
  - 4. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
  - 5. Division 01 Section "Demonstration and Training" for demonstration of equipment and training of Owner's personnel.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

#### 1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and additional time for handling and reviewing submittals required by those corrections.
  - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  - 2. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
  - 3. Format: Arrange the following information in a tabular format:
    - a. Scheduled date for first submittal.
    - b. Specification Section number and title.
    - c. Submittal category: Action, informational.
    - d. Name of subcontractor.

- e. Description of the Work covered.
- f. Scheduled date for Architect's final release or approval.
- g. Scheduled dates for purchasing.
- h. Scheduled dates for installation.
- i. Activity or event number.

#### 1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
  - 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.
    - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
    - b. Digital Drawing Software Program: The Contract Drawings are available in Auto CAD 2010 in Microsoft operating system.
    - c. Contractor shall execute a data licensing agreement in the form located in Section 006205.
    - d. The following plot files will be furnished for each appropriate discipline:
      - 1) Floor plans.
      - 2) Reflected ceiling plans.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
  - 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
  - 1. Initial Review: Allow 21 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  - 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
  - 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
    - a. Color selections shall be made 21 days after the color submittal of the final project or material for interior finishes and products.
    - b. Color selections shall be made 14 days after the color submittal of the final project or material for exterior finishes and products.
  - 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 21 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification. Submittals will be returned without any action taken if this information is not properly provided.
  - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
  - 2. Include the following information for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.

- d. Name of Contractor.
  - e. Name of subcontractor.
  - f. Name of supplier.
  - g. Name of manufacturer.
  - h. Submittal number or other unique identifier, including revision identifier.
    - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
  - i. Number and title of appropriate Specification Section.
  - j. Drawing number and detail references, as appropriate.
  - k. Location(s) where product is to be installed, as appropriate.
  - l. Other necessary identification.
- E. Options: Identify options requiring selection by the Architect.
- F. Deviations: Identify deviations from the Contract Documents on submittals.
- G. PDF Submittals: Prepare submittal as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- H. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, or discard submittals received from sources other than Contractor.
  - 1. Transmittal Form: Use CSI Form 12.1A or equal.
- I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
  - 1. Note date and content of previous submittal.
  - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. Use for Construction: Use only final submittals that are marked with approval notation from Architect's action stamp.
- L. Shop drawings will not be reviewed by the Architect or Engineers unless they have the Contractor's stamp of approval. Contractors must provide a complete review (i.e., check compliance for contract documents, verify dimensions, and details) of all shop drawings and product data prior to the submission to the Architect or Engineer. Shop drawings will immediately be returned without action if it is determined the Contractor is not reviewing the submittals or the Contractor's stamp of approval is not provided.
  - 1. Architect and Engineers will use *red ink* to make comments on submittals. Contractors shall use *green ink* to mark submittals so that author of comments is distinguishable.
  - 2. All deviations from contract documents must be clearly identified by contractor making submittal.
  - 3. Products must be in compliance with Act 3 of 1978 regarding use of Steel and Steel products made in the U. S. Refer to Instructions to Bidders Article 9.1.6.

## PART 2 - PRODUCTS

### 2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Submit **all** submittals via email as PDF electronic files.
    - a. Prepare submittals as PDF package, and transmit to Architect by sending via email Include PDF transmittal form. Copy the following recipients on all submittals: [bmiller@fredward.com](mailto:bmiller@fredward.com); other recipients to be determined.
    - b. Files should be named in the following format: **[project name].[spec section#].[revision letter].pdf**. Project name will be **"SmithMS."** For example: **SmithMS.033000.01.A.pdf**.
    - c. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
  2. Action Submittals: Generally, submit all submittals electronically as PDF documents via email, unless otherwise indicated. Architect will return an electronic copy via email to Contractor. If submittal is reviewed by Architect's consultant, copy the Consultant on the email submission.
  3. Informational Submittals: Submit an electronic copy of each submittal, unless otherwise indicated. Architect will not return submittal.
  4. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
  5. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
    - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
    - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
  6. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment. 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  4. For equipment, include the following in addition to the above, as applicable:
    - a. Wiring diagrams showing factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
  5. Submit Product Data before or concurrent with Samples.
  6. Submit Product Data in the following format:
    - a. Electronic copy of Product Data, unless otherwise indicated. Architect will return submittal electronically.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least **8 1/2 by 11 inches** but no larger than **30 by 42 inches**.

3. Submit Shop Drawings in the following format:
  - a. One electronic copy of each submittal.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
  1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of applicable Specification Section.
  3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
  5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.
      - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
  1. Type of product. Include unique identifier for each product indicated in the Contract Documents.
  2. Manufacturer and product name, and model number if applicable.
  3. Number and name of room or space.
  4. Location within room or space.
  5. Submit product schedule in the following format:
    - a. One electronic copy of product schedule or list, unless otherwise indicated.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:
  1. Name, address, and telephone number of entity performing subcontract or supplying products.
  2. Number and title of related Specification Section(s) covered by subcontract.
  3. Drawing number and detail references, as appropriate, covered by subcontract.
  4. Submit subcontract list in the following format:

- a. Number of Copies: One electronic copy of subcontractor list, unless otherwise indicated.
- J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - 1. Name of evaluation organization.
  - 2. Date of evaluation.
  - 3. Time period when report is in effect.
  - 4. Product and manufacturers' names.
  - 5. Description of product.
  - 6. Test procedures and results.
  - 7. Limitations of use.
- T. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.



2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit four paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
  - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
  - 1. Approved:
    - a. Final Unrestricted Release: Where the submittal is marked "Approved," the Work covered by the submittal may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
  - 2. Rejected:
    - a. Where the submittal is marked "Not Approved, Resubmit" or "Rejected," do not proceed with the Work covered by the submittal. Prepare a new submittal for a product that complies with the Contract Documents. 4. Furnish as Corrected:
    - b. Final-but-Restricted Release: Where the submittal is marked "Approved as Noted," or "Furnish as Corrected" the Work covered by the submittal may proceed provided it complies both with Architect's notations and corrections on the submittal and the Contract Documents. Final acceptance will depend on that compliance.
  - 5. Revise and Resubmit:
    - a. Where the submittal is marked "Revise and Resubmit," do not proceed with the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity for the product submitted. Revise or prepare a new submittal according to Architect's notations and corrections.
  - 6. Submit Specified Item
    - a. Where the submittal is marked "Submit Specified Product" or "Submit Additional Information" do not proceed with the Work covered by the submittal. Prepare a submittal for the specified product or additional information requested, or required by the Contract Documents, that indicates compliance with requirements.

- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01 33 00

## SECTION 01 40 00 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections:
  - 1. Division 01 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.

#### 1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
  - 1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on the project site, consisting of multiple products, assemblies and subassemblies.
  - 2. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.
- D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Subsubcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
  - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Entity responsible for performing tests and inspections.
  - 3. Description of test and inspection.
  - 4. Identification of applicable standards.
  - 5. Identification of test and inspection methods.
  - 6. Number of tests and inspections required.
  - 7. Time schedule or time span for tests and inspections.
  - 8. Requirements for obtaining samples.
  - 9. Unique characteristics of each quality-control service.

#### 1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

- B. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- C. Testing and Inspection: Include in quality-control plan a comprehensive schedule of Work requiring testing or inspection, including the following:
  - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
  - 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
  - 3. Owner-performed tests and inspections indicated in the Contract Documents.
- D. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- E. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

#### 1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
  - 1. Date of issue.
  - 2. Project title and number.
  - 3. Name, address, and telephone number of testing agency.
  - 4. Dates and locations of samples and tests or inspections.
  - 5. Names of individuals making tests and inspections.
  - 6. Description of the Work and test and inspection method.
  - 7. Identification of product and Specification Section.
  - 8. Complete test or inspection data.
  - 9. Test and inspection results and an interpretation of test results.
  - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  - 12. Name and signature of laboratory inspector.
  - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
  - 1. Name, address, and telephone number of technical representative making report.
  - 2. Statement on condition of substrates and their acceptability for installation of product.
  - 3. Statement that products at Project site comply with requirements.
  - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  - 6. Statement whether conditions, products, and installation will affect warranty.
  - 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factoryauthorized service representative's tests and inspections specified in other Sections. Include the following:
  - 1. Name, address, and telephone number of factory-authorized service representative making report.
  - 2. Statement that equipment complies with requirements.
  - 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  - 4. Statement whether conditions, products, and installation will affect warranty.
  - 5. Other required items indicated in individual Specification Sections.
- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
  - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
  - 1. Contractor responsibilities include the following:
    - a. Provide test specimens representative of proposed products and construction.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    - f. When testing is complete, remove test specimens, assemblies, mockups; do not reuse products on Project.
  - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
  - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.

2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
  3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at the Project.
  4. Demonstrate the proposed range of aesthetic effects and workmanship.
  5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
    - a. Allow seven days for initial review and each re-review of each mockup.
  6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  7. Demolish and remove mockups when directed, unless otherwise indicated.
- L. Integrated Exterior Mockups: Construct integrated exterior mockup. Coordinate installation of exterior envelope materials and products for which mockups are required in individual specification sections, along with supporting materials.
- M. Room Mockups: Construct room mockups incorporating required materials and assemblies, finished in accordance with requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work. Provide room mockups of the following rooms:
1. Contractor to verify and coordinate with Architect.
- N. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections in Divisions 02 through 49.

## 1.9 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
  2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
  3. Owner maintains their right to periodically test portions of the work without prior notification to the Contractors. Contractors must cooperate with Owner's Testing agency as required to properly complete tests.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
  2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."
- D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide qualitycontrol services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
  - 1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  - 6. Do not perform any duties of Contractor.
- G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
  - 1. Access to the Work.
  - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
  - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  - 4. Facilities for storage and field curing of test samples.
  - 5. Delivery of samples to testing agencies.
  - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
  - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of the Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses. .
  - 1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

#### 1.10 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in Statement of Special Inspections attached to this Section, and as follows:
  - 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
  - 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  - 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
  - 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  - 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  - 6. Retesting and reinspecting corrected work.



PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 ACCEPTABLE TESTING AGENCIES (If required by Contractor)

- A. Acceptable to perform designated tests and inspections:
  - 1. American Testing Labs, Lancaster, PA 17601.
- B. Bidders may submit names of additional Testing Agencies for review and approval during bidding phase. Only those additional Testing Agencies approved in bidding phase may be used.

3.2 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
  - 1. Date test or inspection was conducted.
  - 2. Description of the Work tested or inspected.
  - 3. Date test or inspection results were transmitted to Architect.
  - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.3 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00



## **SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Sections:
  - 1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.

#### **1.3 USE CHARGES**

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Electric Power Service:
  - 1. Construction area: Owner will pay electric power service use charges for electricity extended from the owner's existing electrical service that is used by all entities for construction operations. This electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
  - 2. Construction Staging/Trailer Area: Owner will pay electric power service use charges for electricity extended from the owner's existing electrical service that is used by all entities for construction operations. This electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage, including delivery, handling, and storage provisions for materials subject to water absorption or water damage, discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water damaged Work.
  - 1. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

- C. Dust-Control and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust-control and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
  - 1. Locations of dust-control partitions at each phase of the work.
  - 2. HVAC system isolation schematic drawing.
  - 3. Other dust-control measures.
  - 4. Waste management plan.

#### 1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in ICC/ANSI A117.1.

#### 1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Portable Chain-Link Fencing: Minimum 2-inch(50-mm), 0.148-inch-(3.8-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet(1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch-(60-mm-) OD line posts and 2-7/8-inch-(73-mm-) OD corner and pull posts, with 1-5/8-inch-(42-mm-) OD top and bottom rails. Provide galvanized steel bases for supporting posts.
- B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10 mils(0.25 mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84.
- C. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flamespread and smoke-developed indexes of 25 and 50, respectively.

#### 2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:
  - 1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.

2. Conference room of sufficient size to accommodate meetings of 16 individuals. Provide electrical power service and 120-V ac duplex receptacles, with not less than 1 receptacle on each wall. Furnish room with conference table, chairs, and 4-foot-(1.2-m-) square tack and marker boards.
  3. Drinking water.
  4. Coffee machine and supplies.
  5. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F(20 to 22 deg C).
  6. Lighting fixtures capable of maintaining average illumination of 20 fc(215 lx) at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
1. Store combustible materials apart from building.

### 2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Until permanent HVAC system is operational, provide vented, self-contained, liquid-propanegas or fuel-oil heaters with individual space thermostatic control.
1. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
  2. Permanent HVAC System: Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return air grille in system and remove at end of construction and clean HVAC system as required in Division 01 Section "Closeout Procedures".

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

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

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Heating and Humidity Control: Provide temporary heating and humidity control required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
  - 1. Prior to commencing work, isolate the HVAC system in area where work is to be performed in accordance with approved coordination drawings.
    - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
    - b. Maintain negative air pressure within work area using HEPA-equipped air filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
  - 2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust containment devices.
  - 3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- G. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
  - 1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- H. Electric Power Service-Construction site: Connect to Owner's existing electric power service for construction activities adjacent to the existing building. Maintain equipment in a condition acceptable to Owner.
  - 1. Connect temporary service to Owner's existing power source, as directed by Owner.
- A. Electric Power Service-Construction staging/trailer area: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
  - 1. Install electric power service overhead, unless otherwise indicated.
- B. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
  - 2. Install lighting for Project identification sign.
  - 3. Provide temporary lighting that provides security and protection of the construction trailers and lay down areas for the project.
- C. Electronic Communication Service: Provide temporary electronic communication service, including electronic mail, in common-use facilities.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet(9 m) of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
  2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.
1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- C. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
  2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 31 Section "Earth Moving."
  3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
  4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Division 32 Section "Asphalt Paving."
- D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
  2. Maintain access for fire-fighting equipment and access to fire hydrants. E. Parking: Provide temporary parking areas for construction personnel.
- F. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
  2. Remove snow and ice as required to minimize accumulations.
- G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. Identification Signs: Provide Project identification signs as indicated on Drawings.
  2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
    - a. Provide temporary, directional signs for construction personnel and visitors.
  3. Maintain and touchup signs so they are legible at all times.
  4. GC is responsible to furnish and install Project Identification Sign as indicated on attached drawing 015000-1.
- H. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Contractors are encouraged to recycle as much as practical. Comply with Division 01 Section "Execution" for progress cleaning requirements. I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
1. Comply with work restrictions specified in Division 01 Section "Summary."
  2. Owner will coordinate with Contractors time periods of "low noise" required for educational needs inside the existing facility.
- B. Temporary Erosion and Sedimentation Control: Comply with requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Division 31 Section "Site Clearing."
- C. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- D. Tree and Plant Protection: Comply with requirements specified in Division 01 Section "Temporary Tree and Plant Protection."
- E. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.
- F. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
1. Extent of Fence: As indicated on Drawings.
  2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- G. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- H. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- I. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- J. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.
- K. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.
1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.



2. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
  3. Insulate partitions to control noise transmission to occupied areas.
  4. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
  5. Protect air-handling equipment.
  6. Provide walk-off mats at each entrance through temporary partition.
- L. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
1. Prohibit smoking in construction areas.
  2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
  3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

### 3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
1. Protect porous materials from water damage.
  2. Protect stored and installed material from flowing or standing water.
  3. Keep porous and organic materials from coming into prolonged contact with concrete.
  4. Remove standing water from decks.
  5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
  2. Keep interior spaces reasonably clean and protected from water damage.
  3. Periodically collect and remove waste containing cellulose or other organic matter.
  4. Discard or replace water-damaged material.
  5. Do not install material that is wet.
  6. Discard, replace or clean stored or installed material that begins to grow mold.
  7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.
- D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
  2. Use permanent HVAC system to control humidity.
  3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
    - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48hours are considered defective.

- b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record daily readings over a forty-eight hour period. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
- c. Remove materials that can not be completely restored to their manufactured moisture level within 48 hours.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage. C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.
- D. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- E. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
  - 2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
  - 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

END OF SECTION 01 50 00

## SECTION 01 60 00 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Sections:
  - 1. Division 01 Section "Alternates" for products selected under an alternate.
  - 2. Division 01 Section "Substitution Procedures" for requests for substitutions.

#### 1.3 DEFINITIONS

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

#### 1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
  - 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
    - a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
    - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

#### 1.5 QUALITY ASSURANCE

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

#### 1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

#### 1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
  3. Refer to Divisions 02 through 49. Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

### PART 2 - PRODUCTS

#### 2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
  - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
  - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

## SECTION 01 73 00 - EXECUTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Installation of the Work.
  - 2. Coordination of Owner-installed products.
  - 3. Protection of installed construction.
  - 4. Correction of the Work.
- B. Related Sections:
  - 1. Division 01 Section "Submittal Procedures" for submitting surveys.
  - 2. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
  - 3. Division 01 Section "Cutting and Patching" for patching and patching procedures.
  - 4. Division 01 Section "Cleaning and Waste Management" for progress cleaning procedures.
  - 5. Division 01 Section "Starting and Adjusting" for starting and adjusting procedures.

#### 1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
  - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
  - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
  - 3. Products: List products to be used for patching and firms or entities that will perform patching work.
  - 4. Dates: Indicate when cutting and patching will be performed.
  - 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate how long services and systems will be disrupted.

### PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
    - a. Description of the Work.
    - b. List of detrimental conditions, including substrates.
    - c. List of unacceptable installation tolerances.
    - d. Recommended corrections.
  - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."



### 3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
  - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.4 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
  - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
  - 2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

### 3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.6 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 73 00

## SECTION 01 73 29 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.

#### 1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

#### 1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
  1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
  2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
  3. Products: List products to be used and firms or entities that will perform the Work.
  4. Dates: Indicate when cutting and patching will be performed.
  5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
  6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
  7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

#### 1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio. Shore, brace, and support structural element during cutting and patching.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:
  1. Primary operational systems and equipment.
  2. Air or smoke barriers.
  3. Fire-suppression systems.
  4. Mechanical systems piping and ducts.
  5. Control systems.
  6. Communication systems.
  7. Conveying systems.

8. Electrical wiring systems.
9. Operating systems of special construction in Division 13 Sections.

- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
1. Water, moisture, or vapor barriers.
  2. Membranes and flashings.
  3. Exterior curtain-wall construction.
  4. Equipment supports.
  5. Piping, ductwork, vessels, and equipment.
  6. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

#### 1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
  2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

### 3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
  - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  - 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
  - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
  - 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
  - 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 73 29



## SECTION 01 74 00 – FINAL CLEANING AND WASTE MANAGEMENT

### PART 1 – GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for final cleaning at Substantial Completion.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Summary of Multiple Contracts"
  - 2. Division 1 Section "Temporary Facilities and Controls" specifies general cleanup and waste-removal requirements.
  - 3. Division 1 Section "Closeout Procedures" specifies general contract closeout requirements.
- C. Multiple Prime Contracts: Each Prime Contractor is responsible for final cleaning of his own Work. The Contractor for General Construction is responsible for coordinating final cleaning of an area or piece of equipment where more than one Prime Contractor is involved.
  - 1. EACH PRIME CONTRACTOR IS RESPONSIBLE FOR CLEAN UP OF ALL WASTE MATERIALS, DEBRIS AND RUBBISH FROM HIS WORK AND THE WORK OF HIS SUB-CONTRACTORS. Maintain areas under Contractor's control-free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
  - 2. Dumpster and Covered Containers for deposit of debris and rubbish shall be provided under the General Construction Contract including periodic disposal of accumulations or extraneous materials. Separate dumpsters will be provided for each type of recyclable material. Each Prime Contractor will participate in this program and will separate his recyclable materials into each dumpster. Offending Contractors will be backcharged for time spent removing improperly sorted and disposed of materials.
  - 3. Each Prime Contractor shall include a clean-up line item in their schedule of values.
  - 4. Each Prime Contractor shall clean up daily and remove to a dumpster provided by the General Construction Contractor all scrap, trash, and debris resulting from the Contractor's activities. The Project Coordinator will also periodically organize a project clean up by all Contractors. At a minimum, the Project Coordinator shall manage a weekly combined clean-up during the last half of the final regular work day of the week. The weekly clean-up shall be an item for discussion during weekly Contractor's Progress meeting. Those Contractors on site shall provide labor to assist in this combined cleanup. Should any Prime Contractor fail to perform such cleanup within a twenty-four (24) hour written or verbal notice or fail to keep all material and equipment stored in a neat and orderly manner, the Architect shall authorize another Prime Contractor to perform this service on behalf of the Contractor and deduct this costs from any payments due the Offending Prime Contractor. Because of the difficulty of maintaining separate accounting records of the costs authorized by the Architect in providing clean-up and storage service when the Contractor fails to do so, each Prime Contractor authorizes the Architect to make reasonable itemized estimates of such costs, which estimates are agreed to be final, conclusive and binding. (After the building is enclosed, the General Construction Contractor shall also provide a laborer to broom sweep the project's interior floor areas with approved sweeping compound to control dust. General Construction Contractor shall provide a separate line item on the schedule of values for this laborer to broom sweep these areas.)
  - 5. Removal from site of all demolition debris will be by the contractor performing the demolition activity.
- D. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and antipollution regulations.
  - 1. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains.
  - 2. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.

## **PART 2 – PRODUCTS**

### **2.1 MATERIALS**

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

## **PART 3 – EXECUTION**

### **3.1 PROGRESS CLEANING**

- A. Execute daily cleaning, or as often as needed, to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris resulting from construction operations.
- B. Dispose of waste materials, cartons, crating, debris and rubbish at designated waste receptor provided by the General Contractor (i.e. dumpster, truck, etc.) and which shall be disposed of at legal disposal areas away from the site.
- C. The General Contractor shall serve as the lead contractor for coordinating and maintaining a clean project site. It shall be the General Contractor's responsibility to broom sweep the project on a weekly basis prior to enclosed building and on a daily basis after the building is enclosed. This does not eliminate the responsibility of other Prime Contractors for clean up of materials and waste caused by their actions or installation of work.

### **3.2 DISPOSAL**

- A. Unless stated otherwise, the General Contractor will remove collected waste materials, debris and rubbish from site as soon as dumpster is full and dispose of off-site, in a lawful manner. This project encourages that recyclable refuse materials be recycled when possible.

### **3.3 FINAL CLEANING**

- A. Prior to final cleaning each Prime Contractor shall remove all debris, extra material etc. from the building to the dumpsters provided by the General Contractor. The General Contractor will provide final cleaning of the building interior. If after a building space is finally cleaned a contractor returns to the cleaned space and creates a condition where the space needs to be cleaned a second time. The Prime Contractor responsible will be charged for the second cleaning service.
- B. The General Contractor shall provide the following as part of final cleaning.
  - 1. Clean exposed exterior and interior hard-surfaced areas to a dirt-free condition, free of stains, films and similar foreign substances.
  - 2. Restore reflective surfaces to their original condition. Polish mirrors and glass, taking care not to scratch surfaces.
  - 3. Provide interior and exterior final cleaning of all windows and glass surfaces.
  - 4. Remove labels that are not permanent.
  - 5. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
  - 6. Sweep concrete floors broom clean in unoccupied spaces.
  - 7. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
  - 8. Wipe surfaces of mechanical, electrical and elevator equipment and similar equipment. Remove excess lubrication, pain and other foreign substances.
  - 9. Clean plumbing fixtures to a sanitary condition and free of stains.
  - 10. Clean light fixtures, lamps and globes.
  - 11. Leave project clean and ready for occupancy.
- C. The General Contractor shall clean Project site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter and other foreign substances. Sweep paved areas broom clean. Remove petrochemical spills, stains and other foreign deposits. Rake grounds that are neither



planted nor paved to a smooth, even textured surface. This process will need to occur at the end of each phase of construction prior to turning that phase of construction to the owner.

- D. Each Prime Contractor shall provide the final cleaning required within the specifications assigned to their scope of work. See Multiple Contract Summary for additional final cleaning responsibilities.

### 3.4 FINAL CLEANING

- A. General: Provide final-cleaning operations when indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to the condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for the entire Project or a portion of the Project.
1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and foreign substances.
  2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
  3. Remove petrochemical spills, stains, and other foreign deposits.
  4. Remove tools, construction equipment, machinery, and surplus material from the site.
  5. Remove snow and ice to provide safe access to the building.
  6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
  7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
  8. Broom clean concrete floors in unoccupied spaces.
  9. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo, if required.
  10. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
  11. Remove labels that are not permanent labels.
  12. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
    - a. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
  13. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
  14. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
  15. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills. Owner's Representative to confirm final cleaning of HVAC equipment and systems. The task will not be considered complete until Owner's Representative provides confirmation to Architect.
  16. Clean ducts, blowers, and coils if units were operated without filters during construction.
  17. Clean food-service equipment to a sanitary condition, ready and acceptable for its intended use.
  18. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs and defective and noisy starters in fluorescent and metal halide fixtures.
  18. Leave the Project clean and ready for occupancy.
- C. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period.
- D. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully.
1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION 01710



## **SECTION 01 75 00 – STARTING AND ADJUSTING**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for starting and adjusting, including, but not limited to, the following:
  - 1. Starting Systems.
  - 2. Adjusting.
  - 3. Demonstration and instructions.
- B. Related Sections:
  - 1. Division 01 Section "Quality Control" for Manufacturers' field services and reports.
  - 2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 3. Division 01 Section "Project Record Documents" for submitting preliminary balancing reports.
  - 4. Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.
  - 5. Division 01 Section "Project Closeout" for requirements for System Operation, maintenance data, and extra materials.

### **PART 2 - PRODUCTS - Not Used**

### **PART 3 - EXECUTION**

#### **3.1 STARTING SYSTEMS**

- A. Coordinate schedule for start up of various equipment and systems.
- B. Notify Owner and Architect/Engineer seven days prior to start-up of each item.
- C. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions causing damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of Contractor's personnel in accord with manufacturer's instructions.
- G. When specified in individual specifications sections, require manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report indicating equipment and system have been properly installed and are functioning correctly.

#### **3.2 DEMONSTRATION AND INSTRUCTIONS**

- A. Demonstrate operation and maintenance of products to Architect/Engineer and to Owner's personnel two week prior to Date of Substantial Completion.
  
- B. Demonstrate project equipment and instruct in a classroom environment located on-site and instructed by a qualified manufacturer's representative who is knowledgeable about the project.
  - 1. Owner may video and audio tape demonstrations.
  - 2. Submit sign-in attendance sheet to the Architect.
  - 3. For equipment or systems requiring seasonal operation, perform demonstration for other seasons within six months.
  - 4. Utilize operation and maintenance manual as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
  - 5. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed upon times, at equipment location.
  - 6. Prepare and insert additional data in operation and maintenance manuals when need for additional data becomes apparent during instruction.
  - 7. The amount of time required for instruction on each item of equipment and system is specified in individual sections.

END OF SECTION 01 75 00

## SECTION 01 77 00 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
- B. Related Sections:
  - 1. Division 01 Section "Execution" for progress cleaning of Project site.
  - 2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 3. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 4. Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.

#### 1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Advise Owner of pending insurance changeover requirements.
  - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
  - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  - 8. Complete startup testing of systems.
  - 9. Submit test/adjust/balance records.
  - 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  - 11. Advise Owner of changeover in utilities.
  - 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
  - 13. Complete final cleaning requirements, including touchup painting.
  - 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

#### 1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
  2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report and warranty.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit Record List of Demonstrations including item/system demonstrated, date of demonstration, participants, list of outstanding items from demonstration.

#### 1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. List estimated cost to complete items. Use CSI Form 14.1A or similar form approved in advance by Architect.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.
  4. Submit list of incomplete items in the following formats:
    - a. PDF electronic file.
    - b. Two paper copies of product schedule or list, unless otherwise indicated. Architect will return one copy.

#### 1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
  2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
  4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document. C. Provide additional copies of each warranty to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
  - 1. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Remove snow and ice to provide safe access to building.
    - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - h. Sweep concrete floors broom clean in unoccupied spaces.
    - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
    - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
    - k. Remove labels that are not permanent.
    - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
      - 1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.
    - m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    - n. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
    - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
    - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
    - q. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter upon inspection.
      - 1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report upon completion of cleaning.
    - r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
    - s. Leave Project clean and ready for occupancy.

- C. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls." And Division 01 Section "Final Cleaning and Waste Management."

END OF SECTION 01 77 00



## SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation and maintenance documentation directory.
  - 2. Emergency manuals.
  - 3. Operation manuals for systems, subsystems, and equipment.
  - 4. Product maintenance manuals.
  - 5. Systems and equipment maintenance manuals.
- B. Related Sections:
  - 1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

#### 1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual specification sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
  - 1. Where applicable, clarify and update reviewed manual content to correspond to modifications and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:
  - 1. PDF electronic file. Assemble each manual into a composite electronically-indexed file. Submit on digital media acceptable to Architect.
    - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically-linked operation and maintenance directory.
    - b. Enable inserted reviewer comments on draft submittals.
  - 2. One paper copy. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.
- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
  - 1. List of documents.
  - 2. List of systems.
  - 3. List of equipment.
  - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
  - 1. Title page.
  - 2. Table of contents.
  - 3. Manual contents.
- B. Title Page: Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.
  - 5. Name and contact information for Contractor.
  - 6. Name and contact information for Architect.
  - 7. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
  - 8. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
  - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
  - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
  - 2. File Names and Bookmarks: Enable bookmarking of individual documents based upon file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual,

so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel upon opening file.

- F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch(215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
  2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
  3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
  4. Supplementary Text: Prepared on 8-1/2-by-11-inch(215-by-280-mm) white bond paper.
  5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

### 2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
1. Type of emergency.
  2. Emergency instructions.
  3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
1. Fire.
  2. Flood.
  3. Gas leak.
  4. Water leak.
  5. Power failure.
  6. Water outage.
  7. System, subsystem, or equipment failure.
  8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
  2. Shutdown instructions for each type of emergency.
  3. Operating instructions for conditions outside normal operating limits.
  4. Required sequences for electric or electronic systems.
  5. Special operating instructions and procedures.

### 2.4 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

## 2.5 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.

3. List of cleaning agents and methods of cleaning detrimental to product.
  4. Schedule for routine cleaning and maintenance.
  5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## 2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins.
  2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
  3. Identification and nomenclature of parts and components.
  4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
  2. Troubleshooting guide.
  3. Precautions against improper maintenance.
  4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  5. Aligning, adjusting, and checking instructions.
  6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
  2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and crossreferenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## PART 3 - EXECUTION

### 3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
  - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
  - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
  - 1. Do not use original project record documents as part of operation and maintenance manuals.
  - 2. Comply with requirements of newly prepared record Drawings in Division 01 Section "Project Record Documents."
- G. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

## **SECTION 01 78 39 - PROJECT RECORD DOCUMENTS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for project record documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
  - 4. Miscellaneous record submittals.
- B. Related Sections:
  - 1. Division 01 Section "Execution" for final property survey.
  - 2. Division 01 Section "Closeout Procedures" for general closeout procedures.
  - 3. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

#### **1.3 CLOSEOUT SUBMITTALS**

- 1. Number of Copies: Submit copies of record Drawings as follows:
  - a. Initial Submittal: Submit one paper copy set of marked-up record prints. Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
  - b. Final Submittal: Submit one paper copy set and one PDF electronic file of marked-up record prints. Print each Drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
  - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.
- E. Reports: Submit written report weekly indicating items incorporated in Project record documents concurrent with progress of the Work, including modifications, concealed conditions, field changes, product selections, and other notations incorporated.

### **PART 2 - PRODUCTS**

#### **2.1 RECORD DRAWINGS**

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.
  - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
  - b. Accurately record information in an acceptable drawing technique.
  - c. Record data as soon as possible after obtaining it.
  - d. Record and check the markup before enclosing concealed installations.
  - e. Cross-reference record prints to corresponding archive photographic documentation.
2. Content: Types of items requiring marking include, but are not limited to, the following:
- a. Dimensional changes to Drawings.
  - b. Revisions to details shown on Drawings.
  - c. Depths of foundations below first floor.
  - d. Locations and depths of underground utilities.
  - e. Revisions to routing of piping and conduits.
  - f. Revisions to electrical circuitry.
  - g. Actual equipment locations.
  - h. Duct size and routing.
  - i. Locations of concealed internal utilities.
  - j. Changes made by Change Order or Construction Change Directive.
  - k. Changes made following Architect's written orders.
  - l. Details not on the original Contract Drawings.
  - m. Field records for variable and concealed conditions.
  - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
  2. Consult Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Format: Annotated PDF electronic file with comment function enabled.
  3. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Architect.
    - e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.



3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

- B. Format: Submit record Specifications as [annotated PDF electronic file] [paper copy] [scanned PDF electronic file(s) of marked up paper copy of Specifications].

### 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file.
1. Include record Product Data directory organized by specification section number and title, electronically linked to each item of record Product Data.

### 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
1. Include miscellaneous record submittals directory organized by specification section number and title, electronically linked to each item of miscellaneous record submittals.

## PART 3 - EXECUTION

### 3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 01 78 39



## **SECTION 01 79 00 - DEMONSTRATION AND TRAINING**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
- B. Owner may elect to video record any demonstration. Contractors shall coordinate with Owner to properly coordinate and record demonstrations.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
- B. Qualification Data: For instructor.
  - 1. Attendance Record: For each training module, submit list of participants and length of instruction time.
  - 2. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Submit Record List of Demonstrations including name of system/material demonstrated, specification section, instructor, participants, date, materials turned over to Owner, and outstanding items from demonstration. Each demonstration shall have a Closeout Document that includes signatures from each participant, agenda of items demonstrated, and any item not satisfactorily demonstrated or operating at time of demonstration.

#### **1.5 QUALITY ASSURANCE**

- A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 01 Section "Quality Requirements," experienced in operation and maintenance procedures and training.
- B. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
  - 1. Inspect and discuss locations and other facilities required for instruction.
  - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
  - 3. Review required content of instruction.
  - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.6 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
  - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.
    - d. Regulatory requirements.
    - e. Equipment function.
    - f. Operating characteristics.
    - g. Limiting conditions.
    - h. Performance curves.
  - 2. Documentation: Review the following items in detail:
    - a. Emergency manuals.
    - b. Operations manuals.
    - c. Maintenance manuals.
    - d. Project record documents.
    - e. Identification systems.
    - f. Warranties and bonds.
    - g. Maintenance service agreements and similar continuing commitments.
  - 3. Emergencies: Include the following, as applicable:
    - a. Instructions on meaning of warnings, trouble indications, and error messages.
    - b. Instructions on stopping.
    - c. Shutdown instructions for each type of emergency.
    - d. Operating instructions for conditions outside of normal operating limits.
    - e. Sequences for electric or electronic systems.
    - f. Special operating instructions and procedures.
  - 4. Operations: Include the following, as applicable:
    - a. Startup procedures.
    - b. Equipment or system break-in procedures.
    - c. Routine and normal operating instructions.
    - d. Regulation and control procedures.
    - e. Control sequences.
    - f. Safety procedures.
    - g. Instructions on stopping.
    - h. Normal shutdown instructions.
    - i. Operating procedures for emergencies.
    - j. Operating procedures for system, subsystem, or equipment failure.
    - k. Seasonal and weekend operating instructions.
    - l. Required sequences for electric or electronic systems.

- m. Special operating instructions and procedures.
- 5. Adjustments: Include the following:
  - a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
- 6. Troubleshooting: Include the following:
  - a. Diagnostic instructions.
  - b. Test and inspection procedures.
- 7. Maintenance: Include the following:
  - a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
- 8. Repairs: Include the following:
  - a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Division 01 Section "Operations and Maintenance Data."
- B. Set up instructional equipment at instruction location.

#### 3.2 INSTRUCTION

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
  - 1. Owner will furnish Contractor with names and positions of participants.
- B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 1. Schedule training with Owner, through Architect, with at least seven days' advance notice.
- C. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- D. Cleanup: Collect used and leftover educational materials and remove from Project site or give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 01 79 00