

PROJECT MANUAL and BID
DOCUMENTS for:
WILSON SCHOOL DISTRICT
10-YEAR AQUATIC FACILITIES
REHABILITATION PROJECT
CERAMIC TILE and POOL
UPGRADES

Wilson School District
2601 Grandview Boulevard
West Lawn, Pennsylvania 19609



Small Construction Package
Ceramic Tile Deck Replacement, Pool Re-Grouting, and
Stainless-steel Gutter Maintenance

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PROJECT MANUAL

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INVITATION TO BID

The Wilson School District will receive sealed bids for General Construction Work for the Wilson School District 10-year Aquatic Facilities Rehabilitation Project. Bids shall be received by the Wilson School District by 10:00 a.m. ET on April 14, 2021, at the District's Business Office, located at 2601 Grandview Blvd., West Lawn, PA 19609.

Interested persons may obtain the Bid Documents at the Facilities and Operations Department of Wilson School District beginning March 9, 2021 by phoning (610) 670-0180, ext. 1240, Monday – Friday, from 8:30 a.m. - 5:00 p.m. ET; by emailing simjef@wilsonsd.org; or by accessing the Facilities and Operations Department's page of the Wilson School District website, www.wilsonsd.org.

A mandatory pre-Bid meeting shall be held at the Wilson High School Natatorium, at the rear of 303 Dwight St., West Lawn, PA 19609 on March 23, 2021 at 1:00 p.m. ET. Questions regarding the Bid Documents shall be submitted by email to Edwin M. Wallover, AIA, by email at ewallover@walloverarchitects.com no later than 5:00 p.m. ET on March 26, 2021.

Timely submitted Bids will be publicly opened and read aloud at 10:00 a.m. ET on April 14, 2021, at the District's Business Office, located at 2601 Grandview Blvd., West Lawn, PA 19609.

End of Document

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INSTRUCTIONS TO BIDDERS

[see attached AIA® Document A701-2018 Instructions to Bidders]

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BID FORM – GENERAL CONSTRUCTION

Wilson School District
2601 Grandview Boulevard
West Lawn, Pennsylvania 19609

DATE

BIDDER

Attn: Jeffrey Simcox, Director of Operations

Re: Wilson School District 10-year Aquatic Facilities Rehabilitation Project (“Project”)

Contract: General Construction, Ceramic Tile Upgrades, Re-grouting, and Gutter Upgrades

The following Bid is submitted in response to your Invitation to Bid.

The Bid Security, if required by the Instructions to Bidders, in the amount of ten percent of the Base Bid plus any additive alternatives is enclosed with the Bid. It is agreed by this Bidder that the Bid Security shall be forfeited to the Wilson School District (“District”) if this Bidder fails deliver to the District the executed the Contract, Performance Bond (if required by the Instructions to Bidders), Payment Bond (if required by the Instructions to Bidders), Verification Form required by the Pennsylvania Employment Verification Act, Detailed Cost Break-Down (if applicable), and certificate of insurance evidencing the insurance coverages required by the General Conditions within seven (7) calendar days after receipt of the Notice of Intent to Award.

This Bidder has carefully examined the Bid Documents and the Project site, and certifies that it fully understands the requirements thereof. This Bidder agrees that, upon receipt of a fully executed Agreement, it will furnish and deliver materials and perform the work necessary to complete the Project in accordance with the Specification in an expeditious and workmanlike manner to the complete satisfaction and acceptance of the District for the price hereinafter stated.

This Bidder submits this Bid with the understanding that the work encompassed in the Bid Documents shall be commenced immediately upon receipt of the Notice to Proceed and shall be fully and finally completed by the date stated in the Agreement in accordance with the Project schedule and that time for the completion of the work shall be considered of the essence.

This Bidder understands the following supplements to the Bid Form must be submitted concurrent with this Bid submission.

Bid Security (if the Base Bid plus any additive alternatives exceed \$5,000)
Agreement of Surety (if the Base Bid plus any additive alternatives exceeds \$5,000)
Non-Collusion Affidavit
Bidder’s Qualification Statement

Bidder understands the following supplements to the Bid Form must be executed and submitted to the District within seven (7) days after notification is received that it is the lowest, responsible Bidder and that failure to do so within such time shall be a deficiency in the Bid and cause for the District, in the District's sole discretion, to reject this Bid, award the Contract to another entity, and retain this Bid security as liquidated damages:

- Executed Agreement
- Performance Bond (if the Contract exceeds \$5,000)
- Payment Bond (if the Contract exceeds \$5,000)
- Certificate of Insurance
- Detailed Cost Break-Down (if applicable)
- Verification Form
- Waiver of Liens

This Bid is submitted with the definite understanding that Bids are valid for acceptance by the District and may not be withdrawn for a period of at least sixty (60) days after the actual date of the opening thereof.

It is understood that the District reserves the right to reject any or all Bids, or part(s) thereof or item(s) therein, and to waive technical deficiencies with the Bid if it is in the best interests of the District. The District may reject this Bid if any required information has been omitted and/or if any forms are missing notarization, if necessary. It is understood that **only the Base Bid** will be considered in determining which Bid is lowest; Unit Prices are requested for informational purposes only and shall only be applicable in the event of a future Change Order. Descriptions of the Unit Prices are included in Section 012200 Unit Prices, Part 3.

It is further understood that competency and responsibility of Bidders will receive consideration before the Award of Contract.

The undersigned will not assign its Bid or any of its rights or interests thereunder without the written consent of the District.

The Base Bid and other required information are submitted in the spaces provided. Handwritten initials on each page of this Bid Form identify each as a part of this Bid.

BASE BID

The sum for the General Construction Work for the Wilson School District 10-year Aquatic Facilities Rehabilitation Project

_____ (words)
_____ (figures)

UNIT PRICES

Unit Price No. 1: _____ (dollars/square foot)

Unit Price No. 2: _____ (dollars/square foot)

ALTERNATE

ADDENDA

The Bidder acknowledges receipt of Addenda listed below which have been issued during the bidding period and agrees that said Addenda shall become part of the Contract (Bidder shall list numbers and dates of Addenda received). Bidder understands that it had the responsibility to confirm its receipt of all Addenda prior to the submission of its Bid. Addenda properly issued by District and not listed herein shall be cause for rejection of the Bid.

No. _____ Date _____

No. _____ Date _____

No. _____ Date _____

IDENTIFICATION OF BIDDER

Bidder _____ Phone _____

Address _____

Please check the appropriate category:

_____ Sole Proprietorship

_____ Partnership

_____ Pennsylvania Corporation

_____ Foreign Corporation Registered in PA

Other: _____ (please identify)

State of Organization: _____

Federal Identification Number: _____

All correspondence and notices to the Bidder related to this Bid and Contract, if awarded, shall be directed to:

Name: _____

Title: _____

Phone: _____

Address: _____

Email Address: _____

Correspondence directed to the email address provided by Bidder shall be deemed received by the Bidder on the date the email was transmitted.

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

SIGNATURES

Witness or Attest:

An Officer, if Bidder is corporation, if
not a corporation, any competent adult

Owner, Partner, or President/Vice President*

* Bidder to circle appropriate term.

END OF DOCUMENT

BIDDER'S QUALIFICATION STATEMENT

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized and submitted with the Bid. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder: _____ (the "Company")
2. Permanent main office address: _____
3. When organized: _____
4. If a corporation, limited liability company or similar entity, where organized: _____
5. Design Professional References (3):
 - A. _____
Phone: _____
 - B. _____
Phone: _____
 - C. _____
Phone: _____
6. Owner References (3)
 - A. _____
Phone: _____
 - B. _____
Phone: _____
 - C. _____
Phone: _____

7. How many years has the Company been engaged in the contracting business under its present firm or trade name: _____
8. List the contracts on hand for the Company on a separate sheet, showing the amount of each contract and the approximated date of completion.
9. Amount (in Dollars) of work completed last year by the Company \$_____
10. Has the Company or any of its subsidiaries, affiliates or parent companies within the last ten (10) years ever failed to qualify as a responsible bidder or not enter into a contract after an award has been made?_____ If so, where and why:
11. Has the Company ever failed to complete any work awarded to it? _____

If so, where and why:

12. Has the Company ever defaulted on a contract? _____If so, where and why:
13. Has the Company, or any of its Officers, ever been debarred from Public Work? _____

If so, where and why:

14. List the Company's major equipment available for this Project on a separate sheet.
15. Describe the Company's experience in construction work similar in importance to this Project on an attached sheet.
16. Attached résumés of the officers and principal members of the Company.
17. Credit available: \$_____

18. Give Bank reference: _____

19. If the Base Bid plus any additive alternatives exceeds \$5,000, name, address, phone number, contact person and bonding limit of surety company who will provide bonding

for this contract:

20. Name, address, phone number, and contact person at insurance company who will provide insurance coverage for this contract:

21. Name of the Bidder's proposed project manager/superintendent for the Project with a brief description of such person's experience:

The undersigned hereby authorizes any person, firm or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.

DATED this ____ day of _____, 20__.

(NAME OF BIDDER)

BY: _____

NAME: _____

TITLE: _____

END OF DOCUMENT

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NON-COLLUSION AFFIDAVIT

Commonwealth of Pennsylvania :
: S.S.
County of _____:

I state that I am the _____ of _____ the Bidder
(Title) (Name of My Company)
that submitted the attached Bid and that I am authorized to make this affidavit on behalf of my company, its owners, directors, and officers. I am the person responsible in my company for the price(s) and the amount of this Bid.

I state that:

(1) The price(s) and amount of this Bid have been arrived at independently and without consultation, communication, or agreement by the Bidder, any of its sureties, agents, representatives, owners, employees, or parties in interest with any other contractors, bidders, potential bidders or any other sureties, agents, representatives, owners, employees, or parties in interest of any other contractors, bidders, or potential bidders. The price(s) quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its sureties, agents, representatives, owners, employees, or parties in interest, including this affidavit.

(2) Neither the price(s) nor the amount of this Bid, and neither the approximate price(s) nor approximate amount of this Bid, have been disclosed to any other company or person who is a bidder, potential bidder or a surety, agent, representative, owner, employee, or party in interest of any other contractor, bidder, or potential bidder, and they will not be disclosed before opening bid.

(3) No attempt has been made or will be made to induce any company or person to refrain from bidding on this contract, or to submit a Bid higher than this Bid, or to submit any collusive or intentionally high or non-competitive Bid or other form of complementary Bid.

(4) The Bid of my company is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any bidder, potential bidder or a surety, agent, representative, owner, employee or party in interest of any other contractor, bidder, or potential bidder to submit a complementary or other non-competitive Bid.

(5) _____, its affiliates, subsidiaries, officers, directors, and
(Name of My Company)
employees are not currently under investigation by any governmental agency and have not in the last four (4) years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, _____.

I state that _____ understands and acknowledges that the above
(Name of My Company)

representations are material and important, and will be relied on by Wilson School District in awarding the contract(s) for Project for which this Bid is submitted.

I understand and my company understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment of true facts relating to the submission of Bids for this contract.

BY: _____

NAME: _____

TITLE: _____

SWORN TO AND SUBSCRIBED
BEFORE ME THIS ____ DAY
OF _____, 20____

Notary Public

My Commission Expires:

FORM OF AGREEMENT

[see enclosed AIA® Document A101-2017 Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum]

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AGREEMENT OF SURETY

KNOW ALL MEN BY THESE PRESENTS, that we _____, as
Surety, a corporation existing under the laws of the State of _____, and
authorized to transact business in the Commonwealth of Pennsylvania, hereby agree to execute
within the time limit specified in the Contract Documents, the Contract Bonds in the forms and in
the amounts required for the faithful performance and proper fulfillment of the General
Construction Contract for the Wilson School District 10-year Aquatic Facilities Rehabilitation
Project on behalf of:

[Name of Bidder]

hereinafter called the Bidder, provided that the above Contract be awarded to the Bidder as
provided in the Instructions to Bidders, and the Surety further agrees that should the Surety, after
notification of intent to make such award, omit or refuse to execute the required bonds, then the
Surety shall pay to the Obligee the difference between the amount of the Principal's accepted Bid
and any higher amount for which the Obligee may contract for the required work, as well as any
advertising, Architect's, legal and other expenses incurred by the Obligee by reason of the default;
provided, however, that the obligations of the Surety hereunder shall not exceed the amount of Bid
Security provided by the Bidder together with interest.

WITNESS

CORPORATE SURETY

DATE

SIGNATURE [SEAL]

ATTORNEY-IN-FACT

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BID BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____
(hereinafter called the "Principal"), and _____ a company authorized to
transact business in the Commonwealth of Pennsylvania, and having its principal office at
_____ (hereinafter called the "Surety"), as Surety, are held and firmly bound
unto the Wilson School District (hereinafter called the "Obligee"), as Obligee, in the amount equal
to TEN PERCENT (10%) OF THE BASE BID PLUS ANY ADDITIVE ALTERNATIVES (the
"Penal Sum"), as 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 _____, 20__.

WHEREAS, said Principal is herewith submitting to the Obligee a Bid to perform the
General Construction work for the Obligee for the Wilson School District 10-year Aquatic
Facilities Rehabilitation Project pursuant to the Bid Documents thereof which include, without
limitation, the Project Manual Table of Contents; Invitation to Bid; Instructions to Bidders, AIA
A701-2017, as amended; General Conditions of the Contract, AIA A201-2017, as amended; Bid
Bond Form; Standard Form of Agreement, AIA A101-2017, as amended; Performance Bond
Form; Payment Bond Form; Non-Collusion Affidavit Form; Specifications/Drawings; Bid Form
and any Addenda; and it is a condition of the Obligee's receipt and consideration of said Bid that
such shall be accompanied by Bid Security to be held by the Obligee on terms embodied herein.

THEREFORE, the condition of this obligation is that if said Principal shall furnish a
Performance Bond and a Payment Bond to the Obligee together with good and sufficient surety or
sureties, as may be required for the faithful performance and proper fulfillment of the Contract, in
the form specified by the Owner, and, within seven (7) days of receiving a Notice of Intent to
Award, shall furnish the executed Contract, required Performance Bond and Payment Bond,
Verification Form required by the Pennsylvania Employment Verification Act, certificate of
insurance evidencing the insurance coverages and Detailed Cost Break-Down as required by the
Bid Documents, then this obligation shall be void and of no effect, but otherwise it shall remain in
full force. If the Principal shall fail to execute the Contract, furnish the required Performance Bond
and Payment Bond, Verification Form required by the Pennsylvania Employment Verification Act
Detailed Cost Break-Down and/or certificate of insurance evidencing the insurance coverages
required by the General Conditions within seven (7) calendar days after receipt of the Notice of
Intent to Award (a "Bid Default"), the Obligee may apply the Penal Sum toward the difference
between the amount of the Bid of the Principal as accepted by the Obligee and any higher amount
for which the Obligee may contract for the required Work, plus any advertising costs, legal fees,
damages, penalties, and any and all other fees and expenses incurred by the Obligee by reason of

the failure of the Principal to comply herewith. If the Obligee does not procure an executed contract with any other party for the performance of the Work within thirty (30) days after the acceptance of the Bid from the Principal, whether because of the lack of other Bids or the inability or refusal of any other Bidder to contract, or because the cost under any higher Bid would be greater than the Obligee would afford, as determined in the sole discretion of the Obligee, then in that event, the Surety shall pay to the Obligee the full amount of the Penal Sum as liquidated damages and not as penalty.

THE SURETY, ITS HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS AND ASSIGNS, FIRMLY BY THESE PRESENTS, AUTHORIZE AND EMPOWER ANY ATTORNEY OF ANY COURT OF RECORD TO APPEAR FOR IT AND EACH OF ITS HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS AND ASSIGNS, AND CONFESS JUDGMENT IN FAVOR OF THE OBLIGEE, ITS SUCCESSORS AND ASSIGNS, AND AGAINST THE SURETY AND EACH OF ITS HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS AND ASSIGNS, TOGETHER WITH AN ATTORNEY'S COMMISSION OF TWENTY PERCENT (20%), BESIDES COST OF SUIT, WITH RELEASE OF ERRORS AND WAIVE OF ALL CAUSES FOR STAY OF EXECUTION AND EXEMPTION. THE SURETY FURTHER AGREES THAT IF, IN THE OPINION OF THE OBLIGEE, ANY BID DEFAULT SHALL HAPPEN ON THE PART OF THE PRINCIPAL, THE SURETY SHALL PAY ALL LOSS OCCASIONED THEREBY, AND THAT THE ASCERTAINED AMOUNT THEREOF, WHICH SHALL BE DETERMINED BY THE OBLIGEE, AND OF THE TRUTH OF WHICH OATH OR AFFIRMATION SHALL BE MADE BY THE OBLIGEE SHALL BE FINAL, BINDING AND CONCLUSIVE UPON THE SURETY, AND THAT EXECUTION FORTHWITH SHALL ISSUE AGAINST THE SURETY THE AMOUNT OF SAID BID DEFAULT.

[Signatures on the following page]

IN WITNESS WHEREOF, the Principal and the Surety cause this Bid Bond to be signed, sealed and delivered this day of _____, 20____ (the "Effective Date").

Individual Principal (Trading and/or Doing Business as: _____)	
Witness: _____	By: _____
_____	Name: _____

Partnership Principal

Name of Partnership: _____

By: _____

Witness: _____	Name: _____
_____	Title: _____
	By: _____
Witness: _____	Name: _____
_____	Title: _____

Corporate/Limited Liability Principal Name of Corporation: _____	By: _____
Attest: _____	Name: _____
[SEAL]	Title: _____ *
* If the signatory is an authorized representative, attach proof evidencing authority to execute on behalf of the corporation or limited liability company.	

Corporate Surety Name of Surety: _____	By: _____
Witness or Attest: _____	Name: _____
[SEAL]	Title: _____ **
** Attach an appropriate Power of Attorney evidencing the authority of the Attorney-in-Fact to act on behalf of the Surety.	

CERTIFICATE AS TO CORPORATE OR LIMITED LIABILITY PRINCIPAL

I, _____, certify that I am the Corporate Secretary of the corporation or limited liability company named as PRINCIPAL, in the within Bid Bond; that _____, who signed the said Bid Bond on behalf of the Principal, was then the _____ of said corporation or limited liability company; that I know the signee's signature, and the signature thereto is genuine; and that said Bid Bond is duly signed, sealed and attested for on behalf of said corporation or limited liability company by authority of its governing body.

Signature: _____

Name: _____

Title: _____

Date: _____

[SEAL]

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____
as Principal (the "Principal"), and _____, a company organized and existing
under the laws of the _____, having its principal office at _____
and authorized to do business in the Commonwealth of Pennsylvania, as Surety (the "Surety"), are
held and firmly bound, jointly and severally, unto the Wilson School District, as Obligee (the
"Obligee"), as hereinafter set forth in the full and just sum of:

lawful money of the United States of America, for the payment of which sum we bind ourselves,
our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these
presents.

WITNESSETH THAT:

WHEREAS, the Principal heretofore has submitted to the Obligee a certain Bid, dated
_____, 20__ (the "Bid"), to perform General Construction Work for the Obligee,
in connection with the Wilson School District 10-year Aquatic Facilities Rehabilitation Project
("Project"), pursuant to the entire integrated agreement between the Obligee and Contractor in
connection with the Project which includes, without limitation, the executed Agreement, the
General Conditions of the Contract, the completed Performance Bond, the completed Payment
Bond, the Certificate of Insurance, the completed Non-Collusion Affidavit, the completed Bid
Form, any Addenda issued before Bid submission; the Instructions to Bidders, and the Bid
Documents (collectively, the "Contract Documents"), all of which are incorporated herein; and

WHEREAS, all capitalized terms not defined in this Payment Bond shall be ascribed the
meaning set forth in the Project Manual for the Project;

WHEREAS, the Contract Documents are incorporated into this Bond by reference and
made a part hereof; and

WHEREAS, the Obligee 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"); and

WHEREAS, the Act, in Section 3(a), requires that, before an award shall be made to the Principal by the Oblige in accordance with the Proposal, the Principal shall furnish this Performance Bond to the Oblige, with this Performance Bond to become binding upon the Award of the Contract to the Principal by the Oblige in accordance with the Proposal; and

WHEREAS, it also is a condition of the Contract Documents that this Performance Bond shall be furnished by the Principal to the Oblige; and

WHEREAS, under the Contract Documents, it is provided, inter alia, that if the Principal shall furnish this Performance Bond and the Payment Bond to the Oblige, and if the Oblige shall make an award to the Principal in accordance with the Proposal, then the Principal and the Oblige 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.

NOW, THEREFORE, the terms and conditions of this Performance Bond are and shall be that if: (a) the Principal well, truly and faithfully shall comply with and shall perform the Work in accordance with the Contract Documents, at the time and in the manner provided in the Contract Documents, and if the Principal shall satisfy all claims and demands incurred in or related to the performance of the Contract Documents by the Principal or growing out of the performance of the Contract Documents by the Principal, and if the Principal shall indemnify completely and shall save harmless the Oblige and all of its officers, agents and employees from any and all costs and damages which the Oblige and all of its elected officials, officers, agents and employees may sustain or suffer by reason of the failure of the Principal to do so, and if the Principal shall reimburse completely and shall pay to the Oblige any and all costs and expenses which the Oblige and all of its officers, agents and employees may incur by reason of any such default or failure of the Principal, including, but not limited to, legal fees (e.g., fees of attorneys, paralegals and other legal professionals) and professional fees resulting from such default or failure of the Principal, and any damages resulting from such default or failure of the Principal in accordance with the Contract Documents, and (b) if the Principal shall remedy, without cost to the Oblige, all defects which may develop during the period of one (1) year from the date of final completion by the Principal and acceptance of the Oblige of the Work, or any extended warranty period provided by Principal, to be performed under the Contract Documents, which defects, in the sole judgment of the Oblige or its legal successors in interest, shall be caused by or shall result from defective or inferior materials or workmanship, then this Performance Bond shall be void; otherwise, this Performance Bond shall be and shall remain in force and effect and all claims, demands, costs, expenses and damages, including, but not limited to, legal fees and professional fees resulting from the default or failure of Principal resulting from such default or failure of the Principal in accordance with the Contract Documents, shall be payable by Principal and Surety upon demand of Oblige; provided, however, that the obligations of the Surety hereunder shall not exceed the amount of this Performance Bond, as this Performance Bond is amended, whether automatically or in writing, in accordance with the terms hereof.

This Performance Bond is executed and delivered under and subject to the Act, to which reference hereby is made.

The Principal and the Surety agree that any alterations, changes and/or additions to the Contract Documents, and/or any alterations, changes and/or additions to the Work to be performed under the Contract Documents, and/or any giving by the Oblige of any extensions of time for the performance of the Work in accordance with the Contract Documents, and/or any act of forbearance of either the Principal or the Oblige toward the other with respect to the Contract Documents, and/or the reduction of any percentage to be retained by the Oblige as permitted by the Contract Documents, shall not release, and/or discharge, in any manner whatsoever, the Principal and the Surety, or either of them, or their heirs, executors, administrators, successors and assigns, from liability and obligations under this Performance Bond; and the Surety, for value received, does waive notice of any such alterations, changes, additions, extensions of time, acts of forbearance, and/or reduction of retained percentage.

Provided, that it is expressly agreed that this Performance Bond shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon any amendment to the Contract Documents not increasing the contract price in the aggregate by more than twenty percent (20%), so as to bind the Principal and the Surety to the full and faithful performance of the Contract Documents as so amended and the Surety, for value received, does waive notice of any such amendment to the Contract Documents not increasing the Contract Price in the aggregate by more than twenty percent (20%). The term "Amendment", wherever used in this Performance Bond and whether referring to this Performance Bond, or the Contract Documents, shall include, without limitation, any alteration, addition, extension or modification, and of any character whatsoever.

Provided, further, that no final settlement between the Oblige and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

In the event that the Oblige incurs legal fees for default or enforcement of its rights under the Contract Documents or Performance Bond, the Surety agrees to pay for all reasonable legal fees and costs incurred by the Oblige.

Any dispute resolution proceeding, legal or equitable, under this Performance Bond, shall be instituted in the Court of Common Pleas of Berks County or in the United States District Court for the Eastern District of Pennsylvania and not elsewhere. In such dispute resolution proceeding, Oblige may join both Principal and Surety as parties, and Principal and Surety hereby consent to such joinder, jurisdiction and venue. This Performance Bond shall be governed by, construed and enforced in accordance with the laws of the Commonwealth of Pennsylvania, without regard to principles of conflicts of law.

[Signature page follows]

IN WITNESS WHEREOF, the Principal and the Surety cause this Performance Bond to be signed, sealed and delivered this day of , 20____ (the "Effective Date").

Individual Principal (Trading and/or Doing Business as: _____)	
Witness: _____	By: _____
_____	Name: _____

Partnership Principal
Name of Partnership: _____ By: _____

Witness: _____	Name: _____
_____	Title: _____
_____	By: _____
Witness: _____	Name: _____
_____	Title: _____

Corporate/Limited Liability Principal Name of Corporation: _____	By: _____
Attest: _____	Name: _____
_____	Title: _____ *
[SEAL]	
* If the signatory is an authorized representative, attach proof evidencing authority to execute on behalf of the corporation or limited liability company.	

Corporate Surety Name of Surety: _____	By: _____
Witness or Attest: _____	Name: _____
_____	Title: _____ **
[SEAL]	
** Attach an appropriate Power of Attorney evidencing the authority of the Attorney-in-Fact to act on behalf of the Surety.	

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____ as
Principal (the "Principal"), and _____, a company organized and existing under
the laws of the _____, having its principal office
at _____ and authorized to do business in the Commonwealth of Pennsylvania, as
Surety (the "Surety"), are held and firmly bound, jointly and severally, unto the Wilson School
District, as Obligee (the "Obligee"), as hereinafter set forth in the full and just sum of:

lawful money of the United States of America, for the payment of which sum we bind ourselves,
our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these
presents.

WITNESSETH THAT:

WHEREAS, the Principal heretofore has submitted to the Obligee a certain Bid, dated
_____, 20__ (the "Bid"), to perform General Construction Work for the Obligee,
in connection with the Wilson School District 10-year Aquatic Facilities Rehabilitation Project
("Project"), pursuant to the entire integrated agreement between the Obligee and Contractor in
connection with the Project which includes, without limitation, the executed Agreement, the
General Conditions of the Contract, the completed Performance Bond, the completed Payment
Bond, the Certificate of Insurance, the completed Non-Collusion Affidavit, the completed Bid
Form, any Addenda issued before Bid submission; the Instructions to Bidders, and the Bid
Documents (collectively, the "Contract Documents"), all of which are incorporated herein; and

WHEREAS, all capitalized terms not defined in this Payment Bond shall be ascribed the
meaning set forth in the Project Manual for the Project;

WHEREAS, the Contract Documents are incorporated into this Bond by reference and
made a part hereof; and

WHEREAS, The Obligee, 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 as and cited as the "Public Works Contractors' Bond Law of 1967"
(the "Act"); and

WHEREAS, the Act, in Section 3(a), requires that, before an award shall be made to the Principal by the Oblige in accordance with the Bid, the Principal shall furnish this Bond to the Oblige, with this Bond to become binding upon the award of a contract to the Principal by the Oblige in accordance with the Bid; and

WHEREAS, it also is a condition of the Contract Documents that this Bond shall be furnished by the Principal to the Oblige; and

WHEREAS, under the Contract Documents, it is provided, inter alia, that if the Principal shall furnish this Bond to the Oblige, and if the Oblige shall make an award to the Principal in accordance with the Bid, then the Principal and the Oblige 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.

NOW, THEREFORE, the terms and conditions of this Bond are and shall be that if the Principal and any subcontractor of the Principal to whom any portion of the work under the Agreement shall be subcontracted, and if all assignees of the Principal and of any such subcontractor, promptly shall pay or shall cause to be paid, in full, all money which may be due any claimant supplying labor or materials in the prosecution and performance of the work in accordance with the Agreement and in accordance with the Contract Documents, including any amendment, extension or addition to the Agreement and/or to the Contract Documents, for material furnished or labor performed, then this Bond shall be void; otherwise, this Bond shall be and shall remain in force and effect.

This Bond, as provided by the Act, shall be solely for the protection of claimants supplying labor or materials to the Principal or to any subcontractor of the Principal in the prosecution of the work covered by the Agreement, including any amendment, extension or addition to the Agreement. The term "claimant", when used herein and as required by the Act, shall mean any individual, firm, partnership, association or corporation. The phrase "labor or materials" when used herein and as required by the Act, shall include public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the site of the work covered by the Agreement. As required by the Act, the provisions of this Bond shall be applicable whether or not the material furnished or labor performed enters into and becomes a component part of the public building, public work or public improvement contemplated by the Contract Documents and the Agreement.

As provided and required by the Act, the Principal and the Surety agree that any claimant, who has performed labor or furnished material in the prosecution of the work in accordance with the Agreement and in accordance with the Contract Documents, including any amendment, extension or addition to the Agreement and/or to the Contract Documents, and who has not been paid therefore, in full, before the expiration of ninety (90) days after the day on which such claimant performed the last of such labor or furnished the last of such materials for which payment is claimed, may institute an action upon this Bond, in the name of the claimant, in assumpsit, to recover any amount due the claimant for such labor or material; and may prosecute such action to final judgment and may have execution upon the judgment; provided, however, that: (a) any claimant who has a direct contractual relationship with any subcontractor of the Principal, but has

no contractual relationship, express or implied, with the Principal, may institute an action upon this Bond only if such claimant first shall have given written notice, served in the manner provided in the Act, to the Principal, within ninety (90) days from the date upon which such claimant performed the last of the labor or furnished the last of the materials for which payment is claimed, stating, with substantial accuracy, the amount claimed and the name of the person for whom the work was performed or to whom the material was furnished; and (b) no action upon this Bond shall be commenced after the expiration of one (1) year from the day upon which the last of the labor was performed or material was supplied, for the payment of which such action is instituted by the claimant; and (c) every action upon this Bond shall be instituted either in the appropriate court of the County where the Agreement is to be performed or of such other County as Pennsylvania statutes shall provide, or in the United States District Court for the district in which the project, to which the Agreement relates, is situated, and not elsewhere.

This Bond is executed and delivered under and subject to the Act, to which reference hereby is made.

The Principal and the Surety agree that any alterations, changes and/or additions to the Contract Documents, and/or any alterations, changes and/or additions to the work to be performed under the Agreement in accordance with the Contract Documents, and/or any alterations, changes and/or additions to the Agreement, and/or any giving by the Oblige of any extensions of time for the performance of the Agreement in accordance with the Contract Documents, and/or any act of forbearance of either the Principal or the Oblige toward the other with respect to the Contract Documents and the Agreement, and/or the reduction of any percentage to be retained by the Oblige as permitted by the Contract Documents and by the Agreement, shall not release, in any manner whatsoever, the Principal and the Surety, or either of them, or their heirs, executors, administrators, successors and assigns, from liability and obligations under this Bond; and the Surety, for value received, does waive notice of any such alterations, changes, additions, extensions of time, acts of forbearance and/or reduction of retained percentage.

Provided, that it is expressly agreed that 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 Principal and the Surety to the full and faithful performance of the Contract Documents as so amended. 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.

Provided, further, that no final settlement between the Oblige and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

If the Principal is a foreign corporation (incorporated under any laws other than those of the Commonwealth of Pennsylvania) then further terms and conditions of this Bond are and shall be that the Principal or the Surety shall not be discharged from liability on this Bond, nor this Bond surrendered until such Principal files with the Oblige a certificate from the Pennsylvania Department of Revenue evidencing the payment in full of all bonus taxes, penalties and interest, and a certificate from the Bureau of Employment and Unemployment Compensation of the

Pennsylvania Department of Labor & Industry, evidencing the payment of all unemployment compensation, contributions, penalties and interest due the Commonwealth from said Principal or any foreign corporation, subcontractors thereunder or for which liability has accrued but the time for payment has not arrived, all in accordance with provisions of the Act of June 10, 1947, P.L. 493, of the Commonwealth of Pennsylvania.

[Signature page follows]

IN WITNESS WHEREOF, the Principal and the Surety cause this Payment Bond to be signed, sealed and delivered this day of _____, 20____ (the "Effective Date").

Individual Principal (Trading and/or Doing Business as: _____)	
Witness: _____	By: _____
_____	Name: _____

Partnership Principal

Name of Partnership: _____

By: _____

Witness: _____	Name: _____
_____	Title: _____
	By: _____
Witness: _____	Name: _____
_____	Title: _____

Corporate/Limited Liability Principal Name of Corporation: _____	By: _____
Attest: _____	Name: _____
[SEAL]	Title: _____ *
* If the signatory is an authorized representative, attach proof evidencing authority to execute on behalf of the corporation or limited liability company.	

Corporate Surety Name of Surety: _____	By: _____
Witness or Attest: _____	Name: _____
[SEAL]	Title: _____ **
** Attach an appropriate Power of Attorney evidencing the authority of the Attorney-in-Fact to act on behalf of the Surety.	

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GENERAL CONDITIONS OF THE CONTRACT

[see enclosed AIA® Document A201-2017 General Conditions of the Contract for Construction]

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PENNSYLVANIA PREVAILING WAGES

[See enclosed]

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

Project Name:	Aquatic Facilities Rehabilitation
Awarding Agency:	Wilson School District
Contract Award Date:	3/5/2021
Serial Number:	21-00084
Project Classification:	Building
Determination Date:	1/5/2021
Assigned Field Office:	Scranton
Field Office Phone Number:	(570)963-4577
Toll Free Phone Number:	(877)214-3962
Project County:	Berks County

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
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		\$33.80	\$27.26	\$61.06
Asbestos & Insulation Workers	6/29/2020		\$34.80	\$28.01	\$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
Boilermakers	8/1/2019		\$47.21	\$34.11	\$81.32
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		\$34.11	\$15.19	\$49.30
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2018		\$34.53	\$15.57	\$50.10
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2019		\$35.04	\$15.96	\$51.00
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/3/2020		\$35.64	\$16.36	\$52.00
Bricklayers, Stone Masons, Pointers, Caulkers, Cleaners	5/1/2021		\$36.33	\$16.77	\$53.10
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2017		\$30.05	\$16.05	\$46.10
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	6/1/2019		\$30.18	\$16.65	\$46.83
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	6/1/2021		\$31.77	\$17.41	\$49.18
Cement Finishers	5/1/2017		\$35.87	\$12.93	\$48.80
Cement Masons	5/1/2019		\$31.00	\$22.68	\$53.68
Cement Masons	5/1/2020		\$30.90	\$20.80	\$51.70
DockBuilder/ Divers (Building Heavy & Highway)	5/1/2020		\$52.44	\$37.27	\$89.71
DockBuilder/Pile Drivers (Building, Heavy & Highway)	5/1/2018		\$43.45	\$34.47	\$77.92
DockBuilder/Pile Drivers (Building, Heavy & Highway)	5/1/2020		\$43.70	\$37.27	\$80.97
DockBuilder/Pile Drivers/ Diver Tender(Building Heavy & Highway)	5/1/2020		\$43.70	\$37.27	\$80.97
Dockbuilder/Piledriver (Building, Heavy, Highway)	11/1/2017		\$43.45	\$33.22	\$76.67
Dockbuilder/Piledriver (Building, Heavy, Highway)	5/1/2018		\$44.70	\$33.22	\$77.92
Drywall Finisher	5/1/2017		\$27.81	\$18.17	\$45.98
Drywall Finisher	5/1/2019		\$28.58	\$19.64	\$48.22
Drywall Finisher	5/1/2020		\$29.33	\$20.01	\$49.34
Electricians	9/1/2017		\$34.77	\$21.77	\$56.54

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Electricians	9/1/2018		\$36.02	\$22.51	\$58.53
Electricians	9/1/2019	8/31/2020	\$36.77	\$23.53	\$60.30
Electricians	9/1/2020		\$37.77	\$24.07	\$61.84
Elevator Constructor	1/1/2018		\$47.48	\$33.00	\$80.48
Floor Coverer	5/1/2019		\$31.54	\$17.89	\$49.43
Floor Coverer	5/1/2020		\$32.66	\$17.89	\$50.55
Floor Layer	5/1/2017		\$30.80	\$16.71	\$47.51
Glazier	5/1/2017		\$34.69	\$18.05	\$52.74
Glazier	5/1/2018		\$35.69	\$18.35	\$54.04
Glazier	5/1/2019	4/30/2020	\$35.53	\$20.06	\$55.59
Glazier	5/1/2020	4/30/2021	\$35.53	\$21.51	\$57.04
Glazier	5/1/2021		\$35.53	\$22.86	\$58.39
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		\$32.76	\$29.88	\$62.64
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2020		\$33.76	\$30.13	\$63.89
Laborers (Class 01 - See notes)	5/1/2017		\$21.57	\$15.04	\$36.61
Laborers (Class 01 - See notes)	5/1/2018	4/30/2019	\$22.07	\$15.59	\$37.66
Laborers (Class 01 - See notes)	5/1/2019	4/30/2020	\$23.02	\$15.92	\$38.94
Laborers (Class 01 - See notes)	5/1/2020		\$23.77	\$16.22	\$39.99
Laborers (Class 02 - See notes)	5/1/2017		\$23.57	\$15.04	\$38.61
Laborers (Class 02 - See notes)	5/1/2018		\$24.07	\$15.59	\$39.66
Laborers (Class 02 - See notes)	5/1/2019	4/30/2020	\$25.02	\$15.92	\$40.94
Laborers (Class 02 - See notes)	5/1/2020		\$24.07	\$17.92	\$41.99
Laborers (Class 02 - See notes)	5/1/2020		\$25.77	\$16.22	\$41.99
Laborers (Class 03 - See notes)	5/1/2017		\$25.57	\$15.58	\$41.15
Laborers (Class 03 - See notes)	5/1/2018	4/30/2019	\$25.82	\$15.84	\$41.66
Laborers (Class 03 - See notes)	5/1/2019		\$26.87	\$15.94	\$42.81
Laborers (Class 03 - See notes)	5/3/2020		\$27.77	\$16.24	\$44.01
Laborers (Class 03 - See notes)	5/2/2021		\$28.67	\$16.24	\$44.91
Laborers (Class 03 - See notes)	5/1/2022		\$29.62	\$16.24	\$45.86
Laborers (Class 03 - See notes)	4/30/2023		\$30.22	\$16.84	\$47.06
Laborers (Class 04 - See notes)	5/1/2017		\$26.77	\$15.58	\$42.35
Laborers (Class 04 - See notes)	5/1/2018	4/30/2019	\$27.32	\$15.84	\$43.16
Laborers (Class 04 - See notes)	5/1/2019		\$28.37	\$15.94	\$44.31
Laborers (Class 04 - See notes)	5/3/2020		\$29.27	\$16.24	\$45.51
Laborers (Class 04 - See notes)	5/2/2021		\$30.17	\$16.24	\$46.41
Laborers (Class 04 - See notes)	5/1/2022		\$31.12	\$16.24	\$47.36
Laborers (Class 04 - See notes)	4/30/2023		\$31.72	\$16.84	\$48.56
Laborers (Class 05 - See notes)	5/1/2017		\$27.27	\$15.58	\$42.85
Laborers (Class 05 - See notes)	5/1/2018	4/30/2019	\$27.82	\$15.84	\$43.66
Laborers (Class 05 - See notes)	5/1/2019		\$28.87	\$15.94	\$44.81

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 05 - See notes)	5/3/2020		\$29.77	\$16.24	\$46.01
Laborers (Class 05 - See notes)	5/2/2021		\$30.67	\$16.24	\$46.91
Laborers (Class 05 - See notes)	5/1/2022		\$31.62	\$16.24	\$47.86
Laborers (Class 05 - See notes)	4/30/2023		\$32.22	\$16.84	\$49.06
Laborers (Class 06 - See notes)	5/1/2017		\$22.92	\$15.04	\$37.96
Laborers (Class 06 - See notes)	5/1/2018	4/30/2019	\$23.42	\$15.59	\$39.01
Laborers (Class 06 - See notes)	5/1/2019		\$24.37	\$15.92	\$40.29
Laborers (Class 06 - See notes)	5/1/2020		\$24.37	\$16.97	\$41.34
Laborers (Class 06 - See notes)	5/1/2020		\$25.12	\$16.22	\$41.34
Marble Mason	5/1/2017		\$30.14	\$14.75	\$44.89
Marble Mason	5/1/2018		\$30.76	\$15.13	\$45.89
Marble Mason	5/1/2019		\$31.37	\$15.52	\$46.89
Marble Mason	5/1/2020		\$31.97	\$15.92	\$47.89
Marble Mason	5/1/2021		\$32.56	\$16.33	\$48.89
Millwright	7/1/2017		\$36.49	\$18.93	\$55.42
Millwright	5/1/2018		\$37.84	\$19.64	\$57.48
Millwright	5/1/2019		\$39.14	\$20.08	\$59.22
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		\$36.78	\$27.03	\$63.81
Operators (Building, Class 01 - See Notes)	5/1/2020		\$38.32	\$27.49	\$65.81
Operators (Building, Class 01 - See Notes)	5/1/2021		\$39.87	\$27.94	\$67.81
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)	5/1/2019		\$39.03	\$27.69	\$66.72
Operators (Building, Class 01A - See Notes)	5/1/2020		\$40.57	\$28.15	\$68.72
Operators (Building, Class 01A - See Notes)	5/1/2021		\$42.12	\$28.60	\$70.72
Operators (Building, Class 02 - See Notes)	5/1/2017		\$34.96	\$24.49	\$59.45
Operators (Building, Class 02 - See Notes)	5/1/2018		\$36.50	\$24.95	\$61.45
Operators (Building, Class 02 - See Notes)	5/1/2019		\$36.50	\$26.94	\$63.44
Operators (Building, Class 02 - See Notes)	5/1/2020		\$38.05	\$27.39	\$65.44
Operators (Building, Class 02 - See Notes)	5/1/2021		\$39.59	\$27.85	\$67.44
Operators (Building, Class 02A - See Notes)	5/1/2017		\$37.21	\$25.16	\$62.37
Operators (Building, Class 02A - See Notes)	5/1/2018		\$38.75	\$25.61	\$64.36
Operators (Building, Class 02A - See Notes)	5/1/2019		\$38.75	\$27.61	\$66.36
Operators (Building, Class 02A - See Notes)	5/1/2020		\$40.30	\$28.06	\$68.36
Operators (Building, Class 02A - See Notes)	5/1/2021		\$41.84	\$28.52	\$70.36
Operators (Building, Class 03 - See Notes)	5/1/2017		\$32.23	\$23.68	\$55.91
Operators (Building, Class 03 - See Notes)	5/1/2018		\$33.78	\$24.12	\$57.90
Operators (Building, Class 03 - See Notes)	5/1/2019		\$33.78	\$26.13	\$59.91
Operators (Building, Class 03 - See Notes)	5/1/2020		\$35.32	\$26.59	\$61.91
Operators (Building, Class 03 - See Notes)	5/1/2021		\$36.87	\$27.04	\$63.91
Operators (Building, Class 04 - See Notes)	5/1/2017		\$30.33	\$22.12	\$52.45
Operators (Building, Class 04 - See Notes)	5/1/2018		\$32.63	\$23.80	\$56.43

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building, Class 04 - See Notes)	5/1/2019		\$32.63	\$25.81	\$58.44
Operators (Building, Class 04 - See Notes)	5/1/2020		\$34.18	\$26.26	\$60.44
Operators (Building, Class 04 - See Notes)	5/1/2021		\$35.72	\$26.72	\$62.44
Operators (Building, Class 05 - See Notes)	5/1/2017		\$29.87	\$21.99	\$51.86
Operators (Building, Class 05 - See Notes)	5/1/2018		\$32.18	\$23.69	\$55.87
Operators (Building, Class 05 - See Notes)	5/1/2019		\$32.19	\$25.67	\$57.86
Operators (Building, Class 05 - See Notes)	5/1/2020		\$33.73	\$26.13	\$59.86
Operators (Building, Class 05 - See Notes)	5/1/2021		\$35.27	\$26.59	\$61.86
Operators (Building, Class 06 - See Notes)	5/1/2017		\$29.00	\$21.72	\$50.72
Operators (Building, Class 06 - See Notes)	5/1/2018		\$31.31	\$23.41	\$54.72
Operators (Building, Class 06 - See Notes)	5/1/2019		\$31.31	\$25.41	\$56.72
Operators (Building, Class 06 - See Notes)	5/1/2020		\$32.86	\$25.86	\$58.72
Operators (Building, Class 06 - See Notes)	5/1/2021		\$34.40	\$26.32	\$60.72
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)	5/1/2019		\$44.60	\$30.77	\$75.37
Operators (Building, Class 07A- See Notes)	5/1/2020		\$46.46	\$31.31	\$77.77
Operators (Building, Class 07A- See Notes)	5/1/2021		\$48.31	\$31.86	\$80.17
Operators (Building, Class 07B- See Notes)	5/1/2017		\$42.09	\$28.03	\$70.12
Operators (Building, Class 07B- See Notes)	5/1/2018		\$43.95	\$28.58	\$72.53
Operators (Building, Class 07B- See Notes)	5/1/2019		\$44.26	\$30.66	\$74.92
Operators (Building, Class 07B- See Notes)	5/1/2020		\$46.11	\$31.21	\$77.32
Operators (Building, Class 07B- See Notes)	5/1/2021		\$47.96	\$31.77	\$79.73
Painters Class 1 (see notes)	5/1/2017		\$27.25	\$18.17	\$45.42
Painters Class 1 (see notes)	5/1/2019		\$28.31	\$19.77	\$48.08
Painters Class 1 (see notes)	5/1/2020		\$28.91	\$20.42	\$49.33
Painters Class 2 (see notes)	5/1/2017		\$30.15	\$18.17	\$48.32
Painters Class 2 (see notes)	5/1/2019		\$31.21	\$19.78	\$50.99
Painters Class 2 (see notes)	5/1/2020		\$31.81	\$20.43	\$52.24
Painters Class 3 (see notes)	5/1/2017		\$36.25	\$18.17	\$54.42
Plasterers (Use Cement Masons)	5/1/2018		\$29.00	\$21.30	\$50.30
Plasterers	5/1/2017		\$24.23	\$21.38	\$45.61
Plasterers	5/1/2019		\$32.08	\$21.86	\$53.94
Plasterers	5/1/2020		\$32.88	\$22.31	\$55.19
Plasterers	5/1/2020		\$27.48	\$20.83	\$48.31
plumber	5/1/2019		\$45.92	\$31.72	\$77.64
plumber	8/1/2020		\$47.43	\$32.86	\$80.29
Plumbers	5/1/2017		\$44.39	\$30.60	\$74.99
Roofers (Composition)	5/1/2017		\$36.15	\$30.22	\$66.37
Roofers (Composition)	5/1/2018		\$37.15	\$31.27	\$68.42
Roofers (Composition)	5/1/2019		\$38.35	\$31.80	\$70.15
Roofers (Composition)	5/1/2020		\$39.50	\$32.30	\$71.80
Roofers (Shingle)	5/1/2016		\$25.70	\$19.17	\$44.87
Roofers (Shingle)	5/1/2019		\$28.50	\$20.87	\$49.37

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

Project: 21-00084 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Roofers (Shingle)	5/1/2020		\$29.50	\$21.25	\$50.75
Roofers (Slate & Tile)	5/1/2016		\$28.70	\$19.17	\$47.87
Roofers (Slate & Tile)	5/1/2018		\$30.50	\$20.37	\$50.87
Roofers (Slate & Tile)	5/1/2019		\$31.50	\$20.87	\$52.37
Roofers (Slate & Tile)	5/1/2020		\$32.50	\$21.25	\$53.75
Sheet Metal Workers	6/1/2016		\$33.60	\$33.43	\$67.03
Sheet Metal Workers	6/1/2017		\$33.98	\$35.40	\$69.38
Sheet Metal Workers	6/1/2018		\$34.78	\$36.45	\$71.23
Sheet Metal Workers	6/1/2019		\$36.08	\$37.65	\$73.73
Sheet Metal Workers	6/1/2020		\$37.26	\$38.97	\$76.23
Sheet Metal Workers	6/1/2021		\$36.08	\$42.65	\$78.73
Sprinklerfitters	4/1/2017		\$37.40	\$21.74	\$59.14
Sprinklerfitters	4/1/2018		\$38.80	\$22.74	\$61.54
Sprinklerfitters	4/1/2020		\$38.90	\$26.42	\$65.32
Steamfitters	5/1/2017		\$46.99	\$32.67	\$79.66
Steamfitters	5/1/2019		\$49.93	\$35.82	\$85.75
Steamfitters	5/1/2020		\$51.73	\$37.07	\$88.80
Terrazzo Finisher	5/1/2017		\$31.64	\$15.62	\$47.26
Terrazzo Finisher	5/1/2018		\$32.35	\$15.91	\$48.26
Terrazzo Finisher	5/1/2019		\$33.04	\$16.22	\$49.26
Terrazzo Finisher	5/1/2020		\$32.26	\$18.48	\$50.74
Terrazzo Grinder	5/1/2020		\$32.95	\$18.48	\$51.43
Terrazzo Mechanics	5/1/2020		\$32.91	\$20.11	\$53.02
Terrazzo Setter	5/1/2017		\$30.63	\$18.85	\$49.48
Terrazzo Setter	5/1/2018		\$31.23	\$19.25	\$50.48
Terrazzo Setter	5/1/2019		\$31.81	\$19.67	\$51.48
Tile & Marble Finisher	5/1/2017		\$26.89	\$13.86	\$40.75
Tile & Marble Finisher	5/1/2018		\$27.60	\$14.15	\$41.75
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	5/1/2021		\$29.61	\$15.14	\$44.75
Tile Setter	5/1/2017		\$30.14	\$14.75	\$44.89
Tile Setter	5/1/2018		\$30.76	\$15.13	\$45.89
Tile Setter	5/1/2019		\$31.37	\$15.52	\$46.89
Tile Setter	5/1/2020		\$31.97	\$15.92	\$47.89
Tile Setter	5/1/2020		\$31.97	\$15.92	\$47.89
Tile Setter	5/1/2021		\$32.56	\$16.33	\$48.89
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
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 2 (see notes)	5/1/2019		\$36.19	\$0.00	\$36.19
Truckdriver class 3 (see notes)	5/1/2017		\$35.03	\$0.00	\$35.03

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

Project: 21-00084 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Truckdriver class 3 (see notes)	5/1/2018		\$35.88	\$0.00	\$35.88
Truckdriver class 3 (see notes)	5/1/2019		\$36.68	\$0.00	\$36.68
Window Film / Tint Installer	6/1/2019		\$24.52	\$12.08	\$36.60

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter - Chief of Party (Surveying & Layout)	5/1/2019	4/30/2020	\$36.88	\$15.49	\$52.37
Carpenter - Chief of Party (Surveying & Layout)	5/1/2020	4/30/2021	\$39.12	\$15.49	\$54.61
Carpenter - Chief of Party (Surveying & Layout)	5/1/2021		\$41.42	\$15.49	\$56.91
Carpenter - Instrument Person (Surveying & Layout)	5/1/2016		\$27.12	\$13.83	\$40.95
Carpenter - Instrument Person (Surveying & Layout)	5/1/2019	4/30/2020	\$32.07	\$15.49	\$47.56
Carpenter - Instrument Person (Surveying & Layout)	5/1/2020	4/30/2021	\$34.02	\$15.49	\$49.51
Carpenter - Instrument Person (Surveying & Layout)	5/1/2021		\$36.02	\$15.49	\$51.51
Carpenter - Rodman I (Survey & Layout)	5/1/2016		\$21.09	\$13.83	\$34.92
Carpenter - Rodman I (Survey & Layout)	5/1/2019	4/30/2020	\$25.66	\$12.39	\$38.05
Carpenter - Rodman I (Survey & Layout)	5/1/2020	4/30/2021	\$27.22	\$12.39	\$39.61
Carpenter - Rodman I (Survey & Layout)	5/1/2021		\$28.82	\$12.39	\$41.21
Carpenter - Rodman II (Survey & Layout)	5/1/2016		\$18.69	\$13.83	\$32.52
Carpenter	5/1/2019	4/30/2020	\$32.07	\$15.49	\$47.56
Carpenter	5/1/2020	4/30/2021	\$34.02	\$15.49	\$49.51
Carpenter	5/1/2021		\$36.02	\$15.49	\$51.51
Carpenters	6/1/2017		\$30.92	\$14.14	\$45.06
Cement Finishers	1/1/2017		\$27.70	\$20.20	\$47.90
DockBuilder/ Divers (Building Heavy & Highway)	5/1/2020		\$52.44	\$37.27	\$89.71
DockBuilder/Pile Drivers/ Diver Tender(Building Heavy & Highway)	5/1/2020		\$43.70	\$37.27	\$80.97
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
Electric Lineman	6/1/2020		\$47.42	\$27.04	\$74.46
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		\$32.76	\$29.88	\$62.64
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2020		\$33.76	\$30.13	\$63.89
Iron Workers	7/1/2106		\$31.95	\$27.65	\$59.60
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 01 - See notes)	5/1/2020		\$22.41	\$17.69	\$40.10
Laborers (Class 01 - See notes)	5/1/2021		\$23.21	\$18.09	\$41.30
Laborers (Class 01 - See notes)	5/1/2022		\$24.01	\$18.54	\$42.55
Laborers (Class 01 - See notes)	5/1/2023		\$24.81	\$18.99	\$43.80
Laborers (Class 01 - See notes)	5/1/2024		\$25.61	\$19.49	\$45.10
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

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 02 - See notes)	5/1/2020		\$29.03	\$17.69	\$46.72
Laborers (Class 02 - See notes)	5/1/2021		\$29.83	\$18.09	\$47.92
Laborers (Class 02 - See notes)	5/1/2022		\$30.63	\$18.54	\$49.17
Laborers (Class 02 - See notes)	5/1/2023		\$31.43	\$18.99	\$50.42
Laborers (Class 02 - See notes)	5/1/2024		\$32.23	\$19.49	\$51.72
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 03 - See notes)	5/1/2020		\$26.02	\$17.69	\$43.71
Laborers (Class 03 - See notes)	5/1/2021		\$26.82	\$18.09	\$44.91
Laborers (Class 03 - See notes)	5/1/2022		\$27.62	\$18.54	\$46.16
Laborers (Class 03 - See notes)	5/1/2023		\$28.42	\$18.99	\$47.41
Laborers (Class 03 - See notes)	5/1/2024		\$29.22	\$19.49	\$48.71
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 04 - See notes)	5/1/2020		\$26.37	\$17.69	\$44.06
Laborers (Class 04 - See notes)	5/1/2021		\$27.17	\$18.09	\$45.26
Laborers (Class 04 - See notes)	5/1/2022		\$27.97	\$18.54	\$46.51
Laborers (Class 04 - See notes)	5/1/2023		\$28.77	\$18.99	\$47.76
Laborers (Class 04 - See notes)	5/1/2024		\$29.57	\$19.49	\$49.06
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 05 - See notes)	5/1/2020		\$27.04	\$17.69	\$44.73
Laborers (Class 05 - See notes)	5/1/2021		\$27.84	\$18.09	\$45.93
Laborers (Class 05 - See notes)	5/1/2022		\$28.64	\$18.54	\$47.18
Laborers (Class 05 - See notes)	5/1/2023		\$29.44	\$18.99	\$48.43
Laborers (Class 05 - See notes)	5/1/2024		\$30.24	\$19.49	\$49.73
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 06 - See notes)	5/1/2020		\$26.46	\$17.69	\$44.15
Laborers (Class 06 - See notes)	5/1/2021		\$27.26	\$18.09	\$45.35
Laborers (Class 06 - See notes)	5/1/2022		\$28.06	\$18.54	\$46.60
Laborers (Class 06 - See notes)	5/1/2023		\$28.86	\$18.99	\$47.85
Laborers (Class 06 - See notes)	5/1/2024		\$29.66	\$19.49	\$49.15
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

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 07 - See notes)	5/1/2019		\$25.95	\$17.29	\$43.24
Laborers (Class 07 - See notes)	5/1/2020		\$26.75	\$17.69	\$44.44
Laborers (Class 07 - See notes)	5/1/2021		\$27.55	\$18.09	\$45.64
Laborers (Class 07 - See notes)	5/1/2022		\$28.35	\$18.54	\$46.89
Laborers (Class 07 - See notes)	5/1/2023		\$29.15	\$18.99	\$48.14
Laborers (Class 07 - See notes)	5/1/2024		\$29.95	\$19.49	\$49.44
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
Laborers (Class 08 - See notes)	5/1/2020		\$27.23	\$17.69	\$44.92
Laborers (Class 08 - See notes)	5/1/2021		\$28.03	\$18.09	\$46.12
Laborers (Class 08 - See notes)	5/1/2022		\$28.83	\$18.54	\$47.37
Laborers (Class 08 - See notes)	5/1/2023		\$29.63	\$18.99	\$48.62
Laborers (Class 08 - See notes)	5/1/2024		\$30.43	\$19.49	\$49.92
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2016		\$32.16	\$22.64	\$54.80
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2017		\$33.80	\$24.16	\$57.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2018		\$35.35	\$24.61	\$59.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2019		\$35.35	\$26.61	\$61.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2020		\$36.90	\$27.06	\$63.96
Operators (Building/Heavy, Class 01 - See Notes)	5/1/2021		\$38.44	\$27.52	\$65.96
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2017		\$36.05	\$24.82	\$60.87
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2018		\$37.60	\$25.27	\$62.87
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2019		\$37.60	\$27.27	\$64.87
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2020		\$39.14	\$27.73	\$66.87
Operators (Building/Heavy, Class 01a - See Notes)	5/1/2021		\$40.69	\$28.18	\$68.87
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		\$35.07	\$26.52	\$61.59
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2020		\$36.61	\$26.98	\$63.59
Operators (Building/Heavy, Class 02 - See Notes)	5/1/2021		\$38.16	\$27.43	\$65.59
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)	5/1/2019		\$37.32	\$27.19	\$64.51
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2020		\$38.87	\$27.64	\$66.51
Operators (Building/Heavy, Class 02a - See Notes)	5/1/2021		\$40.41	\$28.10	\$68.51
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		\$32.15	\$25.66	\$57.81
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2020		\$33.69	\$26.12	\$59.81
Operators (Building/Heavy, Class 03 - See Notes)	5/1/2021		\$35.24	\$26.57	\$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)	5/1/2019		\$31.01	\$25.33	\$56.34

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2020		\$32.55	\$25.79	\$58.34
Operators (Building/Heavy, Class 04 - See Notes)	5/1/2021		\$34.10	\$26.24	\$60.34
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2017		\$29.02	\$22.74	\$51.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2018		\$30.56	\$23.20	\$53.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2019		\$30.56	\$25.20	\$55.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2020		\$32.11	\$25.65	\$57.76
Operators (Building/Heavy, Class 05 - See Notes)	5/1/2021		\$33.65	\$26.11	\$59.76
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2017		\$28.14	\$22.49	\$50.63
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2018		\$29.68	\$22.93	\$52.61
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2019		\$29.68	\$24.94	\$54.62
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2020		\$31.23	\$25.39	\$56.62
Operators (Building/Heavy, Class 06 - See Notes)	5/1/2021		\$32.77	\$25.84	\$58.61
Operators (Class 02 - All Types of Cranes, Backhoes, Shovels)	5/1/2019		\$33.29	\$25.99	\$59.28
Operators (Heavy, Class 07A - See Notes)	5/1/2017		\$40.73	\$27.63	\$68.36
Operators (Heavy, Class 07A - See Notes)	5/1/2018		\$42.58	\$28.18	\$70.76
Operators (Heavy, Class 07A - See Notes)	5/1/2019		\$42.89	\$30.27	\$73.16
Operators (Heavy, Class 07A - See Notes)	5/1/2020		\$44.74	\$30.82	\$75.56
Operators (Heavy, Class 07A - See Notes)	5/1/2021		\$46.59	\$31.37	\$77.96
Operators (Heavy, Class 07B - See Notes)	5/1/2017		\$40.38	\$27.53	\$67.91
Operators (Heavy, Class 07B - See Notes)	5/1/2018		\$42.23	\$28.09	\$70.32
Operators (Heavy, Class 07B - See Notes)	5/1/2019		\$42.54	\$30.17	\$72.71
Operators (Heavy, Class 07B - See Notes)	5/1/2020		\$44.39	\$30.72	\$75.11
Operators (Heavy, Class 07B - See Notes)	5/1/2021		\$46.25	\$31.26	\$77.51
Operators (Highway, Class 01 - See Notes)	5/1/2016		\$32.16	\$22.64	\$54.80
Operators (Highway, Class 01 - See Notes)	5/1/2017		\$32.93	\$23.87	\$56.80
Operators (Highway, Class 01 - See Notes)	5/1/2018		\$34.47	\$24.33	\$58.80
Operators (Highway, Class 01 - See Notes)	5/1/2019		\$34.47	\$26.33	\$60.80
Operators (Highway, Class 01 - See Notes)	5/1/2020		\$37.56	\$25.24	\$62.80
Operators (Highway, Class 01 - See Notes)	5/1/2021		\$39.10	\$25.70	\$64.80
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		\$36.72	\$27.01	\$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)	5/1/2016		\$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)	5/1/2018		\$33.30	\$23.98	\$57.28
Operators (Highway, Class 02 - See Notes)	5/1/2019		\$33.29	\$25.99	\$59.28
Operators (Highway, Class 02 - See Notes)	5/1/2020		\$36.38	\$24.90	\$61.28
Operators (Highway, Class 02 - See Notes)	5/1/2021		\$37.93	\$25.35	\$63.28
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		\$32.59	\$25.79	\$58.38

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 21-00084 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
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)	5/1/2016		\$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)	5/1/2018		\$32.14	\$23.66	\$55.80
Operators (Highway, Class 04 - See Notes)	5/1/2019		\$32.14	\$25.66	\$57.80
Operators (Highway, Class 04 - See Notes)	5/1/2020		\$35.23	\$24.57	\$59.80
Operators (Highway, Class 04 - See Notes)	5/1/2021		\$36.77	\$25.03	\$61.80
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
Operators (Highway, Class 05 - See Notes)	5/1/2018		\$31.63	\$23.51	\$55.14
Operators (Highway, Class 05 - See Notes)	5/1/2019		\$31.63	\$25.51	\$57.14
Operators (Highway, Class 05 - See Notes)	5/1/2020		\$34.72	\$24.42	\$59.14
Operators (Highway, Class 05 - See Notes)	5/1/2021		\$36.26	\$24.87	\$61.13
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)	5/1/2018		\$34.71	\$24.39	\$59.10
Operators (Highway, Class 06 - See Notes)	5/1/2019		\$34.71	\$26.39	\$61.10
Operators (Highway, Class 06 - See Notes)	5/1/2020		\$36.25	\$26.85	\$63.10
Operators (Highway, Class 06 - See Notes)	5/1/2021		\$39.33	\$25.78	\$65.11
Operators (Highway, Class 06/A - See Notes)	5/1/2016		\$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)	5/1/2018		\$36.96	\$25.05	\$62.01
Operators (Highway, Class 06/A - See Notes)	5/1/2019		\$36.96	\$27.05	\$64.01
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)	5/1/2016		\$38.56	\$25.99	\$64.55
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)	5/1/2019		\$41.82	\$29.95	\$71.77
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)	5/1/2016		\$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)	5/1/2018		\$40.10	\$27.44	\$67.54
Operators (Highway, Class 07/B - See Notes)	5/1/2019		\$40.41	\$29.53	\$69.94
Operators (Highway, Class 07/B - See Notes)	5/1/2020		\$43.81	\$28.53	\$72.34
Operators (Highway, Class 07/B - See Notes)	5/1/2021		\$45.66	\$29.08	\$74.74
Painters Class 2 (see notes)	5/1/2020		\$31.81	\$20.43	\$52.24
Painters Class 3 (see notes)	5/1/2019		\$37.31	\$19.78	\$57.09
Painters Class 3 (see notes)	5/1/2020		\$37.91	\$20.43	\$58.34
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2017		\$40.98	\$32.53	\$73.51
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2020		\$57.45	\$36.93	\$94.38
Truckdriver class 1(see notes)	5/1/2016		\$33.57	\$0.00	\$33.57

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

Project: 21-00084 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
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 1(see notes)	5/1/2019		\$36.12	\$0.00	\$36.12
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)	5/1/2018		\$35.39	\$0.00	\$35.39
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)	5/1/2017		\$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		\$36.68	\$0.00	\$36.68

SECTION 011000 - 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. Definitions (applicable to all Sections).
 - 2. Project information.
 - 3. Project Milestone Dates.
 - 4. Work covered by Contract Documents.
 - 5. Contractor's use of site and premises.
 - 6. Coordination with occupants.
 - 7. Work restrictions.
 - 8. Specification and Drawing conventions.
 - 9. Permits.
- B. Related Requirements:
 - 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
 - 2. Section 017300 "Execution" for coordination of Owner-installed products.

1.3 DEFINITIONS

- A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.
- B. Day: Shall be a calendar day, unless specifically noted as a workday.

1.4 PROJECT INFORMATION

- A. Project Identification: Aquatic Facilities Rehabilitation, Architect's Project No. 20795.
 - 1. Project Location: West Lawn Township, Berks County, Pennsylvania. Site address is 2601 Grandview Boulevard, West Lawn, Pennsylvania 19609.

- B. Owner: Wilson School District.
 - 1. Owner's Representative: Mr. Jeff Simcox, (610) 670-0180; SimJef@wilsond.org.
- C. Architect: Wallover Architects, Inc.
 - 1. Architect's Representative: Mr. Edwin M. Wallover, III AIA, (717) 295-7754; ewallover@walloverarchitects.com.
- D. Electronic Project Management System: Project software will be used for purposes of managing communication and documents during the construction stage.
 - 1. See Section 013100 "Project Management and Coordination" for requirements for using electronic project management system.

1.5 PROJECT MILESTONE DATES

- A. Anticipated Notice to Proceed for Procurement Only: April 26, 2021.
- B. Start of Construction/Mobilization: June 8, 2021
- C. Substantial Completion: August 1, 2021
- D. Final Completion: August 15, 2021

1.6 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 - 1. The renovation, clean and re-grout entire swimming pool and gutter face, complete in-kind pool deck mosaic tile replacement, install new control joints at all outside corners of the pool gutter to control potential cracking and as indicated on the drawings, and install new soft joints between pool gutter and new ceramic tile flooring, cleaning and re-passivating of all exposed stainless-steel deck edge components other architectural element and other Work indicated in the Contract Documents.
- B. Type of Contract:
 - 1. Project will be constructed under a coordinated, single contract. See Section 011200 "Single Contract Summary" for a list of contracts, a description of work included under the contract, and the responsibilities of Project coordinator.

1.7 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limits on 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 on Use of Site: Confine construction operations to the aquatic facility, its locker rooms and its mechanical room.
 - 2. 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 for storage of materials, except where shown on the Drawings.
 - 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.
- B. 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. Architect will take pre-construction photographs to document existing building conditions to use as a basis for comparison to post-construction conditions. Any Prime Contractor that damages the building, including the exterior and roof, when compared to the pre-construction photographs, shall be responsible for repairing the damage to the original condition, or better.
- C. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.
 - 1. Architect will take pre-construction photographs to document existing grounds conditions to use as a basis for comparison to post-construction conditions. Any Prime Contractor that damages the grounds, including the pavement, sidewalks and turf, when compared to the pre-construction photographs, shall be responsible for repairing the damage to the original condition, or better.

1.8 COORDINATION WITH OCCUPANTS

- A. Partial Owner Occupancy: Owner will occupy the premises (Wilson High School) during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's 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.

Excluded from this requirement is the parking and sidewalk areas noted on the Drawings.

2. Provide not less than 3 working days' notice to Owner of activities that will affect Owner's operations.
3. Adjacent areas of the high school, the site and grounds, and other parts of the campus will be occupied during entire construction period.
4. Crane Use: Coordinate and schedule all crane operations 14 days prior to the anticipated crane mobilization date. Since crane operations likely will disrupt Owner's use of Site, Grounds and Building, Contractor shall schedule crane operations to suit Owner's schedule and operations. This may result in crane operations being conducted during premium time. If crane operations are conducted during premium time, no additional costs will be payable to Contractor for premium time work.

1.9 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 7:00 a.m. to 5:00 p.m., Monday through Thursday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Architect and Owner.
 1. The Work Hours are set to follow the District's summer work week of four 10-hour days, Monday through Thursday, and will be in effect for the Project duration.
 2. Contractor shall comply with the West Lawn Township Ordinance No. 7 of 2020, Ordinance 2261 (NHT Noise Ordinance). A copy of the ordinance follows this Section.
 3. Weekend Hours: Only with prior approval by Architect and Owner, and in accordance with the NHT Noise Ordinance.
 4. Work in Existing Building: Any work performed outside of the Aquatic Facility shall be scheduled with Architect and Owner.
 5. Hours for Utility Shutdowns: All utility shutdowns or interruptions performed outside of the Aquatic Facility shall be scheduled with Architect and Owner.
- C. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.
 1. Notify Architect not less than 2 working days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission, through the Architect, before proceeding with disruptive operations.

- D. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances on Owner's property is not permitted.
- E. Employee Screening: Comply with Owner's and Commonwealth of Pennsylvania, Department of Education's requirements for background screening of Contractor personnel working on Project site.
 - 1. Maintain list of approved screened personnel with Owner's representative.

1.10 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. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 - 3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
 - 4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Definitions of Key Terms.
 - 1. Furnish: The purchase or procurement, and delivery to the Project site, F.O.B.
 - 2. Install: To put into place or assemble into the Project.
 - 3. Provide: To both Furnish and Install.
- E. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on 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 scheduled on Drawings.

1.11 PERMITS

- A. Building Permit: Owner has applied for and will pay for the Building Permit. Within 10 days after receiving its executed contract, General Contractor shall complete the permit application by providing its business name and jobsite contact's information, pick up the Building Permit and deliver it to Architect.
- B. Trade Permits: General construction permits shall be applied for, paid for and secured by the Prime Contractors performing the trade permit work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 011200 - SINGLE 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 Requirements:
 - 1. Section 011000 "Summary" for the Work covered by the Contract Documents, restrictions on use of Project site, coordination with occupants, and work restrictions.
 - 2. Section 013100 "Project Management and Coordination" for general coordination requirements.

1.3 PROJECT COORDINATOR

- A. Project Coordinator shall be responsible for coordination between the Prime Contractors.
 - 1. The Project Coordinator shall be the Architect.

1.4 GENERAL CONTRACTOR'S RESPONSIBILITIES

- A. General Contractor shall perform Project coordination activities for the single contract, including, but not limited to, the following:
 - 1. Provide typical overall coordination of the Work.
 - 2. Coordinate shared access to workspaces.
 - 3. Provide overall coordination of temporary facilities and controls.
 - 4. Coordinate and schedule interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
 - 5. Coordinate the work performed by each Contractor.
 - 6. 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. Assemble, using input from the Prime Contractor and their subcontractors and vendors of major materials and equipment, a Preliminary Construction Schedule.
 - c. Assemble, using input from the Prime Contractor and their subcontractors and vendors of major materials and equipment, a Construction Schedule for entire Project. Base schedule on preliminary construction schedule. Secure time commitments for performing critical construction activities from contractors.
 - 1) Submit schedules for acceptance by Prime Contractor.
 - 2) Distribute copies of approved schedules to subcontractor.
7. Provide photographic documentation.
 8. Coordinate Owner-provided quality-assurance and quality-control services specified in Section 014000 "Quality Requirements" and in the Technical Specifications.
 9. Coordinate sequence of activities to accommodate Owner-provided tests and inspections, and coordinate schedule of Owner-provided tests and inspections.
 10. Coordinate completion of interrelated punch list items.

1.5 GENERAL REQUIREMENTS OF CONTRACTS

- A. Extent of Contract: Unless the Agreement contains a more specific description of the Work of each Contract, 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. Cutting and Patching: Each Prime Contractor shall perform its own cutting and patching.
- B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the work.
 1. The Prime Contractor shall be responsible for identifying the work other Prime Contractors must perform as part of substitutions. The Construction Manager will coordinate with each Prime Contractor to ensure that the Prime Contractor understands what work they need to perform as part of the substitution.
 - a. When the substitution is Substitution for Cause (ref. Section 012500), the cost for the substitution will be borne by the Owner.

- b. In all other cases, the Prime Contractor making the substitution shall be responsible for all costs related to the substitution, including those of other Prime Contractors.
- C. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 015000 "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. Temporary enclosures for its own construction activities.
 - 4. Staging and scaffolding for its own construction activities.
 - 5. Hoisting equipment and cranes for its own construction activities.
 - 6. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
 - 7. Daily progress cleaning of work areas affected by its operations.
 - 8. Secure lockup of its own tools, materials, and equipment.
 - 9. Layout of its work from established reference points or existing construction.
 - 10. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
- D. Temporary Field Offices and Sheds: Due to the limited space available for parking and laydown, no temporary field offices or storage sheds will be permitted.
- E. Safety: Contractors shall be solely responsible for performing its work in compliance with 29 CFR 1926 including, but not limited to:
 - 1. Provide all personal protective equipment to workers.
 - 2. Comply with GFCI pigtail and extension cord requirements.
 - 3. Comply with all scaffolding and ladder requirements.
 - 4. Comply with silica dust protection requirements.
 - 5. Comply with leading edge requirements.
- F. Use Charges: Comply with the following:
 - 1. Sewer Service: Sewer service will be paid for by Owner.
 - 2. Water Service: Water service will be paid for by Owner.
 - 3. Electric Power Service: Electrical service will be paid for by Owner.

1.6 COMMON REQUIREMENTS FOR PRIME CONTRACTOR

- A. Unless specifically stated otherwise in this Section, all prime contractors shall "Provide" the work identified as being in their scope of work.
- B. All Contractors are responsible for the work listed under their Contract by Section, and otherwise identified, regardless of what drawing, sketch or addendum the work is shown on.
- C. The following Sections, unless noted otherwise in the Sections, apply in their entirety to prime contractor.
 - 1. 011000 – Summary
 - 2. 012000 – Single Prime Contract Summary
 - 3. 011200.1 – PCO Worksheet
 - 4. 012200 – Unit Prices
 - 5. 012300 – Alternates
 - 6. 012500 – Substitution Procedures
 - 7. 012600 – Contract Modification Procedures
 - 8. 012600.1 – PCO Worksheet
 - 9. 012900 – Payment Procedures
 - 10. 013100 – Project Management and Coordination
 - 11. 013200 – Construction Progress Documentation
 - 12. 013200.1 – Construction Schedule Rider
 - 13. 013233 – Photographic Documentation
 - 14. 013300 – Submittal Procedures
 - 15. 013300.1 – Submittal Cover Sheet
 - 16. 014000 – Quality Requirements
 - 17. 015000 – Temporary Utilities and Facilities
 - a. Refer to Section 017419 for Prime Contractor's responsibilities
 - 18. 015200 – Temporary Heating, Ventilation and Dehumidification
 - a. Refer to Section 017419 for Prime Contractor's responsibilities
 - 19. 016000 – Product Requirements
 - 20. 017300 – Execution Requirements
 - 21. 017419 – Construction Waste Management and Disposal
 - a. Refer to Section 017419 for each Prime Contractor's responsibilities
 - 22. 017700 – Closeout Procedures

1.7 GENERAL CONSTRUCTION

- A. Contract Work is specified in the follow Sections. Unless noted otherwise below, the work described in each Section is the responsibility of this Contractor.
 - 1. Division 01 – General Requirements
 - a. 015000 – Temporary Utilities and Facilities
 - 1) Refer to Section 015000 for specific responsibilities
 - b. 0152 00 – Temporary Heating, Ventilation and Dehumidification.
 - 1) Refer to Section 015200 for specific responsibilities
 - c. 017419 – Construction Waste Management and Disposal
 - 1) Refer to Section 017419 for specific responsibilities

2. Division 02 – Existing Conditions
 - a. 024119 – Selective Structure Demolition
 - 1) Removal of floor deck tile and setting beds to permit proper installation of new setting bed and new ceramic tile maintaining the original colors and graphics to the greatest extent possible to provide proper slope to the existing floor drains.
 - b. 079200 – Joint Sealants
 - 1) Install new controls and expansion joints as indicated on the drawings
 - 2) Includes sealants provided for Div13 work.
3. Division 09 - Finishes
 - a. 093000 – Tiling
 - 1) includes 131129 ceramic tile grouting within the swimming pool installed within the existing pool, gutter face and at deck perimeter of gutter.
4. Division 13 – Recirculating Gutter Systems
 - 1) includes cleaning and re-passivation of all exposed surfaces existing Stainless-steel Gutter System, including removal and replacement of all rusted and damaged fasteners, cleaning if all stained HPDE and fiberglass gratings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011200

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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 Requirements:
 - 1. Section 012300 "Alternates" for procedures for using unit prices to adjust Project alternates.
 - 2. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated into 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, overhead, and profit.
- B. Measurement and Payment: See 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 Part 3 "Schedule of Unit Prices" Article contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1: Ceramic tile removal - cost /SF
 - 1. Description: All costs associated with the removal of existing ceramic mosaic tile located on the main pool decks including setting bed material deemed to be unsuitable for use or as necessary to be removed to maintain specific dimensions within the pool vessel.
 - 2. Unit of Measurement: Square feet of tile removed.
 - 3. Quantity Alternates: Coordinate unit price with alternate adjustment requirements in Section 012300 "Alternates."

- B. Unit Price No. 2: Ceramic tile replacement - cost /SF
 - 1. Description: All costs associated with the replacement of demolished ceramic mosaic tile located on the main pool decks in a horizontal orientation including setting bed material deemed to be necessary to align new tile with existing deck drains, door thresholds, deck transitions with new stainless-steel gutter system, etc.
 - 2. New ceramic mosaic wall base where indicated on the drawings.
 - 3. Unit of Measurement: Square feet of tile replaced.

END OF SECTION 012200

SECTION 012300 - 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 the 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 alternates into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise 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. Execute accepted alternates under the same conditions as other Work of the Contract.
- C. Schedule: A Part 3 "Schedule of Alternates" Article 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.

- D. Alternate prices include all necessary material and equipment, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit. The Contract Sum shall only be changed (increased or decreased) by the alternate price; no additional monies shall be paid, or deducted, for the incorporation of alternate work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

- A. All work identified on the drawings titled, Wilson Senior High School Aquatic Facilities Rehabilitation, District Project No. 29795, dated January 26, 2021 is considered base bid and shall be priced in total for each of the prime contracts, which are as follows;
1. General Construction
- B. The following list of alternates both additive and deductive are identified below:

3.2 SCHEDULE OF ALTERNATES

1. No alternates are offered for the General Construction Contract.

END OF SECTION 012300

SECTION 012500 - 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:
 - 1. Definitions
 - 2. Action Submittals
 - 3. Quality Assurance
 - 4. Procedures
 - 5. Substitutions
- B. Related Requirements:
 - 1. Document 002600 "Procurement Substitution Procedures" for requirements for substitution requests prior to award of Contract.
 - 2. Section 011200 "Summary"
 - 3. Section 012300 "Alternates" for products selected under an alternate.
 - 4. Section 016000 "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.
 - 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 to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying 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 Document 004325 Substitution Request Form.
 - a. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - b. Substitutions for Cause: Statement indicating why specified product, or fabrication, or installation method cannot be provided.
 - c. Substitutions for Convenience: Statement indicating why Contractor proposed to change the product or fabrication or installation method.
 - d. Coordination of information, including a list of changes or revisions needed to other parts of the Work, including that provided by other Prime Contractors, and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - e. Detailed comparison of significant qualities of proposed substitutions 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, requirements for electrical or plumbing connections, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - f. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - g. Samples, where applicable or requested.
 - h. Certificates and qualification data, where applicable or requested.
 - i. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - j. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - k. Research reports evidencing compliance with building code in effect for Project.
 - l. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time; include procurement duration (from date order is placed to on-site delivery), installation duration, and duration for work by other Prime Contractors. 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.
 - m. Cost information, including a proposal of change (increase or decrease), if any, in the Contract Sum.
 - n. 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.
- o. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of either failure of proposed substitution to produce indicated results, or Contractor's failure to identify all associated costs.
- 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 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 7 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.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on 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 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. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect the Construction Schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.

- e. Requested substitution is compatible with other portions of the Work.
- f. Requested substitution has been coordinated with other portions of the Work.
- g. Requested substitution meets or exceeds specified warranty.
- h. 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: Not allowed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - 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 Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.
 - 2. Section 013100 "Project Management and Coordination" for requirements for forms for contract modifications provided as part of web-based Project management software.

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 or similar document.

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. Owner-Initiated Proposal Requests are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 20 days, when not otherwise specified, after Prime Contractor's receipt of Proposal Request, submit a Proposed Change Order (PCO) estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of materials or 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, including labor burden, taxes, insurance, benefits, per diems and all other direct labor costs.
 - d. Identify and include all premium time (hours) and cost required.
 - e. Include all insurance and bond costs.
 - f. Include overhead and profit, as permitted by the Agreement Between the Owner and Contractor.
 - g. 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.
 - h. Quotation Form: Use form provided by Owner. A sample copy is included in Project Manual. The form is also available as an Excel spreadsheet.
- B. Contractor-Initiated Proposals: If latent or changed conditions are encountered, Contractor may initiate a claim by submitting a Request for Change (RFC) to Construction Manager.
1. Include a statement outlining reasons for the change, the effect of the change on the Work, and the basis for entitlement. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Identify the date when the changed conditions were discovered.
 3. Include a list of quantities of products or materials required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 5. Include costs of labor and supervision directly attributable to the change, including labor burden, taxes, insurance, benefits, per diems and all other direct labor costs.
 6. Identify and include all premium time (hours) and cost required.
 7. Include all insurance and bond costs.
 8. Include overhead and profit, as permitted by the Agreement Between the Owner and Contractor.
 9. 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.
 10. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 11. Proposal Request Form: Use form provided by Owner. A sample copy is included in Project Manual. The form is also available as an Excel spreadsheet.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.
- B. Unit-Price Adjustment: See Section 012200 "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. Contractor shall notify Architect when Unit Price work is to be started.
 - 2. Contractor shall document through field measurements, surveys, delivery tickets or other means the quantity of Unit Price work performed for Architects review.
 - 3. Where completed Unit Price work will be concealed, Contractor shall notify Architect prior to concealing the Unit Price work for Architects verification and shall not conceal the Unit Price work until directed to do so by Architect.
 - 4. When Unit Price work has been completed, Contractor shall submit to Architect a signed statement quantifying the Unit Price work provided for calculation of payment due to Contractor.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Contractor's PCO, or completion and verification of Unit Price work, or direction to proceed with Alternate work, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701CMa.
 - 1. Change Order will be issued for changes in Contract Price, or Contract Time, or both Contract Price and Contract Time.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect, may issue a Construction Change Directive on AIA Document G714CMa. 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 012600

SECTION 012900 - PAYMENT PROCEDURES 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 necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Document 004373 "Proposed Schedule of Values Form" for requirements for furnishing proposed schedule of values with bid.
 - 2. Document 007300 "Prevailing Wage Determination"
 - 3. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 4. Section 012200 "Unit Prices" for administrative requirements governing the use of unit prices.
 - 5. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 6. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction 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.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect, through Construction Manager, at earliest possible date, but no later than 7 days before the date scheduled for submittal of initial Applications for Payment.

3. Subschedules for Phased Work: Where the Work is separated into phases, provide subschedules showing values coordinated with each phase of the Work.
 4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
- B. Format and Content: Use 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. Owner's name.
 - c. Owner's Project number.
 - d. Name of Architect.
 - e. Architect's Project number.
 - f. Contractor's name and address.
 - g. 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. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 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. Provide multiple line items for principal subcontract amounts when required to facilitate determination of amounts due for incomplete work, or as required by Architect.
 5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
 6. Unit Prices Allowances: Provide a separate line item in the schedule of values for each Unit Price with a quantity allowance included in the Agreement between Owner and Contractor. Show line-item value of unit-

- cost allowances, as a product of the unit cost, multiplied by measured quantity.
7. Alternates: Provide a separate line for each Alternate included in the Agreement between Owner and Contractor.
 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. Temporary Facilities and Utilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
 10. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements for the following work and in the stated amounts.
 - a. Final Inspections: The greater of 0.5% of awarded contract amount or \$1,000.00.
 - b. Warranties: The greater of 0.5% of awarded contract amount or \$3,000.00.
 - c. Operations and Maintenance Manuals: The greater of 0.5% of awarded contract amount or \$2,000.00.
 - d. Start-Up Reports: The greater of 0.5% of awarded contract amount or \$1,000.00.
 - e. Commissioning Support, if the Work is to be commissioned: The greater of 0.5% of awarded contract amount or \$4,000.00.
 - f. As-Built project information: The greater of 0.5% of awarded contract amount or \$3,000.00.
 - g. Attic Stock: The greater of 0.5% of awarded contract amount or \$3,000.00.
 11. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.
- B. Payment Application Times: Submit Application for Payment to Architect and Architects review per the following schedule. Where due date falls on a weekend or holiday, submit applications on the preceding workday.
 1. Submit draft copy of Application for Payment on the 9th day of the month, forecasting work completed through the 15th day of the month, for review by Architect.

2. Submit notarized Application for Payment on the 16th day of the month, for work completed through the 15th day of the month, for review and signature by Architect.
- C. Application for Payment Forms: Use AIA Document G732, Application and Certificate for Payment, Architect as Advisor Edition, and AIA Document G703, Continuation Sheet, as form for Applications for Payment. Include completed, certified, and notarized (first and last applications only) Pa. Dept. of Labor & Industry Weekly Payroll Certification, Form LLC-25 with each application.
- D. 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.
- E. 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.
 1. For materials or equipment stored off-site:
 - a. Provide certificate of property insurance for the storage facility, showing evidence that items stored in or at the storage facility are covered against any and all causes of loss.
 - b. Evidence of transfer of title to Owner.
 - c. Consent of surety to payment for stored materials.
 - d. Provide supporting documentation that verifies amount requested, such as invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on payment requested for stored materials.
 - 1) Overhead and profit allocated to a schedule of value line for materials will be approved for payment when the materials have been incorporated into the Work.
 - e. Provide photographs of materials stored off-site. Photographs will be used to identify materials (include photographs of model numbers and serial numbers, erection sequence numbers, and similar marks), and to verify that materials are properly stored.
 - f. Provide summary documentation for stored materials indicating the following:
 - 1) Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - 2) Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.

- 3) Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
 2. For materials stored on-site:
 - a. Provide supporting documentation that verifies amount requested, such as invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on payment requested for stored materials.
 - 1) Overhead and profit allocated to a schedule of value line for materials will be approved for payment when the materials have been incorporated into the Work.
- F. Transmittal:
 1. Submit draft copy of Application for Payment electronically to Architect.
 2. Submit four signed and notarized original hardcopies of each Application for Payment to Architect. Include waivers of liens and similar attachments. Include certified payroll reports for payment period. Include consent of surety any time retainage is reduced.
 3. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. 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 list of activities, durations and logic for incorporation into the Construction Schedule.
 4. Products list (preliminary if not final).
 5. Submittal schedule (preliminary if not final).
 6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits.

9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Certificates of insurance and insurance policies.
 11. Performance and payment bonds.
- I. Second Application for Payment Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. Signed Construction Schedule Rider.
- J. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete, except for work identified on the List of Incomplete Work.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 017700 "Closeout Procedures."
 2. Submit a List of Incomplete Work.
 3. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Requirements of the Agreement Between Owner and Contractor.
 2. Requirements identified in Document 007300 "Supplementary Conditions," Article "Final Completion and Final Payment."
 3. Evidence of completion of Project closeout requirements.
 4. Certification of completion of final punch list items.
 5. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 6. Updated final statement, accounting for final changes to the Contract Sum.
 7. AIA Document G706 Contractor's Affidavit of Payment of Debts and Claims.
 8. AIA Document G706A Contractor's Affidavit of Release of Liens.
 9. AIA Document G707 Consent of Surety to Final Payment.
 10. Evidence that claims have been settled, if requested by Owner.
 11. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 12. Final liquidated damages settlement statement.

13. Proof that taxes, fees, and similar obligations are paid.
14. Final certified payroll report, and all certified payroll reports not previously received by Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

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SECTION 013100 - 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 coordination procedures.
 - 2. Coordination drawings.
 - 3. RFIs.
 - 4. Digital project management procedures.
 - 5. Electronic Project Management System (EPMS).
 - 6. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
 - 1. Section 011200 "Single Contract Summary" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
 - 2. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 3. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 4. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. 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. Include the following information in tabular form:
1. Company name, address, and telephone number, and primary contact's name, telephone number and email address, of all entities 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.
- B. 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, cellular telephone numbers, and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
1. Architect will post the names and contact information in web-based Project software. Notify Architect of any changes to Key Personnel.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
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 to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination of Multiple Contracts: Each contractor shall cooperate with Architect, who shall coordinate the work of the Contractors and other entities to ensure efficient and orderly installation of each part of the Work. Each Contractor shall coordinate its own 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.
- C. Contractor shall prepare memoranda for distribution to each party involved, outlining special coordination required for its Work. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner, Architect and separate contractors if coordination of their Work is required.
- D. Modifications to the Work made necessary by a Contractor's failure to properly coordinate the Work, shall be made by that Contractor, at no cost to the Owner.
- E. Each Prime Contractor shall, where installation of one part of the work is dependent on installation of other components, either before or after its own installation, schedule its construction activities in the sequence required to obtain the best results.
- F. Remove Work installed out of sequence that prohibits a separate Prime Contractor the ability to install Work that is dependent on their prior installation of materials or equipment. No additional compensation or time extension will be considered for the uncovering or removal of the out of sequence Work.
- G. Each Prime Contractor shall coordinate space requirements and installation of mechanical and electrical work indicated diagrammatically on the Contract Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- H. Where availability of space is limited, the Architect and each Prime Contractor shall coordinate installation of different components with other Prime Contractors to assure maximum accessibility for required maintenance, service, and repair, and to meet governing code requirements.
- I. Each Prime Contractor shall make adequate provisions to accommodate items schedule for later installation.
- J. Each Prime Contractor shall, in finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements provided by other Contractors.
- K. Each Prime Contractor shall verify utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of

various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

- L. Each Prime Contractor shall coordinate Testing and Inspection Services:
- M. Verify required laboratory personnel are present.
- N. Verify tests are made in accord with specified standards.
- O. Review test reports for compliance with specified standards.
- P. Recommend and administer any required retesting.
- Q. Submit copies to Architect.
- R. Coordinate with Owner's Geotechnical Engineer for compaction and moisture content testing. Notify Geotechnical Engineer in advance of need for testing in accord with project construction schedule.
- S. Coordinate with Owner's Inspection Agency for concrete, masonry, and steel testing and inspection. Notify agency in advance when testing and inspection is required.
- T. Each Prime Contractor shall coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion, and for portions of Work designated for Owner's partial occupancy.
- U. Each Prime Contractor shall, after Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accord with Contract Documents, to minimize disruption of Owner's activities.
- V. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and Architect 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 Start-Up and Construction Schedules.
 - 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.

1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, where installation is not completely

indicated 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 coordination drawings by the General contractor 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 systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show code-required clearances.
 - f. Indicate required installation sequences.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
 1. Floor Plans: Show architectural finish Work. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Review: Architect will review coordination drawings to confirm that, in general, the Work is being coordinated, but not for the details of the coordination, which are the responsibility of the Contractor(s). If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor(s), who shall make suitable modifications and resubmit.
 3. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."
- C. Coordination Drawing Process: Prepare coordination drawings in the following manner:
- D. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
 1. File Preparation Format:
 - a. Current version of AutoCAD, producing DWG files, operating in Microsoft Windows operating system.
 2. File Submittal Format: Submit or post coordination drawing files using PDF format.
- E. Coordination Drawing Preparation: Coordination Drawings shall be prepared using the current version of AutoCAD. The following shall serve as a guide for

preparing the drawings; it may be modified if agreed to by all Prime Contractors.

1. New architectural finish elements including new graphics.
 - a. Ceramic tile colors and transitions.
2. Existing architectural elements.
 - a. Existing structural and miscellaneous steel; gray.
 - b. Existing walls of all types and materials; gray.

1.7 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Only RFIs submitted by Prime Contractors will be responded to. Construction Manager will return without response those RFIs submitted to Architect by other entities controlled by Prime Contractor.
 2. Coordinate and submit RFIs in a prompt manner 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. Owner name.
 3. Name of Architect.
 4. Date.
 5. Name of Contractor.
 6. Contractor's 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. Detailed description of the subject issue.
 12. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 13. Contractor's signature.
 14. 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: Submit RFIs using the electronic project management system.
 1. Attachments shall be electronic files in PDF format.

- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow 7 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 Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. 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 by Architect 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 Request for Change (RFC) according to Section 012600 "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. Contractor RFI Log: Each Prime Contractor shall prepare, maintain, and submit a tabular log of RFIs organized by the RFI number, indicating which RFIs are awaiting a response and which have been responded to or are otherwise closed. Submit log bi-weekly to Architect.
- F. Project RFI Log: The Architect will maintain an RFI log for all Prime Contractor RFIs using the electronic project management system. This log will indicate the Contractor RFI number and assign a Project RFI number.
- G. On receipt of the RFI response immediately distribute the RFI response to affected parties. Review response and notify Architect within 3 days if Contractor disagrees with response.

1.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Architect's Digital Data Files: Digital data files of Architect's CAD floor plan drawings will be provided by Architect for Contractor's use during construction.
1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project Record Drawings.
 2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.

3. Digital Drawing Software Program: Contract Drawings are available in AutoCAD dwg.
 4. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.
 - a. Subcontractors and other parties granted access by Contractor to Architect's digital data files shall execute a data licensing agreement in the form of Agreement acceptable to Owner and Architect.
- B. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.9 PROJECT MEETINGS

- A. General: Architect will 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. For routine project meetings, notify Owner and Architect of scheduled meeting dates and times a minimum of 5 days prior to meeting.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Reporting: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.
 4. Attendees' Review of Minutes: Attendees will review meeting minutes. If comments or corrections are required, submit comments or questions to Architect within 3 days after receipt of meeting minutes.
- 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 all Prime Contractors' Agreements or issuance of the Notice to Proceed, whichever occurs later.
- Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; major 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.

1. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule and actions required for the preparation of the Start-Up and Construction Schedules.
 - c. Phasing.
 - d. Critical work sequencing and long lead items.
 - e. Designation of key personnel and their duties.
 - f. Lines of communications.
 - g. Use of EPMS.
 - h. Procedures for processing field decisions and Change Orders.
 - i. Procedures for submittals.
 - j. Procedures for RFIs.
 - k. Procedures for testing and inspecting.
 - l. Procedures for processing Applications for Payment.
 - m. Distribution of the Contract Documents.
 - n. Preparation of Record Documents.
 - o. Use of the premises and existing building.
 - p. Work restrictions.
 - q. Working hours.
 - r. Owner's occupancy requirements.
 - s. Responsibility for temporary facilities and controls.
 - t. Procedures for moisture and mold control.
 - u. Procedures for disruptions and shutdowns.
 - v. Construction waste management and recycling.
 - w. Parking availability.
 - x. Office, work, and storage areas.
 - y. Equipment deliveries and priorities.
 - z. First aid.
 - aa. Security.
 - bb. Progress cleaning.
 2. Reporting: Architect will record and distribute the meeting minutes to each party present and to parties requiring information.
- C. Preinstallation Conferences: The Architect will schedule and conduct preinstallation conferences at Project site before each construction activity when required by other Sections and when required for 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.
 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. Related RFIs.
 - c. Related Change Orders.

- d. Submittals.
 - e. Review of mockups.
 - f. Possible conflicts.
 - g. Acceptability of substrates.
 - h. Compatibility requirements.
 - i. Compatibility of materials.
 - j. Scheduled delivery date.
 - k. Scheduled installation date.
 - l. Required preceding work.
 - m. Coordination with other preceding work and follow-on work.
 - n. Weather and other environmental conditions (exterior or interior) restrictions and limitations
 - o. Manufacturer's written instructions.
 - p. Warranty requirements.
 - q. Temporary facilities and controls.
 - r. Space and access requirements and limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Required performance results.
 - w. Protection of adjacent work.
 - x. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Architect will record and distribute the meeting minutes to each party present and to parties requiring information.
 - 5. Unless otherwise directed by the Architect, do not proceed with installation if conditions exist that interfere with the proper installation of the Work.
- D. Project Closeout Conference: Architect will schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 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 and 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. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - b. Contractor's punch list and list of incomplete work.
 - c. Preparation of Record Documents.
 - d. Submittal of written warranties.
 - e. Requirements for preparing operations and maintenance data.

- f. Requirements for delivery of attic stock and spare parts.
 - g. Requirements for demonstration and training.
 - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - i. Certified payroll requirements
 - j. Submittal procedures.
 - k. Coordination of separate contracts.
 - l. Owner's partial occupancy requirements.
 - m. Installation of Owner's furniture, fixtures, and equipment.
 - n. Responsibility for removing temporary facilities and controls.
 - o. Final cleaning.
- E. Progress Meetings: Architect will conduct weekly progress meetings.
 - 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to representatives of Owner, and Architect, each contractor, major subcontractor, 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 other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. 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 (look-ahead schedule).
 - b. Review present and future needs of each entity present, including the following:
 - 1) Coordination requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) RFIs
 - 5) Upcoming deliveries.
 - 6) Access and site use.
 - 7) Temporary facilities and controls.
 - 8) Progress cleaning.
 - 9) Quality and work standards.
 - 10) Status of correction of deficient items.
 - 11) Field observations.
 - 12) Status of Proposal Requests.
 - 13) Pending changes.
 - 14) Status of Change Orders.
 - 15) Pending delays, claims and disputes.
 - 16) Documentation of information for payment requests.

- 1.10 Coordination Meetings: Architect will conduct Project coordination meetings as needed for Work that requires multi-Contractor coordination, when requested by any Contractor, or when Architect determines it to be necessary. 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, and Architect, each contractor, affected subcontractor 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 other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Work to be coordinated.
 - b. Progress of coordination drawings.
 - c. Coordination conflicts.
 - d. Schedule for installation of coordinated Work is to commence.
 3. Reporting: Construction Manager will record and distribute the meeting minutes to each party present and to parties requiring information.

1.11 SUBSTRATE ACCEPTANCE

- A. The finish installation subcontractor shall inspect the substrate upon which its work will be performed, and either
 1. Accept the substrate; or
 2. Identify defects with the substrate in a written report and submit the report to Architect. If and Architect agree with the report, Contractor responsible for providing the substrate shall make repairs and adjustments as required for the substrate to be accepted.
- B. Once accepted, subcontractor installing its work on the substrate becomes responsible for the condition of the substrate.
 1. Contractor installing its work on the substrate is not responsible for latent or otherwise concealed substrate defects.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - 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. Startup Schedule.
 - 2. Construction Schedule.
 - 3. Schedule Updating.
 - 4. Schedule Recovery.
 - 5. Unusual event reports.
- B. Related Requirements:
 - 1. Section 011200 "Single Contract Summary" for preparing a combined Contractor's Construction Schedule.
 - 2. Section 012900 "Payment Procedures" for schedule of values and requirements for use of cost-loaded schedule for Applications for Payment.

1.3 DEFINITIONS

- A. 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 Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine the critical path of Project and when activities can be performed.

- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for completing an activity as scheduled.

1.4 GENERAL

- A. A Construction Schedule will be required on this Project. The Construction Schedule is to include all work necessary to complete the Project.
- B. The schedules shall be prepared using a software acceptable to the Owner and Architect.
- C. A Start-Up Schedule shall be prepared to coordinate the early work of the Contractor. This schedule will include both submittals for long lead time materials and equipment, and early work activities.
- D. Contractor shall plan, schedule and execute their work so that the Project is completed within the Project Milestones.
- E. Contractor shall prosecute their work so as to meet activity start and completion dates. When start or completion dates are missed, the Contractor shall work overtime or re-sequence its work so that follow-on work can start on time.
- F. Unless approved by the Architect, no activity shall have a duration longer than 20 workdays. Exceptions include:
 - 1. Activity for the ordering, fabrication and delivery of materials and equipment.
 - 2. Concrete curing.

1.5 START-UP SCHEDULE

- A. Within 14 days after the Notice to Proceed date, the Contractor will meet with the Construction Manager to develop the Start-Up Schedule. For a short duration project, this schedule may become the Construction Schedule. For longer duration projects, the Start-Up Schedule will cover approximately the first four to six weeks of the project and will focus on procurement and early construction activities.

B. Responsibilities:

1. Contractor: Within 10 days after the Notice to Proceed date, submit a list of ALL submittal, approval, procurement, construction, inspection and closeout activities required to complete their work. Do not limit this list to just early activities. For each activity, provide the following information. This list shall be submitted electronically and prepared on a spreadsheet.
 - a. Predecessor activity(ies) that must be completed by the Contractor prior to starting the activity.
 - b. Predecessor activity(ies) that must be completed by Owner prior to starting the activity.
 - c. The duration, in workdays, needed to complete the activity.
 - d. The activities shall be in logical order, meaning that the first activity will be listed first, the next activity listed second, and so on until the last activity is listed.
2. Architect: The Architect will schedule an Initial Construction Schedule Meeting, during which the Start-Up Schedule will be developed using the Pull Planning method. Following the meeting, the Architect will prepare the Critical Path Method (CPM) Start-Up Schedule and issue it, within 10 days after the Initial Construction Schedule Meeting to the Contractor for review.

C. Review and Finalization of the Start-Up Schedule.

1. Contractor shall review the Start-Up Construction. Within 10 days after its issuance, Contractor shall either provide comments on the schedule to address concerns or reply that the schedule is acceptable. If no response is received within 10 days, the Contractor shall by default have accepted the Start-Up Schedule.
2. The Architect will incorporate Contractor comments received and issue the completed Start-Up Schedule.

1.6 CONSTRUCTION SCHEDULE

- A. Contractors: Within 25 days after the Notice to Proceed date, submit a list of ALL submittal, approval, procurement, construction, inspection and closeout activities required to complete their work. Do not limit this list to just early activities. For each activity, provide the following information. This list shall be submitted electronically and prepared on a spreadsheet.
 - e. Predecessor activity(ies) that must be completed by the Contractor prior to starting the activity.
 - f. Predecessor activity(ies) that must be completed by Owner prior to starting the activity.
 - g. The duration, in workdays, needed to complete the activity.
 - h. The activities shall be in logical order, meaning that the first activity will be listed first, the next activity listed second, and so on until the last activity is listed.
- B. Within 35 days after the Notice to Proceed date, the Contractor and Architect will meet to develop the balance of the schedule. When combined with the Start-Up Schedule, this will result in the full Construction Schedule.

- C. Within 10 days after the meeting, the Architect will prepare the Critical Path Method (CPM) Construction Schedule and issue it to the Contractor for review and comment.
 - 1. The Rider to the Baseline Construction Schedule will be issued with the Construction Schedule.
- D. Contractor shall review the Construction Schedule. Within 7 days after its issuance, Contractor shall either provide comments on the schedule or sign the Rider to the Baseline Construction Schedule. If no response is received within 7 days, the Contractor shall by default have accepted the Construction Schedule.
- E. The Architect will incorporate Contractor comment into the Construction Schedule and issue the completed Construction Schedule, along with Construction Schedule Rider. This schedule becomes the Baseline Construction Schedule.

1.7 SCHEDULE UPDATING

- A. At each Job Conference, Contractor shall submit a report listing
 - 1. Activities that have started since the last report, and the date that they started.
 - 2. Activities that have been completed since the last report, and the date that they were completed.
 - 3. For activities in progress, including activities that started since the last report, provide the remaining duration (workdays needed to complete the activity).
 - 4. Activities that need to be added to the Construction Schedule. For these activities, identify:
 - i. Predecessor activity(ies) that must be completed by the Contractor prior to starting the activity.
 - j. Predecessor activity(ies) that must be completed by Owner prior to starting the activity.
 - k. The duration, in workdays, needed to complete activities that are in progress, but are not yet complete.
 - l. The percent complete for activities that are in progress but are not yet complete.
- B. Using the information submitted by the Contractor, the Architect will update the Construction Schedule. The updated Construction Schedule will be published monthly, or more frequently based on project conditions and progress.
- C. Updating of Project Construction Schedule may result in changes in the dates on which activities start and/or finish; and may result in a change to the Project Milestones' dates. The publication of a schedule showing the late completion of any Project Milestone, or a change to any activity start or finish date, shall not constitute an approval of additional time or a change to the Project Milestones. Likewise, the publication of a schedule showing the early completion of any Project Milestone, or a change to any activity start or finish date, shall not constitute a direction to accelerate.

1.8 SCHEDULE RECOVERY

- A. When the Substantial Completion Date (typically also the date when a Certificate of Occupancy is issued) slips past the date shown for Substantial Completion on the Baseline Construction Schedule, Contractor shall work overtime or re-sequence their work so that the Baseline Substantial Completion Date can be achieved.
- B. When the current Substantial Completion Date slips 10 or more working days, compared to the Baseline Substantial Completion Date, the Architect will schedule a meeting with Contractor to develop a Recovery Schedule. The Recovery Schedule represents a work plan for making up the lost time (the "slip" in the schedule) and achieving the Baseline Substantial Completion Date. The Recovery Schedule may include:
 - 1. Re-sequencing of work within Contractor's scope of work.
 - 2. Work additional hours (overtime).
 - 3. Increase manpower.
 - 4. If Material or equipment lead times are impacting the schedule, identify means for expediting delivery.
- C. Using this information, the Architect will prepare a Recovery Schedule. The Recovery Schedule will be issued, review, commented on and published as described under Construction Schedule.
- D. Any costs incurred by Contractor to meet the Recovery Schedule shall be the responsibility of the Contractor. Any associated claims for delay shall be addressed under the Owner-Contractor Agreement.
- E. Weekly Disturbances Planning Meetings with The Owner's Facility Representative
 - 1. Contractor is required to attend and participate in a weekly disturbance coordination meeting that will be held as part of the weekly contractor's coordination meeting. At this meeting Contractor is responsible to notify the Architect and the Owner's representative on any and all work planned for the week, either new or continuing that could have an impact to the school's normal operation from noise, dust generating activities, traffic and parking access, adjustments or interruptions to any utility or life safety service or any change to in place barricades enclosures or site logistic items. No work on any discussed disturbance item will proceed without the approval of the owner's Representative. Contractor will be directed to "Stop Work" if they proceed with any unscheduled or any uncoordinated work that has been properly coordinated and approved through the weekly Disturbance meetings.

1.9 SPECIAL REPORTS

- A. Reporting Special Occurrences and Unusual Events: When an event of an unusual and significant nature occurs at the site, particularly if it may affect or impact the Contract Price or Contract Time, Contractor shall prepare and submit a Special Report. The Special Report shall include:
 - 1. A narrative describing the event.
 - 2. Identify the preceding schedule activities or conditions.

3. Identify the persons involved in the event.
 4. Identify the actions taken by the Contractor during and immediately after the event.
 5. Other information necessary to address the event.
- B. Special Reports shall be submitted at the earliest possible time after the occurrence of the event to the Architect/Engineer, and the Owner's Representative.
- C. If such events affect or impact site safety, public safety or may cause damage to the Project or to other property, the Contractor shall take immediate action to protect people and property.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

SECTION 013233 - 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. Concealed Work photographs.
 - 3. Periodic construction photographs.
 - 4. Final Completion construction photographs.
 - 5. Preconstruction video recordings.
 - 6. Periodic construction video recordings.
 - 7. Construction webcam.
- B. Related Requirements:
 - 1. Section 01 7700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
 - 2. Section 01 7900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

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 or video recording. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within 3 days of taking photographs.
 - 1. Submit photos by uploading to electronic project management system. Include copy of key plan indicating each photograph's location and direction.
 - 2. Identification: Name each image file as described below:
 - a. Date photograph was taken.

- b. Unique sequential identifier for the day.
- c. Key plan note indicating photograph's location and direction.
- d. File name example: 2020812-003-A
 - 1) Year: 2020
 - 2) Month: 08
 - 3) Day: 12
 - 4) Sequential identifier for the day: 003
- e. For cameras and other devices that automatically name image files, submit file naming format for review by Construction Manager to be considered as substitution for the above file naming requirements.

C. Printed Photographs: Not required.

1.4 FORMATS AND MEDIA

- A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 x2400 pixels. Use flash in low light levels or backlit conditions.
- B. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Exception: Titles or other text may be added to images.
- C. Metadata: Record accurate date and time from camera.

1.5 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs with maximum depth of field and in focus.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Preconstruction Photographs: Before commencement of the Work, Architect will take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, to document existing conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233

SECTION 013300 - 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:

- 1. Submittal schedule requirements.
 - 2. Administrative and procedural requirements for submittals.
 - 3. Critical submittals.

- B. Related Requirements:

- 1. Section 01 2900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 01 3100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
 - 3. Section 01 3200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 4. Section 01 4000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
 - 5. Section 01 7700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
 - 6. Section 01 7823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 7. Section 01 7839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 8. Section 01 7900 "Demonstration and Training" for submitting video recordings of 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 and Owner'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 and 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. Critical Submittals: Submittals for materials and equipment with long lead times (time required to fabricate and deliver items upon an order being placed), and certain materials and equipment that will be used early in the project.

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: A list of required submittals will be issued to Contractor for use in preparing Contractor's Submittal Schedule. Submit, as an action submittal, the durations required for ordering, manufacturing, fabrication, and delivery of all materials and equipment that require 3 or more weeks (21 calendar days) to order, manufacture, fabricate and deliver. Note durations in calendar days or weeks. Include additional time required for making corrections or revisions to submittals noted by Architect and Owner and additional time for handling and reviewing submittals required by those corrections.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: For each submittal utilize the submittal cover sheet that follows this section. PDF and Microsoft Word files of the cover sheet are available from the Architect.
 - 1. Submitting Contractor shall stamp and sign the submittal cover sheet indicating that the Contractor has reviewed the submittal and verified it complies with the Drawings and Specifications.
 - 2. Submitting subcontractor or supplier shall stamp and sign the submittal cover sheet indicating that the subcontractor or supplier has reviewed the submittal and verified it complies with the Drawings and Specifications.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Paper Submittals: Paper submittals shall not be accepted.
- E. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

- F. Submittals Utilizing Electronic Project Management System: Prepare submittals as PDF files and upload to the electronic project management system as directed by the Construction Manager.
- G. Submittals that do not meet these formatting requirements will be returned to the Contractor with no review action taken.

1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Email: Prepare submittals as PDF package and transmit to Architect for the Architect's review using the electronic project management system. Include PDF transmittal form.
 - a. Architect will return annotated file to the Contractor via the electronic project management system. Annotate and retain one copy of file as a digital Project Record Document file.
 - 2. Electronic Project Management System: Prepare submittals in PDF form, and upload to Electronic Project Management System. Enter required data in Electronic Project Management System to fully identify submittal.
- 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 submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserve 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 15 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 10 days for review of each resubmittal.
- D. 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.
- E. 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.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.
1. Use of reviewed electronic submittals, accessed through the Electronic Project Management System, will meet this requirement.

1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. Mark each copy of each submittal to show which products and options are applicable. Where specific options are indicated in a vendor order number, fill in all fields as would be sent to vendor for ordering.
 2. 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.

3. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. 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 unless submittal based on Architect's digital data drawing files is specifically permitted.
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. Shop Drawing 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.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
 4. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
 5. Paper Transmittal: Include paper transmittal, including complete submittal information indicated.
 6. 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.
7. 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 3 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 1 sample with options selected.
8. 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 3 sets of Samples. Architect will return 1 sample.
 - 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 3 sets of paired units that show approximate limits of variations.
- D. 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 or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.

- E. 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.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
 - 1. Certificates and Certifications Submittals: Submit 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. Provide a notarized signature where indicated.
 - 2. 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.
 - 3. 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.
 - 4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
 - 5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
 - 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:
 - 1. 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 substrate preparation and primers required.
 - 2. Field Test Reports: Submit written 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.

3. 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.
4. 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.
5. Product Test Reports: Submit written reports indicating that 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.
6. 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:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.8 CONTRACTOR'S REVIEW

- A. Action Submittals 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 and Construction Manager.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include 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.
 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return.
 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action as follows:

- a. Reviewed.
 - b. Approved.
 - c. Approved as Noted.
 - d. Approved – Revise and Resubmit.
 - e. Rejected – Revise and Resubmit.
- B. Informational Submittals: Architect will review each submittal; only submittals that do not comply with requirements will be returned. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect and will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

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CONTRACT NUMBER: _____

PRIME CONTRACTOR NAME: _____

SUBCONTRACTOR, FABRICATOR OR SUPPLIER NAME: _____

SUBMITTAL PACKAGE #: _____

SUBMITTAL ITEM #: _____

PROJECT MANUAL SECTION NUMBER & PARAGRAPH NUMBER: _____

DRAWING SHEET #: _____ DETAIL #: _____

ANTICIPATED LEAD TIME IN WEEKS (from date of order to date item arrives on site): _____

APPROVAL STAMPS (PROVIDE CONTINUATION SHEETS AS NECESSARY):

PRIME CONTRACTOR	SUBCONTRACTOR/SUPPLIER
ARCHITECT	ENGINEER

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SECTION 014000 - 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 inspection 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 quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
 - 1. Section 012100 "Allowances" for testing and inspection allowances.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of 4 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.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Mockups: Physical assemblies of portions of the Work constructed to establish the standard by which the Work will be judged. Mockups are not Samples.
 - 1. Mockups are used for one or more of the following:
 - a. Verify selections made under Sample submittals.
 - b. Demonstrate aesthetic effects.
 - c. Demonstrate the qualities of products and workmanship.
 - d. Demonstrate successful installation of interfaces between components and systems.
 - e. Perform preconstruction testing to determine system performance.
 - 2. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
 - 3. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.
- E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- G. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."
- I. 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.

- J. 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. Contractor's quality-control services do not include contract administration activities performed by Architect.

1.4 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 Statement: Submit a statement 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, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.5 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified is 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.

1.6 ACTION SUBMITTALS

- A. Mockup Shop Drawings:
 - 1. Include plans, sections, elevations, and details, indicating materials and size of mockup construction.
 - 2. Indicate manufacturer and model number of individual components.

3. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.7 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:
 1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
 2. Primary wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.
- D. 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.
- E. 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.
- F. Reports: Prepare and submit certified written reports and documents as specified.
- G. Permits, Licenses, and Certificates: For Owner's record, 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 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, telephone number, and email address 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 inspection.
 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, telephone number, and email address 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 of 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 factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address 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 of whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.

1.9 QUALITY ASSURANCE

- A. 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. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- 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, applying, 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 is similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists will satisfy qualification requirements indicated and engage in the activities indicated.
 - 1. Requirements of authorities having jurisdiction supersede requirements for specialists.
- G. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- 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, demonstrate, repair, and perform service on installations 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 Contractor's responsibilities, including the following:
 - 1. Provide test specimens representative of proposed products and construction.
 - 2. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - 3. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - 4. Build site-assembled test assemblies and mockups, using installers who will perform same tasks for Project.
 - 5. When testing is complete, remove test specimens and test assemblies, and mockups; do not reuse products on Project.
 - 6. 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 of size indicated.
 - 2. Build mockups in location indicated or, if not indicated, as directed by Architect.
 - 3. Notify Architect 7 days in advance of dates and times when mockups will be constructed.
 - 4. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
 - 5. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 6. Obtain Architect's approval of mockups before starting corresponding Work, fabrication, or construction.
 - a. Allow 5 days for initial review and each re-review of each mockup.
 - 7. Promptly correct unsatisfactory conditions noted by Architect's preliminary review, to the satisfaction of the Architect, before completion of final mockup.
 - 8. Approval of mockups by the Architect does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

9. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 10. Demolish and remove mockups when directed unless otherwise indicated.
- L. Specialty Mockups: See Section 014339 "Mockups" for additional construction requirements for integrated exterior mockups.

1.10 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 inspection they are engaged to perform.
 2. Payment for these services will be made from testing and inspection allowances specified in Section 012100 "Allowances," as authorized by Change Orders.
 3. 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.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
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. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor will not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 2 days in advance of time when Work that requires testing or inspection 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 inspection 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. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting

and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

- D. 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 locations 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 duties of Contractor.
- E. 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 Section 013300 "Submittal Procedures."
- F. 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.
- G. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives 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 inspection. 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 inspection equipment at Project site.

- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.11 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency or engineering firm to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, 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 (Not Used)

END OF SECTION 014000

SECTION 015000 - TEMPORARY UTILITIES AND FACILITIES

PART 1 GENERAL

1.1 SUMMARY

- A. This Section specifies requirements for temporary services and facilities including utilities, construction and support facilities, security and protection, as specified below. The scope of work includes installation, maintenance and removal of utilities.
- B. Any temporary utilities, services or facilities required by any contractor to perform its work, and are not specified in this Section, shall be provided by the contractor requiring such services at its own expense.
- C. Temporary Utilities include, but are not limited to:
 - 1. Temporary water service.
 - 2. Temporary electrical service and lighting.
- D. Temporary Facilities include, but are not limited to:
 - 1. Field offices and storage facilities.
 - 2. Dumpsters and trash cans.
 - 3. Temporary roads and lots.
 - 4. Dust control.
 - 5. Temporary sanitary facilities.
 - 6. Dewatering (of excavations and surface water).
 - 7. Temporary use of elevators.
 - 8. Project identification sign.
 - 9. Project safety signs.
 - 10. Security, safety and protection facilities.

1.2 TEMPORARY CONSTRUCTION WATER SERVICE

- A. Not required.
- B. This section excludes drinking water. Contractor is responsible for providing drinking water for its workers.

1.3 TEMPORARY ELECTRICAL SERVICE & LIGHTING

- A. Code Compliance:
 - 1. All temporary electrical service work shall comply with current NEC and 29 CFR 1926 requirements.
 - 2. All materials and equipment installed shall be UL listed.
 - 3. All installed work shall meet the requirements of the local electrical utility.
- B. The Contractor shall provide all temporary electrical service and lighting work,

unless noted otherwise.

1. Existing electrical panels and outlets may be used for temporary electrical service. When such facilities are de-energized, or are deemed to be insufficient by Owner, Electrical Contractor shall supplement, extend or otherwise provide additional temporary power.
2. Existing lighting may be used for temporary lighting. When existing lighting is de-energized or otherwise not operational, Electrical Contractor shall provide temporary lighting, including breakers, circuits and fixtures.

C. Temporary Electrical Service – Building(s). (Not Required)

1. Existing electrical circuits may be utilized for the construction period.

D. Temporary Lighting – Building(s): (not required)

1. All existing lighting may be utilized for the construction period

E. The Owner shall pay for all electrical power usage.

1.4 TEMPORARY FUEL GAS FOR TEMPORARY HEAT

A. Not required.

1.5 TEMPORARY FACILITIES

A. Field Offices and Storage Facilities:

1. Field offices and storage facilities are not permitted on site.

B. Dumpsters & Trash Cans:

1. General Contractor shall provide dumpster service to the project. A minimum of 1 dumpster(s) shall be maintained on site to receive all construction waste.
2. Dumpsters shall be rotated/replaced as frequently as needed to avoid overfilling the dumpsters.
3. General Contractor shall pay all costs associated with providing dumpsters, including charges for over-weight and overloaded dumpsters.
4. General Contractor shall maintain the area around the dumpster in a clean and sanitary condition.
5. General Contractor shall provide two 50-gal trash cans with lids for general waste collection. The General Contractor shall empty the trash cans as frequently as necessary to prevent them from being over-filled.
6. Refer to Section "Construction Waste Management and Disposal" for additional requirements.

C. Temporary Roads and Lots, and Dust Control:

1. Not required.

D. Snow & Ice Removal:

1. The General Contractor shall provide snow and ice removal for all building exterior stairs and walks within the limits of construction.
 2. All snow plowing and deicing is to be completed prior to the start of the workday and maintained throughout the day as weather conditions persist, Contractor shall stockpile snow only at the locations designated by the school district. In no case will stock piling of snow be permitted in any school parking areas, walks or vehicular travel lanes.
- E. Temporary Sanitary Facilities:
1. The locker rooms adjacent to the pool level will be made available to contractors.
 2. General Contractor is responsible for weekly cleaning of the locker rooms and stocking them with toilet paper, hand towels and soap.
- F. Temporary Use of Permanent Elevator:
1. Not applicable.
- G. Project Safety Signs: If required by the District, the following applies:
1. Project Safety Signs, including signs for directions, warnings, deliveries and safety, as either required by 29 CFR 1926 or by this Section, shall be provided by General Contractor.
 - a. General Contractor shall provide Direction Signs 1, 2 and 3, as noted on the Site Logistics Plan.
 - 1) Font: Arial or similar non-serif font.
 - 2) Letter height: 3"
 - 3) Lettering: black, vinyl or paint
 - 4) Substrate: Aluminum, corrugated plastic, or other durable material suitable for exterior use. Reflective white surface.
 - 5) Posts: Posts shall be metal, designed for traffic signs to be bolted to them.
 - 6) Sign height: Center of sign to be 48" to 52" above the adjacent road, drive or lot.
 2. The quantities and locations of such signs shall be coordinated with the Construction Manager.
- H. Security, Safety and Protection Facilities:
1. Fire Extinguishers: General Contractor shall provide and maintain temporary fire extinguishers in size(s), quantities on each building level and area as required by 29 CFR 1926.
 2. First Aid Kits: All prime contractors shall maintain on site a first aid kit/station, including eyewash, compliant with 29 CFR 1926. General Contractor shall provide one 29 CFR 1926-compliant first aid station for each area/unit of the building.
 3. Silica Dust: Any contractor performing work that may create silica-containing dust shall comply with 29 CFR 1926 requirements. Provide all PPE and dust-collecting equipment required.
 4. Lasers: Any contractor using lasers shall comply with 29 CFR 1926

requirements and shall post warning signs throughout the work area.

5. Barricades: Any contractor performing work that requires control of access shall provide its own barricades. For work in areas where the public operates motor vehicles (public and private roads, drives and lots), this includes DOT-approved warning signs, lights and flagmen. When required by the Authority Having Jurisdiction, prepare and submit to the AHJ a Maintenance and Protection of Traffic (MPT) Plan.
6. Environmental Protection: All prime contractors are responsible for implementing environmental protection measures. This includes, but is not limited to, providing 29 CFR 1926-compliant storage of chemicals, liquids and other materials that may be harmful to the environment; and the immediate cleanup of spills or discharges of such materials.
7. Building Locks: Owner shall make arrangements to provide access to the natatorium.
8. Temporary Railings at Pool edge: General Contractor shall install, and when directed, remove 29 CFR 1926-compliant temporary railing. When directed to remove temporary railings at the roof (if required for the project), General Contractor shall immediately install leading edge protection and assume responsibilities as the controlling contractor for the pool deck.
 - a. If directed by Architect, Pool Contractor shall install and maintain a warning line system around the swimming pool.
9. Tree Protection Fence: Not required.

I. Temporary Construction Fencing: Not Required

J. Wheel Wash Facility: Not required.

K. Concrete Washout Facility: Not Required

L. Pest Control and Inspection: Not required

1.6 PROJECT CONDITIONS

A. Conditions of Use:

1. The General Contractor shall keep temporary services and facilities clean and neat in appearance.
2. The General Contractor shall operate such facilities in a safe and efficient manner.
3. The General Contractor shall take necessary fire prevention measures.
4. Do not allow hazardous or unsanitary conditions or public nuisances to develop or persist on the site.
5. Report any unsafe conditions noticed to the Architect immediately.

1.7 QUALITY ASSURANCE

- A. Regulations: All trades shall comply with industry standards and applicable laws and regulations of authority having jurisdiction, including but not limited to:

1. Municipal and Pennsylvania Department of Labor and Industry Building Code Requirements.
2. State Health and Safety Regulations.
3. Federal Health and Safety Regulations (29 CFR 1926)
4. Utility Company Regulations.
5. Police, Fire Department, and Rescue Squad rules.
6. State Department of Transportation
7. State and Federal Environmental Protection Regulations.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide either new materials or undamaged previously used materials in serviceable condition for use in temporary construction. Provide materials suitable for the use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6, Section "Rough Carpentry".

2.2 EQUIPMENT

- A. General: Provide either new equipment or undamaged previously used equipment in serviceable condition for use in temporary construction. Provide equipment suitable for use intended.
- B. Water Hoses: Provide three-quarter (3/4)" heavy duty abrasion resistant, flexible rubber hoses with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shut off nozzles at hose discharge.

PART 3 - EXECUTION

3.1 GENERAL

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by completed permanent facilities that have been authorized for use.
- C. Permanent Systems and Equipment Warranties: If permanent systems and equipment are used as temporary systems and equipment, the responsible Prime Contractor shall clean, repair and refurbish the facilities, and take all steps and actions at its own cost to provide the required warranties commencing upon Substantial Completion.

3.2 TEMPORARY ROADS AND LOTS

- A. Not required.

3.3 TEMPORARY DISCHARGE OF ROOF DRAINS

- A. Not required.

3.4 DAILY AND WEEKLY CLEANUP

A. Daily Cleanup:

1. Contractor shall clean up its work areas on a daily basis, including those of its sub and sub-subcontractors.
2. Daily cleanup will leave the building and site free of trash, construction waste and other debris.
3. Floors shall be broom cleaned daily.

B. Weekly Cleanup:

1. General Contractor shall serve as the lead contractor for coordinating and maintaining a clean project site.
2. General Contractor shall provide trash cans as needed for this cleanup work. The trash cans for the break and lunch areas shall not be used for weekly cleanup.

C. Cleaning Public Streets: Not Required

3.5 QUALITY CONTROL

- A. A Contractor providing temporary utilities shall arrange for authorities having jurisdiction to inspect and test each temporary utility before use and obtain required certifications and permits. Provide copies of the results of all inspections and tests to the Owner and Architect.
- B. A Contractor providing temporary facilities shall inspect such facilities at least weekly, and correct, repair, add to or replace facilities that do not meet the Quality Assurance requirements.

END OF SECTION 015000

SECTION 015200 -TEMPORARY HEATING, VENTILATION AND DEHUMIDIFICATION

PART 1 GENERAL

1.1 SUMMARY

- A. Related Sections
 - 1. 015000 Temporary Utilities and Facilities.
- B. The permanent HVAC system and equipment are designed to condition the interior of the building(s) under permanent occupancy conditions. During construction, it is common for the building envelope to be incomplete (i.e. missing glazing and doors), and for workers to repeatedly open doors throughout the day. As the permanent HVAC system is not designed to maintain temperature and humidity levels with such infiltration of outside air and exfiltration of conditioned air, the permanent system may only be used for temporary heating, ventilation or dehumidification with permission of the Owner and as weather extremes require specific conditioning.
- C. Any Section or Specification contained in this Project Manual that require certain temperature and humidity conditions to be established and/or maintained prior to, during or after any particular item of work is performed shall have those temperature and humidity conditions provided under this Section. Any requirement for permanent HVAC systems to be operational, whether required by the Specifications, or by referenced standards, or by other industry sources, are void and shall not apply to the Work. Permanent systems shall be put into permanent operation as directed and required by this Section.

1.2 DEFINITIONS

- A. Temporary Enclosure: Not required

1.3 BUILDING ENCLOSURE

- A. Not applicable to this Project.

1.4 TEMPERATURE & HUMIDITY LEVEL REQUIREMENTS

- A. Not applicable to this Project.

1.5 TEMPORARY HEATING

- A. Not applicable to this Project

1.6 TEMPORARY VENTILATION

- A. General Contractor shall provide ventilation as needed for general worker comfort. This is achieved by circulating air through the building area and

exchanging exterior and interior air.

- B. When Temporary Ventilation is no longer required, remove all materials and equipment used for Temporary Ventilation. Repair any finishes or building components damaged or marred by the installation, operation or removal of Temporary Ventilation and its associated materials and equipment.
- C. General Contractor is responsible for all costs associated with providing Temporary Ventilation:

1.7 TEMPORARY VENTILATION FOR NOXIOUS FUMES

- A. If at any time Contractor is performing work that generates noxious fumes, Contractor shall provide temporary ventilation to dissipate the fumes. This applies both prior to and after Building Enclosure.
- B. If such temporary ventilation is required after Building Enclosure and when either temperature or humidity sensitive work is being performed or temperature of humidity sensitive materials have been installed, coordinate this ventilation with the provision of temporary heat or temporary air conditioning and dehumidification.

1.8 TEMPORARY AIR CONDITIONING AND DEHUMIDIFICATION

- A. Not required for this Project.

1.9 DEHUMIDIFICATION OF CONCRETE SLABS

- A. Not required for this Project.

1.10 USE OF PERMANENT HVAC EQUIPMENT

- A. Use of permanent HVAC Equipment shall not occur until after the following conditions have been met.
 - 1. Owner approval for such use.
 - 2. Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide either new equipment or undamaged previously used equipment in serviceable condition for use in temporary construction. Provide equipment suitable for use intended.
- B. For temporary enclosures prior to Building Enclosure, provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins or similar materials.

2.2 EQUIPMENT

- A. General: Provide either new equipment or undamaged previously used equipment in serviceable condition for use in temporary construction. Provide equipment suitable for use intended.

PART 3 - EXECUTION

3.1 GENERAL

- A. Use qualified personnel for installation of temporary heating, ventilating and dehumidification systems. Locate systems and equipment where they will serve the project adequately and result in minimum interference with performance of the Work. Relocate systems and equipment as required.
- B. Provide each facility prior to when needed to avoid delays to the Project. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by completed permanent facilities that have been authorized for use.
- C. Permanent Systems and Equipment Warranties: If permanent systems or equipment are used prior to Final Acceptance, Contractor shall clean, repair and refurbish the systems or equipment, and take all steps and actions at its own cost to provide the required warranties commencing upon Substantial Completion.

END OF SECTION 015200

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SECTION 016000 - 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 Requirements:
 - 1. Section 011000 "Summary" for Contractor requirements related to Owner-furnished products.
 - 2. Section 012100 "Allowances" for products selected under an allowance.
 - 3. Section 012300 "Alternates" for products selected under an alternate.
 - 4. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 5. Section 014200 "References" for applicable industry standards for products specified.
 - 6. Section 01770 "Closeout Procedures" for submitting warranties.

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. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, 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 single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.
 - 1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
 - 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 - 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
- F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.

1.4 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.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.

1.5 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

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 that products are undamaged and properly protected.
- C. Storage:
 - 1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
 - 2. Store products to allow for inspection and measurement of quantity or counting of units.
 - 3. Store materials in a manner that will not endanger Project structure.
 - 4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
 - 5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.

6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.
- 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 in the Project Manual, prepare a written document, using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "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 meeting 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.
6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Sole 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.
 - a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."
2. Sole 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.
 - a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."
3. Limited List of Products: 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 unless otherwise indicated.
 - a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."
4. Non-Limited List of Products: 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.
 - a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.

5. Limited List of Manufacturers: 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 unless otherwise indicated.
 - a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
6. Non-Limited List of Manufacturers: 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.
 - a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
7. 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 may additionally 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.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require the phrase "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 match.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "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 a 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.

- E. Sustainable Product Selection: Where Specifications require product to meet sustainable product characteristics, select products complying with indicated requirements. Comply with requirements in Division 01 sustainability requirements Section and individual Specification Sections.
 - 1. Select products for which sustainable design documentation submittals are available from manufacturer.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: 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 the following requirements:
 - 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 - 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.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Section 013300 "Submittal Procedures."
 - 1. Form of Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 - 2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

- D. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Installation of the Work.
 - 3. Cutting and patching.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.
 - 7. Correction of the Work.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for coordination and limits on use of Project site.
 - 2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
 - 3. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 PREINSTALLATION MEETINGS

- A. Cutting and Patching Conference: Conduct conference at Project site.
 - 1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result from cutting and patching work. Inform Architect of scheduled meeting. Require representatives of each entity

directly concerned with cutting and patching to attend, including the following:

- a. Contractor's superintendent.
 - b. Trade supervisor responsible for cutting operations.
 - c. Trade supervisor(s) responsible for patching of each type of substrate.
 2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- B. Layout Conference: Conduct conference at Project site.
1. Prior to establishing layout of new and existing perimeter and structural column grid(s), review building location requirements. Review benchmark, control point, and layout and dimension requirements. Inform Architect of scheduled meeting. Require representatives of each entity directly concerned with Project layout to attend, including the following:
 - a. Contractor's superintendent.
 - b. Contractor's personnel responsible for performing Project surveying and layout.
 2. Review meanings and intent of dimensions, notes, terms, graphic symbols, and other layout information indicated on the Drawings.
 3. Review requirements for including layouts on Shop Drawings and other submittals.
 4. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

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. 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 length of time permanent services and systems will be disrupted.

- a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE

- A. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
- 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. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Aquatic components special construction.
2. Other Construction Elements: Do not cut and patch other construction elements or 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. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction 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.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- 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 Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- C. 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 comply with Green Seal's 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 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 and under-slab 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, gas service piping, 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. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.

2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. 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 Owner 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, submit a request for information to Architect in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect and promptly.
- B. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 INSTALLATION

- A. 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.
- 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 satisfactory results as judged by Architect. 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 of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. 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.
 - 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.

- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.

3.5 CUTTING AND PATCHING

- 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. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. 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.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."
- F. 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.
- G. 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 neatly to minimum 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 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.
- H. Patching: Patch construction by filling, repairing, refinishing, closing, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical 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.
 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, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.
- 3.6 COORDINATION OF OWNER'S PORTION OF THE WORK
- A. Not required.
- 3.7 PROGRESS CLEANING
- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Utilities and Facilities" And Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 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. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

- A. Repair or remove and replace damaged, defective, or nonconforming Work. 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. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Restore permanent facilities used during construction to their specified condition.

- D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

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SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

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. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
 - 1. Section 011200 "Single Contract Summary" for coordination of responsibilities for waste management.
 - 2. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above-and below-grade improvements.

1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste become property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 7 days of date established the Notice to Proceed.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION 017419

SECTION 017700 - 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 Requirements:
 - 1. Section 012900 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
 - 2. Section 013233 "Photographic Documentation" for submitting Final Completion construction photographic documentation.
 - 3. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.3 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.5 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest-control inspection.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.7 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's and Owner's signature for receipt of submittals.

- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Perform preventive maintenance on equipment used prior to Substantial Completion.
 3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 4. Complete final cleaning requirements.
 5. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager 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. 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.

1.8 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit Final Completion photographic documentation.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will

either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.9 LIST OF INCOMPLETE ITEMS

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.

1. Organize list of spaces in sequential order listed by room or space number.
2. Organize items applying to each space by major element, including categories for ceilings, 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 format:
 - a. PDF Electronic File: Architect will return annotated file.

1.10 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Partial Occupancy does not apply to this Project
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

1. Submit PDF electronic files to Architect.
- E. Warranties in Paper Form:
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. Submit two sets of paper warranties in binders.
- F. 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 comply with Green Seal's 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: General Contractor shall 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 designated portion of Project:
 - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - d. 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.
 - e. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
 - f. Vacuum and mop flooring.
 - g. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - h. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - 1) Clean HVAC system in compliance with Section 230130.52 "Existing HVAC Air-Distribution System Cleaning." Provide written report on completion of cleaning.
 - i. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
 - j. Clean strainers.
 - k. Leave Project clean and ready for occupancy.

- C. Construction Waste Disposal: Comply with waste-disposal requirements in Section 015000 "Temporary Facilities and Controls" and Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations required by Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

SECTION 017839 - 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 Requirements:
 - 1. Section 011200 "Single Contract Summary" for coordinating Project Record Documents covering the Work of a single contract.
 - 2. Section 017300 "Execution" for final property survey.
 - 3. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 4. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one set(s) of file prints.
 - 3) Submit Record Digital Data Files and one set(s) of plots.
 - 4) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:

- 1) Submit one paper-copy set(s) of marked-up record prints.
- 2) Submit PDF electronic files of scanned Record Prints and one set(s) of file prints.
- 3) Print each drawing, whether or not changes and additional information were recorded.

c. Final Submittal:

- 1) Submit one paper-copy set(s) of marked-up record prints.
- 2) Submit Record Digital Data Files and one set(s) of Record Digital Data File plots.
- 3) Plot each drawing file, 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.
- D. Miscellaneous Record Submittals: See 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 into Project Record Documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
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 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. Changes made by Change Order or Construction Change Directive.
 - d. Changes made following Architect's written orders.
 - e. Details not on the original Contract Drawings.
 - f. Field records for variable and concealed conditions.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record prints 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. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
 1. Format: Same digital data software program, version, and operating system as for the original Contract Drawings.
 2. Format: Microsoft Windows operating system.
 3. Format: Annotated PDF electronic file.
 4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 5. Refer instances of uncertainty to Architect for resolution.
 6. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013100 "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.

- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize record prints 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. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 - 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

1.5 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.
- B. Format: Submit record specifications as annotated PDF electronic file.

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. 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.
- C. 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.

1.7 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.

1.8 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents 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 and Construction Manager's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

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SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Complete removal of all exiting ceramic tile swimming pool deck surfaces and all existing setting bed to sufficient depth to enable the installation of a new properly sloped and isolated ceramic tile swimming pool deck.
3. Complete removal of all existing glazed ceramic tile base material from all contiguous walls engaging the ceramic tile flooring scheduled to be removed.

B. Related Requirements:

1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 017300 "Execution" for cutting and patching procedures.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse. No salvaged ceramic tile is included in this work.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and

other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at Project site, 2601 Grandview Boulevard, West Lawn, Pennsylvania 19609.
 1. Inspect and discuss condition of construction to be selectively demolished.
 2. Review structural load limitations of existing structure.
 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 5. Review areas where existing construction is to remain and requires protection.

1.5 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property for dust control and for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure District's on-site operations are uninterrupted.
 2. Use of elevator and stairs.
 3. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by salvage and demolition operations. Comply with Section 013233 "Photographic Documentation." Submit before Work begins.

1.6 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged. Not required.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before selective demolition, Owner will remove the following items:
 - a. All pool equipment scheduled for reuse.
 - b. Diving stands to be removed and reinstalled.
 - c. Starting blocks are to be removed and reinstalled.
 - d. Pool access ladders are to be removed and reinstalled.
 - e. Backstroke standards and pennants are to be removed and reinstalled.
 - f. Timing system harness and control systems as required.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.8 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.
- C. Specific items of selective demolition are delineated on the drawings and include but not limited to:
 - 1. Demolition and removal of all ceramic tile swimming pool decking and setting bed material.

2. Remove of all existing sealant material between the ceramic tile flooring and the stainless-steel recirculating gutter systems scheduled to remain.
3. Remove all damaged fastener components for the stainless-steel gutter grating and replace with new stainless-steel fasteners and screws required to produce a safe and permanent gutter installation.
4. All demolition noted on the drawings but not specifically noted herein shall be completed by the specific trade contractor.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 1. Inventory and record the condition of items to be removed and salvaged.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."

- B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering, and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 6. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
 - 1. Clean salvaged deck equipment items.
 - 2. Pack or protect items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition, cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Masonry/Ceramic Tile: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- B. Concrete Slabs-on-Grade/Setting Bed Material: Saw-cut perimeter of area to be demolished, and then break up and remove.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.8 SELECTIVE DEMOLITION SCHEDULE

- A. Remove: Existing Ceramic floor tile and setting bed as indicated on the drawings.
- B. Remove: Existing concrete decks to the least extent possible to install the new gutter system. Protect adjacent ceramic tile scheduled to remain.
- C. All components necessary to affect the new work scheduled to be performed in the Natatorium,

END OF SECTION 024119

SECTION 079200 – JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Division 1 Specification Sections, apply to this Section. All work to be performed under this Section is to be included in the General Construction Contract.
- B. Refer to other Divisions of these Specifications to determine the type and extent of work therein affecting the work of this trade, whether or not such work is specifically mentioned in this Section.

1.2 SUMMARY

- A. Provide all sealants and caulking including, but not limited to glazing sealants, (both wet and dry), expansion joint filler, and caulks, exterior caulking, and interior caulking.

1.3 QUALITY ASSURANCE

- A. General sealer performance requirements: Select material for compatibility with joint surfaces and other indicated exposures. Select modulus of elasticity and hardness of grade recommended by manufacturer for each application indicated. Where exposed to foot traffic, select marketing materials of sufficient strength and hardness to withstand stiletto heel traffic without damage or deterioration of sealer system.
- B. Provide colors as indicated, or if not indicated, color as selected by the Architect from manufacturer's standard colors.

PART 2 - PRODUCTS

2.1 SEALANTS

- A. Sealant No. 1 (interior sealant caulk): GE Silicone sanitary sealants SCS-1702 white, as manufactured by General Electric Silicone Products Department, Waterford, New York.
- B. Sealant No. 2 (control joint, dissimilar materials and joints): Sikaflex 2C-NS, one-part, polyurethane sealant as manufactured by Sika Corporation, Lyndhurst, New Jersey. Color selected by Architect. (for use in vertical and horizontal surfaces)

- C. Sealant No. 3 (expandable sealant): Adeka Ultra Seal, P-201 expandable, one-part elastic sealant, as manufactured by Asahi Denka Kogyo K.K., Tokyo, Japan. Manufacturer's standard color.
- D. Sealant No. 4 (for use at pool gutter and ceramic tile edges): Thiokol LP Liquid Polysulfide base as manufactured by Thiokol Corporation, Trenton, New Jersey. Color selected by Architect.
- E. Sealant No. 5 (for use at pool gutter and ceramic tile edges): Ardex SX 100% Silicone sealant as manufactured by Ardex Americas, Aliquippa, PA. Color selected by Architect.
- F. Sealant No. 6 (for use in keyways and cold joints): 1"x ¾" expansive roping, as manufactured by Greenstreak, Inc., St. Louis, Missouri.
- G. Bond Breaker: 3M 226, 48, 710 as manufactured by 3M Corporation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's printed instruction except where more stringent requirements are specified and except where manufacturer's technical representative directs otherwise.
 - 1. Elastomeric Sealant Installation Standard: Comply with ASTM C 962.
 - 2. Solvent-Release-Curing Sealant Installation Standard: Comply with ASTM C 804.
 - 3. Latex Sealant Installation Standard: Comply with ASTM C 790.
 - 4. Acoustical Sealant Application Standard: Comply with ASTM C 919 for use of joint sealants in acoustical applications.
 - 5. Installation of Fire-Stopping Sealant: Install sealant, including forming, packing and other accessory materials to fill openings around mechanical and electrical services penetrating floors and walls to provide fire-stops with fire resistance ratings indicated.
- B. Do not proceed with installation of liquid sealants under unfavorable weather conditions. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer for installation.
- C. Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture and other substances which could interfere with bond of sealant or caulking compound. Etch concrete and masonry joint surfaces as recommended by manufacturer. Roughen vitreous and glazed joint surfaces as recommended by manufacturer.

- D. Set joint filler units at proper depth or position in joint to coordinate with other work, including installation bond breakers, backer rods and sealants. Do not leave voids or gaps between ends of joint filler units.
- E. Install sealant backer rod for liquid elastomeric sealants, except where required by manufacturer's recommendations, to ensure that sealant will perform properly.
- F. Install bond breaker tape where indicated and where required by manufacturer's recommendations to ensure that elastomeric sealant will perform properly.
- G. Employ only proven installation techniques, which will ensure that sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces equally on opposite sites. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cover, so that joint will not trap moisture and dirt.
- H. Install sealant to depths as shown or, if not shown, as recommended by sealant manufacturer but within the following general limitations measured at center (thin) section of bead:
 - 1. Sidewalks, pavements, and similar joints sealed with elastomeric sealants, subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 5/8" deep nor less than 3/8" deep.
 - 2. For normal moving joints sealed with elastomeric sealants but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
 - 3. For joints sealed with non-elastomeric sealants and caulking compounds, fill joints to a depth in range of 75% to 125% of joint width.
- I. Spillage: Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into voids of adjoining surfaces. Clean adjoining surfaces by whatever means may be necessary, as recommended by manufacturer, to eliminate evidence of spillage.
- J. Recess exposed edges of gasket and exposed joint fillers slightly behind adjoining surfaces, unless otherwise shown, so that compressed units will not protrude from joints.
- K. Bond ends of gaskets together with adhesive or "weld" by other means as recommended by manufacturer to ensure continuous water-tight and air-tight performance. Miter cut and bond ends at corners unless molded corner units are provided.

3.2 CURE AND PROTECTION

- A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Comply with manufacturer's procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage, (other than normal wear and weathering), at time of Substantial Completion.

END OF SECTION 079200

SECTION 093000 - TILING

PART 1 - GENERAL

1.1 SUMMARY

- A. Drawings and general provisions of the Contract, including the Division 1 Specification Sections, apply to this Section. All work to be performed under this Section is to be included in the General Construction Contract.
- B. Refer to other Divisions of these Specifications to determine the type and extent of work therein affecting the work of this trade, whether such work is specifically mentioned in this Section.

1.2 SUBMITTALS

- A. Submittals: Product Data for tile and installation materials and samples for tile.
- B. Floor Tiles: ANSI 137.1 Dynamic Coefficient of Friction (DCOF) STANDARD For surfaces that would be specified in interior areas that will be walked on when wet, ANSI 137.1 stipulates they should have a DCOF of >0.42. Should an area or area function require additional friction due to standing water, ramps etc.

PART 2 - PRODUCTS

2.1 CERAMIC TILE

- A. Ceramic tile that complies with Standard grade requirements in ANSI A137.1, "Specifications for Ceramic Tile."
- B. Ceramic Floor Tile: see Division 13, Section 131129.2.6.
- C. Pool Tile: See Division 13, Section 131129.2.6.
- D. Unglazed Porcelain Mosaic Trim: See Division 13, Section 131129.2.6.

2.2 INSTALLATION MATERIALS

- A. VOC Limit for Adhesives and Fluid-Applied Waterproofing Membranes: 65 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. Setting and Grouting Materials: Comply with material standards in ANSI's "Specifications for the Installation of Ceramic Tile" that apply to materials and methods indicated.
 - 1. Thin-Set Mortar Type: Latex- Portland cement.
 - 2. Grout Type: Epoxy modified unless otherwise indicated.
 - 3. Grout Color: To match existing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with tile installation standards in ANSI's "Specifications for the Installation of Ceramic Tile" that apply to materials and methods indicated.
 - 1. For installations indicated below, follow procedures in ANSI's "Specifications for the Installation of Ceramic Tile" for providing 95 percent mortar coverage.
 - a. Tile floors in wet areas.
- B. Comply with TCA's "Handbook for Ceramic Tile Installation."
- C. Floor Tile Installation Method(s):
 - 1. Over Concrete Subfloors: TCA F111 (cement mortar bed with bond coat over existing material, on concrete).
 - 2. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.
- D. Lay tile in grid pattern, unless otherwise indicated. Align joints where adjoining tiles on floor, base, walls, and trim are the same size.
- E. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

END OF SECTION 093000

SECTION 099000 - PAINTING AND COATING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. All work outlined in this Section shall be included in the General Construction Contract and provided for touch-up purposes if required after the demolition and tile installation process is completed.

1.2 SECTION REQUIREMENTS

- A. Submittals:
 - 1. Product Data. Include printout of MPI's "MPI Approved Products List" with product highlighted.
 - 2. Samples.
- B. Extra Materials: Deliver to Owner 1 gal. of each color and type of finish coat paint used on Project, in containers, properly labeled and sealed.

PART 2 - PRODUCTS

- A. PAINT MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."
- B. Limit manufacturers to One of the following:
 - 1. Benjamin Moore & Co.
 - 2. Duron, Inc.
 - 3. ICI Paints.
 - 4. PPG Architectural Finishes, Inc.
 - 5. Sherwin-Williams Company
 - 6. Tnemec High Performance Coatings
- C. MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."
 - 1. Interior Painting Materials:
 - a. Primer, Alkali Resistant, Water Based: MPI #3.
 - b. Primer Sealer, Institutional Low Odor/VOC: MPI #149.
 - c. Primer, Bonding, Water Based: MPI #17.
 - d. Primer, Alkyd, Anticorrosive: MPI #79.
 - e. Primer, Galvanized, Water Based: MPI #134.

- f. Latex, Interior, Flat, (Gloss Level 1): MPI #53. (acoustical panels and graphics)
 - g. Latex, Institutional Low Odor/VOC, Flat (Gloss Level 1): MPI #143. (acoustical panels and graphics)
 - h. Alkyd, Interior, Semigloss (Gloss Level 5): MPI #47. (Metal grating and trim within 15 feet of the swimming pool edge)
 - i. Alkyd, Interior, Gloss (Gloss Level 6): MPI #48.
 - 2. High-Performance Coating Materials:
 - a. Block Filler, Epoxy: MPI #116. (New masonry infill)
 - b. Primer, Epoxy-Modified Latex (existing painted masonry and masonry infill to limit finish variations)
 - c. Epoxy, Gloss: MPI #77. (all CMU masonry)
 - d. Epoxy-Modified Latex, Gloss (Gloss Level 6): MPI #115.
 - e. Epoxy Deck Coating (Slip Resistant): MPI #82.
- D. Material Compatibility: Provide materials that are compatible with one another and with substrates.
 - 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- E. Use paints and coatings that comply with the following limits for VOC content:
 - 1. Flat Paints and Coatings: 50 g/L.
 - 2. Primers, Sealers, and Undercoaters: 200 g/L.
 - 3. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
 - 4. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
- F. Colors: To be determined and coordinated with School r rebranding colors, typefaces, and new graphics.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove hardware, lighting fixtures, and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.
- C. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

3.2 APPLICATION

- A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Paint exposed surfaces unless otherwise indicated.
 - 1. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces.
 - 2. Paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint the back side of access panels.
 - 4. Color-code mechanical piping in accessible ceiling spaces.
 - 5. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.
- C. Apply paints according to manufacturer's written instructions.
 - 1. Use brushes only for exterior painting and where the use of other applicators is not practical.
 - 2. Use rollers for finish coat on interior walls and ceilings.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
 - 1. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

3.3 INTERIOR PAINT APPLICATION SCHEDULE

- A. Concrete Masonry Units:
 - 1. Gloss Level 2 High-Performance Architectural Latex Epoxy: Two coats over latex epoxy block filler: MPI INT 4.2D.
- B. Steel:
 - 1. Gloss, Alkyd Enamel: Two coats over alkyd anticorrosive primer: MPI INT 5.1E.
- C. Galvanized Metal:
 - 1. Gloss Level 2 High-Performance Architectural Latex: Two coats over waterborne galvanized-metal primer: MPI INT 5.3M.

END OF SECTION 099000

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SECTION 131100 - SUMMARY OF THE SWIMMING POOL WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 RELATED SECTIONS

- A. The following Sections are related to this Section and describe Work of the General Contractor or his select Pool Sub-Contractor:
 - 1. Section 131129 - Ceramic Tile Swimming Pool Finish - Re-grouting and selective tile replacement within the pool vessel and gutter system
 - 2. Section 131143 - Recirculating Gutter Systems
 - 3. Section 131510 - Pool Caulking and Sealants

1.2 SUMMARY OF THE WORK

- A. Work to be performed under the following General Construction Contract shall consist of all labor, materials, tools, equipment, transportation, supervision, and services necessary for, and incidental to, the construction and completion of the Project titled; and as shown on the Drawings and/or as herein specified, to include all work.
- B. Competition Pool Scope of Work:
 - 1. The scope of work for the swimming pool renovation (also referred to as 'pool or pools' in these specifications) construction is intended to produce a fully functional and code compliant institutional 9-12/competitive venue for the Wilson School District at the Wilson Senior High School. The structure is to be re-grouted and renovated by the General Contractor or a properly certified commercial swimming pool Sub-contractor with verifiable references for ceramic tile finished concrete swimming pool construction. The design of the pool and support system is intended to produce a low maintenance, long filter run-time performance with minimal outside support.
- C. Basis of Design:
 - 1. The Basis of Design for the Base Bid Swimming Pool vessel shall be the complete restoration of the original depth profile of the existing swimming pool containment structure incorporating re-grouting of the interior of the pool vessel and refacing the stainless-steel recirculating gutter tile faced

system and an complete re-grouting of the ceramic mosaic tile interior finish with tile accents.

2. The Work associated with the existing cast-in-place concrete pool interior ceramic tile refinishing is established as a single 8- lane x 8-lane multi-purpose competition pool. The existing pool (75'-1" x 75'-1") ranges in depth from 4'-4" to approximately 12'-6" at the deepest point under the diving boards and at the main drains. The pool depth profiles shall meet or exceed the recommendations established in the National High School Federation (NHSF) standards for competitive swimming, latest edition for a competitive diving pool.

D. Scope of Work

1. The following items are included in the scope of work for the pool contract, but is not limited to:
 - a. Coordination of all trade-related work impacting the swimming pool renovations.

E. Work by Others:

1. Water service to the filter room.
2. Sanitary drainage from the filter room.
3. Electrical Bonding of pool and pool related components

- F. All ceramic tile finish materials shall be installed with epoxy-based setting bed and grouting materials to produce a high strength, flexible attachment system with the concrete pool decks and containment structure where applicable.

- G. All exposed finishes shall be reviewed and approved by the Architect of Record. The pool drawings are furnished to provide the intended scope of work and are consistent with a Construction Document level of completion.

END OF SECTION 131100

SECTION 131129 - CERAMIC TILE SWIMMING POOL FINISH

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. All work outlined in this Section shall be furnished by the General Contractor or his select Sub-contractor to be included in the General Construction Contract.
- C. Preparation of pool surfaces to receive new grouting and repair.

1.2 SUMMARY

- A. The extent of ceramic tile re-grouting and related work is indicated on the Drawings, and in general includes, but is not limited to:
 - 1. Entire swimming pool interior finish.
 - 2. Safety stripe.
 - 3. Lane markings, floor, and wall.
 - 4. Swimming pool deck with contrasting waterjet cut solid porcelain tile depth markings.
- B. The appropriate provisions of the 2020 Tile Council of America (TCA) Handbook for Ceramic Tile Installation (or latest edition). Section P601-09 shall apply and be incorporated in this Section the same as if written out in full herein.

1.3 QUALIFICATIONS OF TILE CONTRACTOR

- A. Tile Contractor must have had at least three (3) years' experience in the construction of the type of swimming pool finish system specified and shall provide a list of at least five (5) pools of this type each with a water surface area of not less than this pool which he has constructed and which upon investigation, would be found to be completed in a satisfactory manner and in operation at least two (2) years.
- B. The Contractor's foreman and mechanics must have at least three (3) years' experience in the installation of setting bed and ceramic mosaic tile finishes on concrete pool decks associated with swimming pool structures. Satisfactory written evidence of such experience shall be presented to the Owner upon request.
- C. The ceramic tile installation must be performed by an appropriately skilled Contractor with supervision by the General Contractor's own personnel.

This portion of the work may be sub-contracted if all requirements set forth herein are met by the sub-contractor and its personnel. The Architect must be notified if this portion of the work is to be subcontracted.

- D. The Owner reserves the right to reject any Contractor if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such Contractor is properly qualified to carry out the obligations of the contract and to complete the work described, or if the General Contractor or his select Sub-contractor does not meet the qualifications stated herein.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications, details and installation instructions for the products used in conjunction with the Swimming Pool.
- B. Submit samples of full color line of proposed ceramic tile prior to initiating ceramic tile installation. All colors and layouts must be reviewed and approved by the Architect prior to installation.

1.5 WARRANTY

- A. General Contractor warrants that all materials used in completing the installation contracted for are new and of high quality; that all work has been done in a competent and workmanlike manner; that if any substantial defect occurs in the workmanship or materials it will be remedied without cost to the Owner if written notice thereof is given to the General Contractor within one (1) year from the Date of Substantial Completion. Assemblies or units (such as deck inserts, ladders, etc.) and standard fittings or accessories purchased by the General Contractor for use in this installation are subject only to the extent of the manufacturer's warrantee.
- B. The General Contractor shall warrantee for ten (10) years repair of the Ceramic Tile covering any defects, cracks and/or delamination in the ceramic tile caused by defective workmanship or material, exclusive of damages due to subsurface hydrostatic conditions, provided the pool is kept full of water at all times except for required cleaning and that during such cleaning the pool does not remain entirely empty for more than a ninety-six (96) hour period. The Ardex System one tile setting methodology is the standard for this specification to obtain a 10-year warranty against delamination. *

1.6 QUALITY ASSURANCE

- A. The General Contractor will be responsible for checking measurements in the field prior to the preparation of Shop Drawings and actual fabrication of the system. Field fitting may be allowed only if measurements will delay the fabrication process.

PART 2 - PRODUCTS

2.1 BOND/LEVELING/GAUGING COAT*

- A. Ardex AM 100™ Smoothing and Ramping Mortar, 1" to 1-1/4" (thicker application rate permitted by manufacturer provided substrate is examined by the manufacturer prior to installation).
- B. Basecrete, acrylic modified cementitious membrane/waterproof setting bed bond coat, 1/4" to 4" application rate depending upon conditions as manufactured by Basecrete Technologies LLC, 6148 Clark Center Ave., Sarasota, FL 34238, info@basecreteuse.com, (914) 312-5142.

2.2 WATERPROOFING MEMBRANE*

- A. Ardex AM 8+9™ Waterproofing and Crack Isolations Membrane, 3 coat application to provide 10-year waterproof warranty.
- B. Ardex P4™ Pre-Mixed, Rapid-Drying Multipurpose Primer for prepping existing ceramic tile to receive new ceramic tile finish. One coat system.
- C. Basecrete, acrylic modified cementitious membrane/waterproof setting bed bond coat, 1/4" to 4" application rate depending upon conditions as manufactured by Basecrete Technologies LLC, 6148 Clark Center Ave., Sarasota, FL 34238, info@basecreteuse.com, (914) 312-5142.

2.3 INTERIOR SETTING BED*

- A. Ardex X77 TM Microtec Fiber Reinforced Thin set mortar. Polymer modified trowel applied thin set setting bed. Install in strict compliance for ceramic mosaic tile in a wet environment.

2.4 GROUT*

- A. Ardex FLTM Rapid Set Flexible Grout. Color to be selected by Architect.

2.5 SEALANT*

- A. Ardex SX™ 100% Silicone Sealant for Tile and Stone for all areas not in contact with or immersed in pool water. Color to be selected by Architect.
- B. Latasil 100% Silicone sealant for all areas of sealant immersed, or in direct contact with pool water.

2.6 CERAMIC TILE

- A. Basis-of-Design: Dal-Tile Corporation, 800-993-TILE

1. Approved equal: American Olean
- C. Type: Color body porcelain, floor and wall tile.
- D. Size:
 1. 1" x 1" x 1/4"
- E. Colors:
 1. Color selection by Architect from manufacturer's full range matching the original tile color palate from the original construction project.
- F. Furnish and install all required shapes, coves, caps, and stretchers to provide uniform complete impervious ceramic tile interior swimming pool finish. No rough or sharp edges will be accepted.

2.7 MOVEMENT CONTROL JOINT

- A. DILEX-EXE 316L stainless steel movement joint or approved equal.

2.8 ISOLATION JOINT

- A. DILEX-BWA PVC control joint or approved equal.

EXECUTION

3.1 INSTALLATION

- G. The ceramic tile finish shall not be applied until:
 1. All work by others in the pool area including finish grade, deck work, exterior painting, etc. have been completed.
 2. Swimming pool has been tested for watertight integrity.
- H. Prior to application of finish, the surfaces to be coated shall be thoroughly cleaned of dust, oil, paint, loose materials, and any foreign matter.
- I. Set ceramic tile as indicated elsewhere in these specifications. All ceramic tiles shall be installed over a floated leveling course of setting bed material to produce a smooth and level installation. All transition areas shall be free of any tripping hazards and produce a smooth level joint between finishes. Install ceramic tile finish in strict compliance with manufacturer's written recommendations. Curing shall be performed in strict compliance with TCA guidelines. Precautions shall be taken during filling pool structure with water to avoid damage to new grouted surfaces caused by direct flow of make-up water. Protective coating can be removed once sufficient depth of water has been reached to avoid damage to grout.

- J. Monitor water chemistry to allow for proper curing of grout and ceramic tile. Consult manufacturer for proper pH range, total calcium hardness and total alkalinity during the curing period.

END OF SECTION 131129

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SECTION 131143 - RECIRCULATING GUTTER SYSTEMS CLEANING AND RESTORATION

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The extent of the cleaning and restoration of the recirculating gutter system is indicated on the Drawings. General Contractor is responsible for all aspect of this section of the work and shall supply and install all fasteners, to restore the gutter grating system.
- B. The Drawings indicate the general arrangement of the pool plumbing. General Contractor shall carefully examine the Drawings and shall be responsible for the proper fittings, materials and equipment as indicated, without substantial alteration.
- C. Provide grout and caulking between the recirculating gutter system and any concrete, ceramic tile, or other grout surfaces required in the installation of the system.
- D. All electrical grounding has been previously performed and is not a part of this contract.

1.2 RELATED DOCUMENTS

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

1.3 QUALIFICATIONS OF CONTRACTOR / MANUFACTURER

- A. General Contractor and his select Sub-Contractor must have had at least five (5) years' experience in the construction of the type of swimming pool gutter system specified and shall provide a list of at least five (5) pools of this type each with a water surface area of not less than this pool which he has constructed and which upon investigation, would be found to be completed in a satisfactory manner and in operation at least two (2) years.
- B. All cleaning and passivating shall be performed by a mechanic with at least five (5) years' experience in installing and servicing stainless steel recirculating gutter systems.
- C. The cleaning and passivating of the recirculating gutter system must be performed by the General Contractor or his select Sub-Contractor's own personnel and with his own equipment.
- D. The Owner reserves the right to reject any Contractor if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such Contractor is

properly qualified to carry out the obligations of the Contract and to complete the work described, or if the Pool Builder does not meet the qualifications stated herein.

- E. The recirculating gutter system as installed is the product of a manufacturer regularly engaged in the fabrication of recirculating gutter systems.
- F. It is the intent of this Specification that the perimeter overflow system channel flow and surface cleaning be maintained under all conditions of normal operation and that no water be discharged to waste except when cleaning the filters or emptying the pool.
- G. All work covered under this Section shall be performed by an authorized licensee of the manufacturer of a mechanic skilled in the maintenance of stainless-steel recirculating gutter systems.
- H. Should the requirements of the manufacturer's technical bulletins contradict this or any other Section of the Specifications, the procedures called for in the bulletins shall govern.

1.4 SUBMITTALS

- A. Product Data: Submit cleaning manufacturer's specifications and use instructions for the products used in this assembly.
- B. Shop Drawings: not required

1.5 WARRANTY

- A. Not required.

1.6 QUALITY ASSURANCE

- A. Field Measurements: The General Contractor will be responsible for checking measurements in the field prior to the cleaning and passivation of the system.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Existing stainless-steel recirculating perimeter system, Paddock HPDE top grate, as manufactured by Paddock Pool Equipment Company, Rock Hill, SC is the gutter system in use at Wilson High school.

2.2 STAINLESS STEEL GUTTER SYSTEM

- A. Recirculation System: Pipe-less Perimeter Stainless Steel Gutter System, configuration and profile as indicated on the Drawings. All exposed surfaces are to be cleaned, polished, and passivated to restore the visual appearance to a "like new" condition.
- B. All loose tile in the tile-face section of the gutter are to be reinstalled and re-grouted along with the re-grouting the ceramic tile interior pool surfaces.
- C. All areas of the gutter and headwall assembly shall be accessible for inspection and cleaning.
- D. All HPDE gutter grating sections that is stained shall be cleaned of rust deposits and all affected fasteners shall be replaced with 304L Stainless-steel screws and fasteners as recommended by the manufacturer.

2.3 STAINLESS STEEL CLEANING, PASSIVATION, AND POLISHING

- A. All stainless-steel components requiring cleaning, polishing, and refinishing shall be performed under the base bid. This work is to be provided by the General Contractor unless specifically noted. The components requiring cleaning and surface preparations includes but is no limited to:
 - 1. Gutter cleaning shall follow the following procedures.
 - a. Cleaning Materials - Normal cleaning and upkeep requires regular cleaning with "Scotch-Brite" pads and a nitric or citric acid based cleaner. Never use steel wool or "SOS" type cleaning agents as the residue will stain and degrade the surface of the stainless-steel.
 - b. The recommended cleaning agent for all stainless steel equipment in the pool area is "Ox-out 155, 536 and 540L Passivating Solution" as manufactured by: Chemclean Corporation, 130-45 180th Street, Jamaica, NY 11434, www.chemclean.com, (718) 525-4500, (718) 481-6470 fax
 - c. OX-OUT 155 - Non-Etching Oxide Remover for Polished Stainless- Steel OX-OUT 155 removes spot and seam weld oxides without etching polished stainless steel. No abrasives, no grinding, or wire brushing.
 - d. Use OX-OUT #155 as received. If needed, remove oil or soil from parts with Chem Clean 101 or solvent prior to dipping. The correct immersion time limits should be determined by testing. During test, remove parts at frequent intervals to evaluate time of cleaning. Use at room temperature or warm up to 180 degrees.
 - e. OX-OUT 536 - Scale and Oxide Remover for Stainless Steel. OX-OUT 536 removes welding, brazing, heat treating and annealing oxides, stains, and temper colors from 300 series stainless steel, monel inconel and other nickel alloys. No abrasives, no grinding, or wire brushing.
 - f. OX-OUT 540-L - Passivating Solution Passivation of stainless steel is a surface cleaning process. Eliminating surface contamination is necessary so the natural exposure to air will allow the formation of a thin, durable chromium oxide film. Additional passivation using #540L

is specified to remove light surface contamination from stainless steel surfaces. Includes shop dirt, iron particles from cutting tools and machining lubricants. #540L enhances the level of chromium in the protective film which raises the corrosion resistance and protects against surface staining. CHEMCLEAN #540-L is formulated to form a protective film when used on Type 300 or 400 stainless steels. It will not corrode or etch the surface.

PART 3 - EXECUTION

3.1 GENERAL

- A. All gutter cleaning shall follow all recommended procedures of the specified cleaning, polishing, and passivation material. Flush all cleaning materials from the completed section of the stainless-steel gutter section with clean potable water.
- B. Mask gutter sections to protect surface from the ceramic tile installation, grouting, and cleaning process. Under no circumstances shall muriatic acid (diluted hydrochloric acid) be used adjacent the freshly cleaned and polished gutter. Sequencing of the work should be reviewed with the Owner and architect. It is recommended that the gutter preparations be performed at the end of the Project after all tile work is finalized to avoid discoloration of the freshly cleaned gutters.

END OF SECTION 131143

SECTION 131510 - POOL CAULKING AND SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. All work under this section shall be performed by the General Contractor.

1.2 SUMMARY

- A. Provide all sealants and caulking including, but not limited to expansion joint filler, and interior caulking.

1.3 QUALITY ASSURANCE

- A. General sealer performance requirements: Select material for compatibility with joint surfaces and other indicated exposures. Select modulus of elasticity and hardness of grade recommended by manufacturer for each application indicated.
- B. Provide colors as indicated, or if not indicated, color as selected by the Architect from manufacturer's standard colors.

1.4 SUBMITTALS

- A. Manufacturer's Data:
 - 1. Submit a PDF copy of manufacturer's specifications and installation instructions for products supplied for installation. Include certified laboratory test reports on components as specified or required by regulatory agencies.
 - 2. Assemble information into one (1) coordinated submittal.

PART 2 - PRODUCTS

2.1 SEALANTS

- A. Sealant No. 1 (interior sealant caulk): Sikaflex 1a, as manufactured by Sika Corporation, Lyndhurst, New Jersey
- B. Sealant No. 2 (control joint, dissimilar materials, and joints in contact with pool water): Sikaflex 2C-NS, one-part, polyurethane sealant as

manufactured by Sika Corporation, Lyndhurst, New Jersey. Color selected by Architect. (for use in vertical and horizontal surfaces)

- C. Sealant No. 3 (expandable sealant): Adeka Ultra Seal, P-201 expandable, one-part elastic sealant, as manufactured by Asahi Denka Kogyo K.K., Tokyo, Japan. Manufacturer's standard color.
- D. Sealant No. 4 (for use at pool gutter and ceramic tile edges): Thiokol 2235M as manufactured by Thiokol Corporation, Trenton, New Jersey. Color selected by Architect.
- E. Sealant No. 5 (for use at pool gutter and ceramic tile edges): Latasil 100% Silicone sealant as manufactured by Laticrete International, Inc. Bethany, CT. Color selected by Architect.
- F. Sealant No. 6 (for use in keyways and cold joints): Greenstreak Swellstop 1"x $\frac{3}{4}$ " expanding water stop, as manufactured by Greenstreak, Inc., St. Louis, Missouri.
- G. Bond Breaker: 3M 226, 48, 710 as manufactured by 3M Corporation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's printed instruction except where more stringent requirements are specified and except where manufacturer's technical representative directs otherwise.
 - 1. Elastomeric Sealant Installation Standard: Comply with ASTM C 962.
 - 2. Solvent-Release-Curing Sealant Installation Standard: Comply with ASTM C 804.
 - 3. Latex Sealant Installation Standard: Comply with ASTM C 790.
 - 4. Acoustical Sealant Application Standard: Comply with ASTM C 919 for use of joint sealants in acoustical applications.
 - 5. Installation of Fire-Stopping Sealant: Install sealant, including forming, packing and other accessory materials to fill openings around mechanical and electrical services penetrating floors and walls to provide fire-stops with fire resistance ratings indicated.
- B. Do not proceed with installation of liquid sealants under unfavorable weather conditions. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer for installation.
- C. Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture, and other substances which could interfere with bond of sealant or caulking

compound. Etch concrete and masonry joint surfaces as recommended by manufacturer. Roughen vitreous and glazed joint surfaces as recommended by manufacturer.

- D. Set joint filler units at proper depth or position in joint to coordinate with other work, including installation bond breakers, backer rods and sealants. Do not leave voids or gaps between ends of joint filler units.
- E. Install sealant backer rod for liquid elastomeric sealants, except where required by manufacturer's recommendations, to ensure that sealant will perform properly.
- F. Install bond breaker tape where indicated and where required by manufacturer's recommendations to ensure that elastomeric sealant will perform properly.
- G. Employ only proven installation techniques, which will ensure that sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces equally on opposite sites. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cover, so that joint will not trap moisture and dirt.
- H. Install sealant to depths as shown or, if not shown, as recommended by sealant manufacturer but within the following general limitations measured at center (thin) section of bead:
 - 1. Pool decks, pavements and similar joints sealed with elastomeric sealants, subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 5/8" deep nor less than 3/8" deep.
 - 2. For normal moving joints sealed with elastomeric sealants but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
 - 3. For joints sealed with non-elastomeric sealants and caulking compounds, fill joints to a depth in range of 75% to 125% of joint width.
- I. Spillage: Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into voids of adjoining surfaces. Clean adjoining surfaces by whatever means may be necessary, as recommended by manufacturer, to eliminate evidence of spillage.
- J. Recess exposed edges of gasket and exposed joint fillers slightly behind adjoining surfaces, unless otherwise shown, so that compressed units will not protrude from joints.

- K. Bond ends of gaskets together with adhesive or "weld" by other means as recommended by manufacturer to ensure continuous water-tight and air-tight performance. Miter cut and bond ends at corners unless molded corner units are provided.

3.2 CURE AND PROTECTION

- A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Comply with manufacturer's procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage, (other than normal wear and weathering), at time of Substantial Completion.

END OF SECTION 131510