

CONDITIONS OF THE CONTRACT AND SPECIFICATIONS

FOR

**ELEMENTARY and RUTH FOX MIDDLE SCHOOL
OPERABLE PARTITION REMODELING
NORTH BRANCH AREA SCHOOLS
NORTH BRANCH, MICHIGAN**

APRIL 3, 2023 A/E

NO. 2667-12C

OWNER

NORTH BRANCH AREA SCHOOLS
6655 JEFFERSON
P.O. BOX 3620
NORTH BRANCH, MICHIGAN 48461
(810) 688-3570

ARCHITECTS/ENGINEERS

KINGSCOTT ASSOCIATES, INC
259 EAST MICHIGAN AVENUE, SUITE 308
KALAMAZOO, MICHIGAN 49007
(269) 381-4880

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

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Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

NOTICE TO BIDDERS

Sealed Bids for the **Elementary & Ruth Fox Middle School Operable Partition Remodeling for North Branch Area Schools** will be received by **North Branch Area Schools, 6655 Jefferson, North Branch, Michigan 48461, Monday, April 24, 2023, until 2:00 p.m.**, local time. Bids received after that time will be returned unopened.

Bid will be opened publicly and read aloud at the Central Administration Building.

Bids shall be executed on Bid Form provided. Each proposal must be accompanied by a satisfactory certified check, money order, or bid bond payable to North Branch Area Schools for not less than five (5%) percent of the amount of the bid and delivered in a sealed envelope bearing the bidder's name, address, and project identification.

All bids submitted shall be from a prime bidder only and shall include all subcontractor costs for scopes identified in the contract documents.

Owner is **exempt** from Michigan use and sales tax.

This project **does not** require prevailing wages.

Successful bidder(s) will be awarded by AIA A101-2017, Standard Form of Agreement Between Owner and Contractor, issued by the Owner following action by North Branch Area Schools at a meeting of the Board of Education.

Bidding and Contract Documents will be available from Kingscott Associates, Inc. on April 3, 2023 on the Kingscott ShareFile site. For access to the Kingscott ShareFile site, please contact Lisa Dailey at ldailey@kingscott.com. No printed sets of contract documents will be issued; however, the electronic files may be reproduced for bidding purposes by the bidder and at the bidder's expense.

The Owner reserves the right to accept or reject any or all bids, to waive any irregularities in bidding and to refrain from accepting or rejecting any bids for a period of thirty (30) days after the bid opening.

You may contact Jeff Drayton jdrayton@nbbronzos.net or 810-523-6040 for access to the site.

The project scope of work includes (but not limited to) the following:

1. Demolition of classroom gypsum board stud wall and CMU partitions
2. Repair of flooring at removed wall locations
3. Installation of six operable partition systems with new support steel

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
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INSTRUCTIONS TO BIDDERS

DEFINITIONS: Bidding Documents include the Advertisement or Invitation for Bids, or Notice to Bidders, Instructions to Bidders, Bid/Proposal Forms and Supplements (if any), Sample Forms and the Proposed Contract Documents, including General Conditions of the Contract for Construction, Supplementary Conditions, Specifications, Drawings and any Addenda issued prior to receipt of bids.

All definitions set forth in the General Conditions of the Contract for Construction or in any other Contract Documents are applicable to the Bidding Documents.

Addenda are written or graphic instruments issued by the Architects/Engineers prior to execution of a Contract which modify or interpret the Bidding Documents by additions, clarifications or corrections.

A Bid is a complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein submitted in accordance with, and supported by such data as required by the Bidding Documents.

A Bidder is a person or entity who submits a Bid for the Work or specified portion thereof as described in the Proposed Contract Documents.

A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

BIDDER'S REPRESENTATIONS: Each Bidder by submitting a Bid represents that the Bidder has; read and understands the Bidding Documents and the Bid is made in accordance therewith; read and understands the Bidding Documents to the extent that such documentation relates to the Work for which the Bids is submitted, and to other portions of the Project (if any) that may be bid concurrently or are presently under construction; visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the proposed Contract Documents; based the Bid upon materials, systems, and equipment described in the Bidding Documents without exception, unless so noted as may be provided on the Bid Form.

BIDDING DOCUMENTS: Bidding Documents may be obtained from the issuing office as stated in the Advertisement, Invitation, or Notice to Bidders. All plans and specifications shall remain the property of the Architects/Engineers.

Complete sets of the Bidding Documents shall be used in preparing Bids. Neither the Owner nor the Architect/Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

In making electronic copies of the Bidding Documents available, the Owner and the Architect/Engineers do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant permission for any other use of the Bidding Documents.

INTERPRETATION OF BIDDING DOCUMENTS: Bidders shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it is related to the Work for which the Bid is submitted. Bidders shall promptly notify the Architect of any ambiguity, inconsistency or errors that they may discover upon examination of the Bidding Documents or of the site and local conditions.

Bidders or Subbidders requiring clarification or interpretation of the Bidding Documents shall make such written request to the Architects/Engineers at least three (3) days prior to the date of receipt of bids. Any required interpretation, correction or change of the Bidding Documents will be made by addendum and will be issued by electronic transmission or posting to a File Transfer Protocol (FTP) site. Interpretations, corrections or changes made in any other manner are not binding and Bidders shall not rely upon such.

SUBSTITUTIONS: The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least three (3) days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work including changes in the work of other contracts that incorporation of the proposed substitution would require shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect decision of approval or disapproval of a proposed substitution shall be final.

If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum and will be issued by electronic transmission or posting to a File Transfer Protocol (FTP) site. Bidders shall not rely upon approvals made in any other manner. No substitutions will be considered after the Contract award unless specifically provided in the Contract Documents.

ADDENDA: Addenda will be issued by electronic transmission or posting to a File Transfer Protocol (FTP) or similar site to all who are known by the Architect to have received access to the Bidding Documents. Copies also will be made available for inspection wherever Bidding Documents are on file for that purpose. Each Bidder shall ascertain prior to submitting a bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the allotted space on the proposal form.

It shall be understood and agreed that the requirements contained in all Bidding Documents shall apply to all addenda items and the general character of the work called for in the Addenda shall be the same as originally required for similar work (unless otherwise noted) and that all incidental work necessitated shall be included, even though not specified herein.

BIDS - FORM AND STYLE: Bids shall be submitted in duplicate on forms provided by the Architects, with all applicable blanks filled in by typewriter or manually by ink. Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures. In case of discrepancy between the two, the written amount shall govern. Any interlineation, alteration or erasure must be initialed by the signer of the Bid.

Each Bid shall include the legal name and address of the Bidder and a statement whether the Bidder is a sole proprietor, partnership, corporation or any other Legal Entity. Each copy shall be signed by a person legally authorized to bind the Bidder to a Contract. Bids submitted by a corporation shall have the corporation seal affixed. Bids submitted by an agent shall be accompanied by a current power of attorney certifying the agent's authority to bind the Bidder.

BID SECURITY: Each Bid shall be accompanied by a bid security in the form of a certified check, money order or bid bond in the amount of not less than five (5%) percent of the maximum total bid price. The bid security shall be made payable to the Owner and as such pledges that the Bidder will enter into a Contract with the owner in accordance with the terms stated in the Bid and the requirements of the Bidding Documents. Should the Bidder refuse to enter into such contract within ten (10) days after notice of said Contract having been awarded, then the bid security shall be forfeited to the Owner as liquidated damages, not as penalty.

Bid Security shall be written in the form of AIA Document A-310, Bid Bond or equivalent. The attorney-in-fact who executes the bond in behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

The Owner shall have the right to retain the bid security of Bidders until either (1), the contract has been executed and the required bonds have been furnished or (2), the specified time has elapsed so the Bids may be withdrawn, or (3), all Bids have been rejected.

SUBMISSION OF BIDS: All Bids and any other documents required to be submitted with the Bid, shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the Owner and shall be identified with the Bidders name and address, the Project name, and the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with a notation "BID ENCLOSED" on the face thereof.

Bids shall be deposited at the designated location prior to the time and date indicated in the Advertisement, Invitation to Bid or Notice to Bidders or any extension thereof made by Addendum. Bids received after the time and date set for receipt of Bids will be returned unopened.

Bidders shall assume full responsibility for timely delivery to the location designated for receipt of Bids. Oral, telephonic or telegraphic bids are invalid and will not receive consideration.

BID MODIFICATION OR WITHDRAWAL: The Bidders so agrees in submitting a Bid that it may not be modified, withdrawn or canceled during the stipulated time period following the time and date designated for receipt of Bids. Modification or withdrawal of an early submitted Bid may be made only by notice to the party receiving Bids at the place and prior to the time designated for receipt. Such notice shall be in writing over the signature of the Bidder or by telegram. If by telegram, written confirmation over the signature of the Bidder must have been mailed and postmarked on or before the date and time set for receipt of Bids. Modified or withdrawn Bids may be resubmitted up to the time designated for receipt of Bids, provided that they comply fully with all Bidding Documents.

CONSIDERATION OF BIDS: The Owner shall have the right to reject any and all Bids. A bid may be rejected if not accompanied by a required bid security, or by other data required by the Bidding Documents or which is in any way incomplete or irregular.

The Owner shall have the right to waive informalities or irregularities in a Bid received, and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

SUBMISSION OF POST BID INFORMATION: Bidders to whom award of a Contract is under consideration shall, upon request of the Architect, promptly submit statements setting forth previous experience, references, physical plant and equipment possessed, description of organization, financial resources and such other evidence as may testify to the ability to carry out contracts. This requirement may be met by submitting AIA Document A-305, Contractor's Qualification Statement.

Unless waived by the Architect, the Bidder shall as soon as practicable after notification of selection for the award of a Contract, submit the following information to the Architect:

A designation of the Work to be performed by the Bidders own forces.

The proprietary names and the suppliers of principal items or systems materials and equipment proposed for the Work.

A list of names of the Subcontractors or other persons or organizations (including those who are furnished materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

The Bidder will be required to establish to the satisfaction of the Architect and the Owner the reliability and responsibility of the proposed Subcontractors to furnish and perform the Work described in the sections of the specifications pertaining to such proposed Subcontractors respective trades.

Prior to the award of the Contract, the Architect will notify the Bidder in writing if after due investigation, the Owner or Architect has reasonable objection to any person or organization, on such list. If the Owner or Architect has a reasonable objection to any person or organization, the Bidder may, at the Bidders option, (1) withdraw the Bid or (2) submit an acceptable substitute person or organization with an adjustment in the Bid to cover the difference in cost occasioned by such substitution. The Owner may, at his discretion, accept the adjusted Bid or may disqualify the Bidder. In the event of either withdrawal or disqualification under this paragraph, bid security will not be forfeited.

Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner and the Architect must be used on the Work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner and Architect.

PERFORMANCE BOND AND PAYMENT BOND: The successful Bidder shall furnish a Performance Bond in an amount of not less than one hundred (100%) percent of the contract sum as a security for the faithful performance of this contract and also a Payment Bond in an amount of not less than one hundred (100%) percent of the sum of contract as security for the payment of all persons performing labor on the project under the contract and/or furnishing materials in connection with the contract. **Bidders shall include the premiums for bonds in their proposals, with the premium for the performance and payment bonds included in the base bid amount.**

The Bidder shall deliver the required bonds to the Owner not later than the date of execution of the contract, or if the Work is commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work and if required by the Owner, submit evidence satisfactory to the Owner that such bonds will be issued.

The Bidder shall require the attorney in fact who executed the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney indicating the monetary limit of such power. Bonds shall be written in the form of AIA Document A-312, 2667-12C

Performance Bond and Payment Bond or equivalent. Bonds shall be dated on or after the date of the Contract.

INSURANCE: Successful Bidders will be required to furnish evidence of insurance of the kind and in the amounts as required by the General Conditions of the Contract for Construction and Supplementary General Conditions.

PAYMENTS RETAINED: Owner shall make payments on account upon issuance of Certificates of Payment by the Architect for labor and material incorporated in the work and for materials suitably stored at the site up to ninety (90%) percent of the value thereof.

When the cumulative total of payment retained is equal to ten (10%) percent of the contract sum, subsequent payments will be made in the full amount for labor and material incorporated in the work and for materials suitably stored at the site, if, in the judgment of the Architect and the Owner, the work is progressing satisfactorily. This amount shall be retained until final acceptance of the work.

FINAL PAYMENT: Final payment, including retained percentage, shall become due when the contractor submits satisfactory evidence to the Architect that:

All payrolls, bills for materials, equipment and other indebtedness connected with the work for which the Owner of his property might in any way be responsible have been paid or otherwise satisfied.

Consent of surety in writing to final payment.

Data establishing payment or satisfaction of all obligations, such as receipts, releases and waivers of liens from each supplier and subcontractor covering each item of work.

SPECIFICATIONS/AUTOMATED TECHNICAL SECTIONS: Portions of the specifications may have been derived from an automated master specification production system and may include minor deviations from traditional writing forms. Such deviations must be recognized as a normal result of this production technique and no other meaning will be implied or permitted.

The editing and printing methods utilized by the automated procedures can produce some irregularities in grammatical structure such as form, structure, spelling and punctuation. Most are of common practice. Should any Bidder be in doubt as to the intended meaning, he shall so notify the Architect who in turn shall clarify the question by means of addenda to all Bidders.

MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ACT (MIOSHA): The contractor is to note the MIOSHA - (ACT 154 of the Public Acts of 1974) amendments that include requirements for the communication of information regarding safe handling of hazardous chemicals present in Michigan workplaces known as "Michigan's Right to Know Law". The Contractor and all subcontractors shall comply with all required provisions that may relate to any materials that contain hazardous chemicals.

VOLUNTARY ALTERNATES: When reference is made in the specifications to one or more trade names or to the names of one or more manufacturers, such references are made to designate and identify the material or equipment to be furnished. The Bidder may, at his option, in addition to the Base Bid on the specified items, provide Voluntary Alternate proposals for optional materials and/or methods that the Bidder proposes to use, together with the difference in cost from that basically specified. The Owner reserves the right to accept or reject such options.

Submission of Voluntary Alternate proposals does not require prior approval of the Architect. However, where a proposed Voluntary Alternate requires changes or modifications, in assembly, detail or form of any other construction, for accommodation, it shall be the responsibility of the Bidder to reconcile and include all costs necessary for incorporation of such into the work. Voluntary Alternates if accepted, will be incorporated into the executed contract.

ALTERNATES: Where, by make up of the Proposal Form provision is made for an "Alternate" the Bidder shall state the amount that will be added or deducted from the Base Bid if the Owner decides to accept a change in the scope of work or in products, materials, equipment, systems or installation methods that is described in the Contract Documents.

Included as part of each Alternate shall be all miscellaneous devices, appurtenances and similar items incidental to or required for a complete installation whether or not specifically mentioned as part of the Alternate.

TIME OF COMPLETION:

Work shall be substantially complete no later than July 21st 2023.

Final completion shall be achieved no later than July 28th, 2023.

EXAMINATION OF SITE, EXISTING BUILDINGS AND CONTRACT DOCUMENTS: Before submitting a proposal, each Bidder shall carefully examine the Contract Documents, visit the site of the Work, fully inform himself as to all existing conditions and limitations and shall include in the proposal a sum to cover the cost of all items included in the work. No additional compensation for the omission of any work, materials, and/or labor required to complete the work in accordance with the contract will be granted due to the bidder's failure to conform to these requirements.

Arrangements to visit the site may be made by contacting: Jeff Drayton jdrayton@nbbronzos.net or 810-523-6040.

Questions regarding the bid or contract documents shall be directed to:

Ryan Alm, Project Architect
Kingscott Associates, Inc.
259 East Michigan, Suite 308
Kalamazoo, Michigan 49007-6403

E-mail: ralm@kingscott.com

END OF SECTION

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

BID FORM

Owner:

North Branch Area Schools
6655 Jefferson
North Branch, Michigan 48461
Attention: Jeff Drayton

The undersigned, having carefully examined the Notice to Bidders, Instruction to Bidders, the premise and conditions affecting this work, together with drawings and specifications for the **Elementary & Ruth Fox Middle School, Operable Partition Remodeling, North Branch Area Schools** and other documents related thereto, does hereby propose to furnish labor, materials, services and equipment necessary to complete all work, called for by and in accordance with the drawings and specifications for same, issued for bidding and dated **April 3, 2023** including addenda numbered _____.

TIME OF COMPLETION

The undersigned agrees to start work upon receipt of the Contract and shall achieve Final Completion by July 29th, 2023. Construction shall happen between June 12th, 2023 and on or before the substantial completion date of July 21st, 2023.

BID SECURITY

Enclosed herewith find (Certified Check), (Cashier's Check), (Bid Bond), in the amount of \$_____being _____percent of the maximum bid herein, made payable to the North Branch Area Schools. The proceeds of which are to remain the property of the North Branch Area Schools, if bidder does not, within ten (10) days after notice of acceptance of bid, enter into a written contract.

EXCEPTIONS AND/OR SUBSTITUTIONS

We have submitted our proposal(s) complete as specified and in accordance with the Construction Documents WITH/WITHOUT (circle one) exceptions or substitutions. (Explain the exceptions or substitutions below).

BASE BID TOTAL for North Branch Area Schools Elementary & Ruth Fox Middle School Operable Partition Remodeling:

ALTERNATE 1: Includes acoustical gyp board partition above ceiling, up to roof deck at all operable partitions. Based on Drawings NB-A5.1, and Specification sections 079219, 092216, and 092900.

____ Additive ____ Deductive

NET CHANGE TO BASE BID TOTAL \$ _____

ALTERNATE 2: Includes concrete footings to be added at each new post in Elementary. Based on Drawings NBES-A1.1 and NB-A5.1.

____ Additive ____ Deductive

NET CHANGE TO BASE BID TOTAL \$ _____

BID TOTAL, BASE BID AND ALTERNATE 1 AND 2 INCLUSIVE:

_____ Dollars (\$ _____)

ACCEPTANCE:

The undersigned agree(s) to accept a contract for the work covered by this proposal, in accordance with the contract and bidding documents.

The Owner reserves the right to accept or reject any and all proposals or parts of the same.

BIDDER STATUS:

(Check One)

_____ Individual _____ Partnership _____ Corporation

Submitted By:

Company _____

Address _____

Telephone/Fax _____

Email _____

Signature/Date _____

Print Name/Title _____

SCHEDULE

The proposed schedule may be a deciding factor in the selection of the successful bidder. Please indicate the proposed schedule as follows:

Proposed Material Delivery Date: _____

Proposed Installation Start Date: _____

Proposed Completion Date: _____

SUBCONTRACTORS

Provide a list of subcontractors included in this bid:

END OF SECTION

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

AFFIDAVIT OF BIDDER #1

The undersigned, the owner or authorized officer of _____
(the "Bidder"), pursuant to the familial disclosure requirement provided in advertisement for
construction bids and Instructions to Bidders, hereby represent and warrant, except as provided
below, that no familial relationships exist between the owner(s) or any employee of
and any other member of the Board of Education or Administration of the North Branch Area
Schools, or the Superintendent of North Branch Area Schools.

List any Familial Relationships:

BIDDER: _____

By: _____

Its: _____

STATE OF MICHIGAN)
)ss
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, in the year
_____, by _____.

_____, Notary Public
_____, County, Michigan

My Commission Expires: _____

Acting in the County of: _____

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

AFFIDAVIT OF BIDDER #2

The undersigned, the owner or authorized officer of _____
(the "Bidder"), hereby certify that they are not an Iran-linked business nor on the U.S.
Government Services Administration's Excluded Parties List.

BIDDER: _____

By: _____

Its: _____

STATE OF MICHIGAN)
)ss
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, in the year
_____, by _____.

_____, Notary Public
_____, County, Michigan

My Commission Expires: _____

Acting in the County of: _____

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

GENERAL CONDITIONS

GENERAL CONDITIONS A-201:

The General Conditions shall be the "General Conditions of the Contract for Construction ", AIA Document A-201, 2017 edition, issued by the American Institute of Architects, 1735 New York Avenue, N.W., Washington D.C. 20006.

The General Conditions are on file at the following location:

Architect:

Kingscott Associates Inc.
259 E. Michigan Ave. Suite 308
Kalamazoo, MI 49007

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

SUPPLEMENTARY GENERAL CONDITIONS
OF THE
CONTRACT FOR CONSTRUCTION

SPECIAL NOTE:

These supplementary General Conditions consist of amendments and/or additions which shall take precedence over and modify specific articles and/or paragraphs of the "General Conditions of the Contract" A-201, 2007 Edition, and shall be used in conjunction with them as part of the contract documents. Any and/or all articles and/or paragraphs of the "General Conditions of the Contract" not specifically amended in this section shall apply in their entirety.

AMENDMENTS AND ADDITIONS:

The following items relate to the General Conditions by specific article and/or paragraph number being amended or added to. These items, as amendments, shall have precedence over only such portions and said articles and/or paragraphs of the General Conditions which are specifically modified thereby.

MODIFICATIONS OF THE GENERAL CONDITIONS

ARTICLE 1 GENERAL PROVISIONS Paragraph 1.2 Correlation and Intent of the Contract Documents, add the following subparagraph:

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

ARTICLE 3 CONTRACTOR Paragraph 3.2. "Review of Contract Documents and Field Conditions by Contractor":

DELETE PARAGRAPH 3.2.2 AND REPLACE WITH THE FOLLOWING:

3.2.2 The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner pursuant to Section 2.2.3 and shall at once report to the Architect errors, inconsistencies or omissions discovered. The Contractor shall not be liable to the Owner, or Architect for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Contractor recognized such error, inconsistency or omission and knowingly failed to report it to the Architect. If the Contractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall assume appropriate responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction. Prior to submitting its bid, the Contractor shall have studied and compared the Contract Documents and shall have reported to the Architect any error, inconsistency or omission in the Contract Documents. It will be presumed that the Contractor's bid and the Contract Sum include the cost of correcting any such error, inconsistency or omission, which could have been discovered by the exercise of reasonable diligence. Unless the Contractor establishes that such

error, inconsistency or omission could not have been discovered by the exercise of reasonable diligence, the contractor will make such corrections without additional compensation so that the Work is fully functional.

ARTICLE 3 CONTRACTOR Paragraph 3.4. "Labor and Materials" add the following to subparagraph 3.4.3:

Contractor shall enforce regulations regarding the use of tobacco products on school property.

ARTICLE 3 CONTRACTOR Paragraph 3.4 Labor and Materials, add the following subparagraph.

3.4.4 The Contractor shall take precautions to ensure that he or his subcontractors utilize no asbestos containing building materials (ACBM, as defined in section 763.83 of 40 CFR Part 763 amended). Upon completion of the work, and before final payment, the contractor shall submit a signed statement that "to the best of his or her knowledge no asbestos containing building materials (ACBM) was used as a building material in construction of the project."

ARTICLE 11 INSURANCE AND BONDS Paragraph 11.1 Contractor's Liability Insurance, add the following subparagraphs:

11.5 The Contractor shall purchase and maintain insurance for the following with minimum coverage as indicated and naming **North Branch Area Schools and Kingscott Associates, Inc.**

COMPENSATION

Employer's Liability, Occupational Disease and Workmen's Compensation	\$1,000,000 minimum and as required by the laws of the State of Michigan
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PUBLIC LIABILITY AND PROPERTY DAMAGE

Comprehensive General Liability Form Required

Bodily Injury and Death	\$1,000,000 each occurrence \$1,000,000 aggregate
Property Damage	\$1,000,000 each occurrence \$1,000,000 aggregate

AUTOMOBILE LIABILITY

Comprehensive Automobile Liability Form Required

Bodily Injury and Death	\$1,000,000 each person \$2,000,000 each occurrence
Property Damage	\$2,000,000 each occurrence

ADDITIONAL CONDITIONS

ADD ARTICLES 16 AND 17 AS FOLLOWS:

ARTICLE 16:

Pursuant to Michigan House Bill No. 5376, which amends Public Act 451 of 1976, each contractor/subcontractor shall provide the following:

“All bids shall be accompanied by a sworn statement disclosing any familial relationship that exists between the owner(s) or any employee of the bidder and any member of the Board of Education of the School District or the Superintendent of the School District. The Board of Education shall not accept a bid that does not include a sworn and notarized relationship disclosure statement.”

ARTICLE 17

Pursuant to the Iran Economic Sanctions Act 517 of 2012,

(1) Beginning April 1, 2013, an Iran linked business is not eligible to submit a bid on a request for proposal with a public entity.

(2) Beginning April 1, 2013, a public entity shall require a person that submits a bid on a request for proposal with the public entity to certify that it is not an Iran linked business.

The contractor shall submit with their bid a sworn statement certifying the above.

END OF SECTION

Request for Information

RFI:

To: Date:
Company: Project Name:
Subject: Response By:
Reference:

Request:

Requested By: Company:

Response:

Response By:

Date:

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Acoustical gypsum board separation above lay-in ceiling.

1. Base Bid: Operable partition installed without acoustical separation above existing ceilings as indicated on Drawing NB-A5.1.
2. Alternate: Install gypsum board on metal studs above existing ceiling, to create full acoustic separation at all operable partitions, as indicated on Drawing NB-A5.1.

B. Alternate No. 2: Post footing in Elementary Classrooms.

1. Base Bid: Post to be set on existing concrete slab.
2. Alternate: Portion of existing concrete to be removed for new 16"x16"x10" footing in (4) classrooms as indicated on Drawings NBES-A1.1 and NB-A5.1.

END OF SECTION 012300

SECTION 013300
ARCHITECT'S SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting RFI's, Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Documents will be provided by Architect for Contractor's use in preparing submittals. See 1.4 below.
- B. All submittals must be in electronic form. Paper copies are not acceptable unless specifically listed. The architect will review, stamp and return an electronic document for the contractor's use. Copies of the reviewed shop drawings shall be provided by the contractor for distribution as required by the Construction Manager.
- C. Each submittal item shall be submitted in its entirety as one complete package including all information required to fully review the item. Material sample, data, warranty and maintenance information, and drawings shall come as one package. Submittals missing required components and / or without product selections identified will be rejected without review.
- D. Compliance Certificate: Refer to the attached Compliance Certificate. Compliance Certificates are to be used by contractors to indicate the products/devices intended for use in this project without the need and time for product data submittals. Contractors shall use Compliance Certificates whenever possible to expedite the work and limit paper work. Items listed on the form must be approved products listed in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. No further product data submittals are required for this section. Physical sample, color samples, or layout shop drawings must be submitted where required by the specification. Refer to the attached specification list for sections that are subject to this certificate. **NOTE: Not all specification sections listed below will apply to the project listed above. There might not be specification sections included that are in the**

project listed above, in that case coordinate with architect at post bid interview for submittal requirements.

- E. 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. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- F. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- G. Processing Time: Allow enough 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. RFI's, request for information: Allow 5 working days for initial response for each RFI. Allow additional time if coordination with subsequent RFI is required, or when additional information is need for the response.
 - 2. Shop drawings, sample, and product data:
 - a. 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.
 - b. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - c. Resubmittal Review: Allow 15 days for review of each resubmittal.
 - d. Sequential Review: where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 - e. Submissions that are large or of multiple submissions or requires detailed or lengthy review by the Architect or his consultant may require additional time.
 - f. Submissions for products or material that require a long lead time for delivery shall be noted as such and marked "Top Priority" so the architect may expedite the process. The architect will expedite reviews when the contractor legitimately can't submit within a reasonable time due to construction schedule. Failure to submit in a timely manner or to allow sufficient time for initial review and resubmittal reviews may result in project delays, additional service charges by the architect, or other penalties for the contractor.

- H. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- I. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.
- J. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
1. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- K. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form including electronic submittals. Architect will discard submittals received from sources other than the Construction Manager. Architect will return any submittal with a transmittal, which doesn't fully list, and properly identify the enclosed items.
- L. 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 " Review or reviewed with comments."
- M. Distribution: Furnish copies of reviewed submittals to the Construction Manager, manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

1.4 CONTRACTOR'S USE OF ARCHITECT'S CAD FILES

- A. General: At Contractor's written request, copies of Architect's CAD files will be provided to the Contractor for Contractor's use in connection with Project, subject to the following conditions:
 - 1. The Architect will provide, electronic data files, compatible with AutoCAD for contractor's convenience and use in the preparation of shop drawings. **Refer to Terms and Conditions at the end of this specification.** Requests for electronic data shall be in written form through the architect. Prior to the release of electronic files, the Architect will require a signed waiver of release. Contractors should allow a minimum of 1-week for this process.

PART 2 - RFI'S – REQUEST FOR INFORMATION

- 1. All RFI's shall be submitted to the Architect in electronic form. PDF's and Word files are acceptable.
- 2. PDF RFI forms shall include an editable text area for response, date, and signature.
- 3. RFI's shall be distributed by e-mail. E-mail title shall be specific to job name, and RFI number. This is mandatory for proper tracking.
- 4. Faxed and Hand written RFI's are not acceptable and will be rejected.

PART 3 - PRODUCTS

3.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
 - 1. Submittal Types:
 - a. Shop Drawing
 - b. Product Data
 - c. Sample
 - d. Other
- B. Kingscott Review Stamp Statement: "Reviewed only for the limited purpose of checking for conformance with the design concept expressed in the Contract Documents. Dimensions, quantities, accuracy, assembly methods, installation methods, coordination with other trades and field verification are the responsibility of the contractor."
 - 1. The following Actions will be taken:
 - a. Reviewed with no exceptions
 - b. Reviewed with Exceptions
 - c. Revise and resubmit
 - d. Rejected
- C. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. Use the Material Compliance form when permitted and whenever possible to save time and paper work.
 2. If information must be specially prepared for submittal because standard data are not suitable for use, submit as Shop Drawings, not as Product Data.
 3. Mark each copy of each submittal to show which products and options are applicable. Unmarked submittals will be rejected. Failure to mark appropriate products will result in rejection of the submittal.
 4. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with specified referenced standards.
 - i. Testing by recognized testing agency.
 5. Number of Copies: Submit one electronic copy of Product Data, unless otherwise indicated. Architect will return one electronic copy. See the Construction Manager's submittal requirements for final record and distribution copy requirements.
- D. 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 of Architect's CAD Drawings is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Notation of coordination requirements.
 - j. Notation of dimensions established by field measurement.
 - k. Relationship to adjoining construction clearly indicated.
 - l. Seal and signature of professional engineer if specified.
 - m. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
 3. Number of Copies: Submit one opaque (bond) copy, and one electronic copy of each submittal. Architect will return one electronic copy for printing and distribution.

- E. Samples: **Submit Physical Samples** for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of appropriate Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available. **Scanned color charts, samples, etc. will be REJECTED. Send physical samples, color charts, etc. as described in each specification section.**
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection. **Scanned color charts, samples, etc., will be REJECTED. Send physical samples, color charts, etc. as described in each specification section.**
 - a. Number of Samples: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.

3.2 DELEGATED DESIGN

- 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 Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit four copies of 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.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 4 - EXECUTION

4.1 CONTRACTOR'S REVIEW

- A. 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 prior to submission for review. It is the contractor's responsibility to review and identify major discrepancy with the contract documents, and significant missing information. Documents with discrepancies and substantially missing information shall be returned for revisions prior to submission to the Construction Manager.
- B. Mark with approval stamp before submitting to the Construction Manager.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

4.2 CONSTRUCTION MANAGER'S REVIEW

- A. 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 prior to submission for review. It is the Construction Manager's responsibility to review and identify major discrepancy with the contract documents, and significant missing information. Documents with discrepancies and substantially missing information shall be returned for revisions prior to submission to the Architect.
- B. Mark with approval stamp before submitting to Architect.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

4.3 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's and Construction Managers approval stamp, and have not been fully reviewed and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 1. Reviewed with no exceptions.
 2. Reviewed with exceptions.
 3. Revise and resubmit.
 4. Rejected.

- C. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.
- D. Incomplete submittals with substantial missing information, will be considered non-responsive, and will be returned without review.
- E. Non-complaint submittals, will be considered non-responsive, and will be returned without review.
- F. Submittals not required by the Contract Documents will not be reviewed and will be discarded.

SUBMITTALS REQUESTED BY SPECIFICATION SECTION						
<i>This is a general guide, but may vary by project.</i>						
Given the age of digital submittal, product information and images, and multiple files can be compiled into one complete product data page. When this complete product data sheet is submitted, it becomes an acceptable option to help limit physical samples and paper.						
SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
033000	CAST-IN-PLACE CONCRETE	X		X		X
042000	UNIT MASONRY/BRICK	X	X (BRICK)			
047200	CAST STONE	X	X			
051200	STRUCTURAL STEEL FRAMING			X		
052100	STEEL JOIST			X		
053100	STEEL DECKING				X	
054000	COLD-FORMED METAL FRAMING			X		
055000	METAL FABRICATIONS			X		
055113	METAL PAN STAIRS			X		
055213	PIPE AND TUBE			X		
061000	ROUGH CARPENTRY				X	
061053	MISCELLANEOUS ROUGH CARPENTRY				X	
061063	EXTERIOR ROUGH CARPENTRY				X	
061600	SHEATHING				X	
061753	SHOP-FABRICATED WOOD TRUSSES			X		
062013	EXTERIOR FINISH CARPENTRY		X		X	
062023	INTERIOR FINISH CARPENTRY		X		X	
071326	SELF-ADHERING SHEET	X			X	
072100	THERMAL INSULATION	X			X	
072119	FOAMED-IN-PLACE INSULATION	X			X	
072500	WEATHER BARRIERS	X			X	
072600	VAPOR RETARDERS	X			X	
073113	ASPHALT SHINGLES		X			

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
074113.16	STANDING-SEAM METAL ROOF PANELS		X			
074213.13	FORMED METAL WALL PANELS		X	X		
074213.19	INSULATED METAL WALL PANELS		X	X		
075323	ETHYLENE- PROPYLENE-DIENE- MONOMER (EPDM) ROOFING			X		
075423	THERMOPLASTIC POLYOLEFIN (TPO) ROOFING			X		
076200	SHEET METAL FLASHING AND TRIM		X			
077100	ROOF SPECIALTIES	X			X	
077129	MANUFACTURED ROOF EXPANSION JOINTS	X			X	
077200	ROOF ACCESSORIES	X			X	
078413	PENETRATION FIRESTOPPING				X	
078443	JOINT FIRESTOPPING				X	
079200	JOINT SEALANTS	X	X			
079219	ACOUSTICAL JOINT SEALANTS	X	X			
081213	HOLLOW METAL DOORS AND FRAMES			X		
081416	FLUSH WOOD DOORS		X	X		
083113	ACCESS DOORS AND FRAMES				X	
083313	COILING COUNTER DOORS			X		
083323	OVERHEAD COILING DOORS			X		
083513	FOLDING DOORS			X		
083613	SECTIONAL DOORS			X		

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
084113	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS		X	X		
084413	GLAZED ALUMINUM CURTAIN WALLS		X	X		
084523	FIBERGLASS- SANDWICH-PANEL ASSEMBLIES	X			X	
085113	ALUMINUM WINDOWS		X	X		
087100	DOOR HARDWARE			X		
088000	GLAZING	X			X	
088300	MIRRORS				X	
089119	FIXED LOUVERS		X	X		
092116.23	GYPSTUM BOARD SHAFT WALL ASSEMBLIES				X	
092216	NON-STRUCTURAL METAL FRAMING				X	
092900	GYPSTUM BOARD				X	
093013	CERAMIC TILE	X			X	
095113	ACOUSTICAL PANEL CEILING				X	
096513	RESILIENT BASE & ACCESSORIES				X	
096516	RESILIENT SHEET VINYL	X				
096519	RESILIENT TILE FLOORING	X				
096566	RESILIENT ATHLETIC FLOORING	X				
096813	TILE CARPET	X				
096816	SHEET CARPET	X				
097200	WALL COVERINGS	X				
098433	SOUND ABSORBING WALL UNITS	X				
098436	SOUND ABSORBING CEILING UNITS	X				
099113	EXTERIOR PAINTING		X			
099123	INTERIOR PAINTING		X			
099600	HIGH PERFORMANCE COATINGS		X			

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
101100	VISUAL DISPLAY BOARDS			X	X	
101200	DISPLAY CASES			X	X	
101423	PANEL SIGNAGE		X	X		
102113	TOILET COMPARTMENTS	X		X		
102116	SHOWER AND DRESSING COMPARTMENTS	X		X		
102123	CUBICAL CURTAINS AND TRACK	X			X	
102800	TOILET, BATH, AND LAUNDRY ACCESSORIES (CONTRACTOR TO VERIFY QUANTITIES				X	
104413	FIRE PROTECTION CABINETS				X	
104416	FIRE EXTINGUISHERS				X	
105113	METAL LOCKERS		X	X		
105613	METAL SHELVING				X	
105626	MOBILE STORAGE SHELVING			X	X	
113100	RESIDENTIAL APPLIANCES				X	
115123	LIBRARY STACK SYSTEMS		X	X		
115213	PROJECTION SCREENS				X	
115313	LABORATORY FUME HOODS		X	X		
116143	STAGE CURTAINS		X	X		
116623	GYMNASIUM EQUIPMENT		X	X		
126600	TELESCOPING STANDS		X	X		
122113	HORIZONTAL BLINDS	X				
122413	VERTICLE BLINDS	X				
122413	ROLLER SHADES (OPERABLE SHOP DRAWINGS)	X		X	X	

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
123_	CASEWORK AND COUNTERTOPS		X	X		
124816	ENTRANCE FLOOR GRILLS	X				

Material Compliance Form

Name of Building:

Owner:

Bid Package #:

A/E#:

Cc:

Material Compliance Submittal Section:

This document is to be used by this contractor to indicate the products/devices intended for use in this project without the need for product data submittals. Items listed are approved products in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. **No further product data submittals are required for this section. However, physical sample, color samples, or layout shop drawings must be submitted where required by the specification.**

As contractor for work specified under the section named above, I agree to use only the products/devices listed below that were listed in the specification section.

Contractor:

Date:

Print Name: Filled out by Contractor

Title:

Signature: _____

Notary:

County:

Date Commission Expires: Filled out by Contractor and Notary used from Contractor

Name:

Signature: _____

Reviewed By:

Reviewed By: Construction Manager, Inc.

Date: Filled out by

Date:

Kingscott Associates, Inc.

Name:

Print Name: Construction Manager

Signature: _____

Filled out by Architect

Signature: _____

List the manufacturer's name and information not covered by include but is not limited item when several different

each item being submitted in this division. Provide all relevant compliance with each requirement of the specification. This will Manufacturer's Name: selectable option. Note: Use location for each listed in specific locations.

Shaw Commercial
Shaw Commercial

Specification Section:

096519

096519

095113

Model Number.:

Uncommon Ground 6 #0188V (LVT-1)
Skyline #02560 (LVT-2)

Armstrong

#1713 (CP-1)

095113	Armstrong	#3101 (CP-2)
095113	Armstrong	Armstrong Prelude XL (ME-1 grid)
095113	Armstrong	Armstrong Axiom Classic Trim (ME-2 grid and trim}

Material Compliance Form

Name of Building:

Owner:

Bid Package #:

A/E #:

Cc:

Material Compliance Submittal Section:

This document is to be used by this contractor to indicate the products/devices intended for use in this project without the need for product data submittals. Items listed are approved products in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. **No further product data submittals are required for this section. However, physical sample, color samples, or layout shop drawings must be submitted where required by the specification.**

As contractor for work specified under the section named above, I agree to use only the products/devices listed below that were listed in the specification section.

Contractor:

Date:

Print Name:

Title:

Signature: _____

Notary:

County:

Date Commission Expires:

Print Name:

Signature: _____

Reviewed By: Construction Manager, Inc.

Date:

Print Name:

Signature: _____

Reviewed By: Kingscott Associates, Inc.

Date:

Print Name:

Signature: _____

List the manufacturer's name and model number(s) below for each item being submitted in this division. Provide all relevant information not covered by the model number to show full compliance with each requirement of the specification. This will include but is not limited to color, finish, size, thickness and all other selectable option. Note: Use location for each listed item when several different products in this division are used in specific locations.

Specification Section:

Manufacturer's Name:

Model Number:



259 East Michigan, Suite 308
Kalamazoo, MI 49007
800.632.7815 | kingscott.com

Electronic Media Authorization

Media Fee Schedule:

1 to 6 Drawings – No Fee

No more than six (6) drawings

Signed waiver required prior to release

Project Name: _____ KAI Project# _____

Name : _____ Company: _____

Address: _____

City, State, Zip: _____

Phone: _____ Email: _____

Autocad file version: _____

Signature: _____ Date: _____

By signing, you are agreeing to the Terms and Conditions on the following page

Documents Requested:	KAI DWG #	Issued Date on DWG
_____	_____	_____
_____	_____	_____
_____	_____	_____

Approved by: _____ Date: _____

Email form to:

ldailey@kingscott.com

TERMS AND CONDITIONS ON DISTRIBUTION AND USE OF ELECTRONIC FILES

At your request, Kingscott Associates, Inc. (Kingscott) will provide electronic files related to subject to the following terms and conditions.

Kingscott's electronic files are compatible with Autocadd . Kingscott makes no representation as to the compatibility of these files with your hardware or your software.

NOTICE: THESE ELECTRONIC FILES ARE NOT CONTRACT DOCUMENTS.

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SECTION 024119
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected site elements.

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 store.
- 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. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
4. Review areas where existing construction is to remain and requires protection.

1.5 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.6 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. Existing A/V and data drops
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
 3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in buildings and structures to be selectively demolished because of building operations or processes performed there.
- 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. Maintain fire-protection facilities in service during selective demolition operations.

1.7 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.

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 and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.
- D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.2 PROTECTION

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

3.3 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. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden

space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

5. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
10. Dispose of demolished items and materials promptly.

B. Removed and Salvaged Items:

1. Store items in a secure area until delivery to Owner.
2. Transport items to Owner's storage area designated by Owner.
3. Protect items from damage during transport and storage.

3.4 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

3.5 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.

- B. Burning: Do not burn demolished materials.

3.6 CLEANING

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

END OF SECTION 024119

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

SECTION 033000 CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, general provisions of the Contract, and other related construction documents such as Division 01 specifications apply to this Section.

1.2 SUMMARY

- A. This Section includes Portland cement-based, structural repair mortar with integral corrosion inhibitor.
 - 1. ARDEX TRM™ Transportation Repair Mortar
 - 2. ARDEX P 82™ Primer
 - 3. ARDEX BACA™ Bonding & Anti-Corrosion Agent

1.3 REFERENCES

- A. ASTM C109, Compressive Strength of Hydraulic Cement Mortars
- B. ASTM C78, Flexural Strength of Concrete
- C. ASTM C469, Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression
- D. ASTM C157, Length Change of Hardened Hydraulic-Cement Mortar and Concrete
- E. ASTM C1202, Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration
- F. ICRI Technical Guideline No. 03732 Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
- G. ICRI Technical Guideline No. 03730 Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Safety Data Sheets.
- B. Qualification Data: For Installer

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: The manufacturer shall be a company with at least five years experience and regularly engaged in the manufacture and marketing of products specified herein.
- B. Installation of the ARDEX product must be completed by a factory-trained, certified applicator, such as an ARDEX LevelMaster® Elite or Choice Contractor, using mixing equipment and tools approved by the manufacturer. Please Contact ARDEX Engineered Cements (724)203-5000 for a list of recommended installers.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.
- B. Store products in a dry area with temperature maintained between 50° and 85°F (10° and 29°C) and Protect from direct sunlight.
- C. Handle products in accordance with manufacturer's printed recommendations.

1.7 PROJECT CONDITIONS

- A. Do not install material below 50°F (10°C) surface and air temperatures. These temperatures must also be maintained during and for 48 hours after the installation of products included in this section. Install quickly if substrate is warm and follow warm weather instructions available from the ARDEX Technical Service Department.

PART 2 - PRODUCTS

2.1 CAST-IN-PLACE CONCRETE

- A. Portland cement-based structural repair mortar, with integral corrosion inhibitors suitable for exterior and interior horizontal applications above, on or below grade.
 - 1. Acceptable Products:
 - a. ARDEX TRM™; Manufactured by ARDEX Engineered Cements: 400 Ardex Park Drive, Aliquippa, Pa 15001 USA 724-203-5000
 - 2. Performance and Physical Properties: Meet or exceed the following values for material cured at 73° F (23° C) and 50 percent relative humidity:
 - a. Application: Trowel
 - b. Working Time: 10 - 20 minutes
 - c. Compressive Strength: 7,500 psi at 7 days, 11,500 psi at 28 days, ASTM C109
 - d. Flexural Strength: 850 psi at 7 days, 1,100 psi at 28 days, ASTM C78
 - e. Modulus of Elasticity in Compression: 3.8 x 10⁶ psi at 28 days, ASTM C496

f. Color: Gray

PART 3 – EXECUTION

1. 3.1 PREPARATION

- A. General: Prepare substrate in accordance with manufacturer's instructions. Prior to proceeding with any repair, please refer to the International Concrete Repair Institute's ICRI 03730 Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion; ICRI 03732 Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays; and the American Concrete Institute's ACI 546R-04 Concrete Repair Guide for general guidelines for concrete repair.
1. All substrates must be sound, solid, dry, and completely free of all oil, grease, dirt, curing compounds and any substance that might act as a bond breaker. Overwatered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods such as scarifying, scabbling or similar in accordance with ICRI 03732 before priming. Acid etching and the use of sweeping compounds and solvents are not acceptable.
 2. The repair area must be saw cut in a basic rectangular shape at least ½" (12.7 mm) in depth. The cuts should be made at 90° angle, and should be slightly keyed. Chip out the concrete inside the cuts to a minimum depth of ½" (12.7 mm) until the area is squared or box shape.
 3. Mechanically prepare surface to obtain an exposed aggregate surface with a minimum surface profile of approximately 1/16" (1.5 mm) / ICIR concrete surface profile of 5 (CSP #5).
 4. For cases with exposed reinforcing steel, prepare the concrete such that a minimum ¾" (19 mm) is achieved around the steel to ensure sufficient placement of the corrosion inhibitor. Mechanically clean the steel to remove all rust and any other contaminants in accordance with ICRI 03730. Prime the steel with ARDEX Bonding & Anti-Corrosion Agent™ prior to proceeding with repair. For further details, please refer to the ARDEX Technical data sheet.
- B. Joint Preparation
1. Moving Joints and Moving Cracks – honor all expansion and isolation joints up through the ARDEX TRM™. A flexible sealing compound suitable for the application may be installed. ARDEX ARDISEAL™ RAPID PLUS may be installed for interior applications only.
 2. Control Joints and dormant cracks greater than 1/16" – fill with ARDEX ARDIFIX™ Joint Filler. Please note that the repair material must be sand broadcast to refusal to create a bonding surface for the ARDEX TRM. The filling of dormant cracks and dormant joints as described is recommended to help prevent telegraphing. However, should movement occur, cracks and joints will reappear.

1.8 APPLICATION OF ARDEX TRM™:

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing and handling of materials.
- C. Prime (as needed), mix, apply and cure in accordance with the manufacturer's printed instructions.
 - a. When mixing sanded materials, ARDEX recommends using the ARDEX DUSTFREE™ or a standard “gutter hook” vacuum attachment in combination with a wet/dry (ShopVac® style) vacuum and HEPA dust extraction vacuum system. Additionally, each bag should be handled with care and emptied slowly to avoid creating a plume of dust. Contact the ARDEX Technical Service Department for more details on ARDEX products and air quality management.

END OF SECTION 033000

SECTION 079219
ACOUSTICAL JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Acoustical joint sealants.

1.2 SUBMITTALS

A. Product Data: Acoustical joint sealants.

1.3 WARRANTY

A. Installer's Special Warranty: Installer agrees to repair or replace acoustical joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

B. Manufacturer's Special Warranty: Manufacturer agrees to furnish acoustical joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ACOUSTICAL JOINT SEALANTS

A. Acoustical joint-sealant products that effectively reduce airborne sound transmission through perimeter joints and openings in building construction, as demonstrated by testing representative assemblies in accordance with ASTM E90.

B. Acoustical Sealant for Exposed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex acoustical sealant complying with ASTM C834.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Hilti, Inc.
 - b. OSI Sealants; Henkel Corporation.
 - c. Tremco Incorporated.
 - d. USG Corporation.
2. Colors of Exposed Acoustical Joint Sealants: As selected by Architect from manufacturer's full range of colors.

2.2 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by acoustical joint-sealant manufacturer where required for adhesion of sealant to joint substrates.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive acoustical joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing acoustical joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where recommended by acoustical joint-sealant manufacturer. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF ACOUSTICAL JOINT SEALANTS

- A. Comply with acoustical joint-sealant manufacturer's written installation instructions unless more stringent requirements apply.
- B. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical joint sealant. Install acoustical joint sealants at both faces of partitions, at perimeters, and through penetrations. Comply with ASTM C919, ASTM C1193, and manufacturer's written instructions for closing off sound- flanking paths around or through assemblies, including sealing partitions to underside of floor slabs above acoustical ceilings.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of acoustical joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect acoustical joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated acoustical joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079219

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

SECTION 092216 NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
 - 1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized, unless otherwise indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.
 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.

3.3 INSTALLING FRAMED ASSEMBLIES

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install studs so flanges within framing system point in same direction.
 1. Space studs as follows:
 - a. Single-Layer Application: 16 inches o.c., unless otherwise indicated.
 - b. Multilayer Application: 16 inches o.c., unless otherwise indicated.
 - c. Tile backing panels: 16 inches o.c., unless otherwise indicated.
- C. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb, unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
- D. Direct Furring:
 1. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.

- E. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

END OF SECTION 092216

SECTION 092900
GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum board.
 - 2. Tile backing panels.
- B. Related Sections include the following:
 - 1. Division 09 Section "Non-Structural Metal Framing" for non-structural framing and suspension systems that support gypsum board.
 - 2. Division 09 painting Sections for primers applied to gypsum board surfaces.

1.3 SUBMITTALS

- A. Material Compliance Certificate: Submit completed Material Compliance Certificate as described in Specification Section 013300 – Architect's Submittal Procedures.

1.4 QUALITY ASSURANCE

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

1.5 STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or blotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PANELS, GENERAL

- A. Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

- A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Gypsum; Firebloc Type C.
 - b. CertainTeed Corp.; ProRoc Type C.
 - c. Georgia-Pacific Gypsum LLC; Fireguard C.
 - d. Lafarge North America Inc.; Firecheck Type C.
 - e. National Gypsum Company; Gold Bond Fire-Shield C.
 - f. USG Corporation; Firecode C Core.
- B. Regular Type:
 - 1. Thickness: 5/8 inch.
 - 2. Long Edges: Tapered.
- C. Type X:
 - 1. Thickness: 5/8 inch.
 - 2. Long Edges: Tapered.
- D. Abuse-Resistant Type: Manufactured to produce greater resistance to surface indentation, through-penetration (impact resistance), and abrasion than standard, regular-type and Type X gypsum board.

1. Core: 5/8 inch, Type X.
 2. Long Edges: Tapered.
- E. High-Impact Type: Manufactured with Type X moisture resistant core fiberglass reinforced for greater resistance to through-penetration (impact resistance).
1. Core: 5/8 inch thick.
- F. Moisture- and Mold-Resistant Type: With moisture- and mold-resistant core and surfaces.
1. Core: 5/8 inch, Type X.
 2. Long Edges: Tapered.
 3. Complying with ASTM C1369
 4. Locations: Toilet Rooms

2.3 TILE BACKING PANELS

- A. Glass-Mat, Water-Resistant Backing Board:
1. Complying with ASTM C 1178/C 1178M.
 - a. Product: Subject to compliance with requirements, provide "DensShield Tile Guard" by G-P Gypsum.
 2. Complying with ASTM C1177/C 1177M.
 - a. Product: Subject to compliance with requirements, provide "DensArmor Plus Interior Guard" by G-P Gypsum.
 3. Core: 5/8 inch, Type X.

2.4 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
1. Material: Paper-faced galvanized steel sheet.
 2. Shapes:
 - a. Cornerbead.
 - b. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - c. Expansion (control) joint.

2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
1. Interior Gypsum Wallboard: Paper.

2. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
 5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.
- D. Joint Compound for Tile Backing Panels:
1. Glass-Mat, Water-Resistant Backing Panel: As recommended by backing panel manufacturer.

2.6 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
- C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- D. Acoustical Sealant: As specified in Division 07 Section "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch-wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch-wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members, or provide control joints to counteract wood shrinkage.
- J. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Regular Type: As indicated on Drawings.
 - 2. Type X: Where required for fire-resistance-rated assembly.

3. Abuse-Resistant Type: All wall surfaces from floor to 8'-0" above finished floor and all ceilings below 9'-0" above finished floor unless noted as high-impact location. See partition types for additional locations.
4. High-Impact Type: Storage rooms, non-tile toilet room walls and all corridor walls from floor to 8'-0" above finished floor, Locker room ceilings, and as indicated on Drawings.
5. Moisture- and Mold-Resistant Type: Ceilings in Toilet rooms, shower areas, janitor closets, kitchen areas, and as indicated on Drawings. Walls in janitor closets, kitchen areas, and as indicated on drawings.
6. Combination wall boards: Provide combination of Type-X, moisture resistant, abuse resistant and impact resistant where more than one requirement is listed for a use.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 APPLYING TILE BACKING PANELS

- A. Glass-Mat, Water-Resistant Backing Panel: Comply with manufacturer's written installation instructions and install at locations indicated to receive tile. Install with 1/4-inch gap where panels abut other construction or penetrations.
- B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.5 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints at locations indicated on Drawings and according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
 1. Cornerbead: Use at outside corners, unless otherwise indicated.

2. U-Bead: Use at exposed panel edges.

3.6 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 2. Level 2: Panels that are substrate for tile and Panels that are substrate for acoustical tile and Where indicated on Drawings.
 3. Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in other Division 09 Sections.
- E. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.

3.7 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Elementary & Ruth Fox Middle School
Operable Partition Remodeling
North Branch Area Schools

SECTION 102226 OPERABLE PARTITIONS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Manually operated, paired panel operable partitions.

B. Related Sections include the following:

1. Division 05 Sections for primary structural support, including pre-punching of support members by structural steel supplier per operable partition supplier's template.
2. Division 09 Sections for wall and ceiling framing at head and jambs.

1.2 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified in writing by the operable partition manufacturer, as qualified to install the manufacturer's partition systems for work similar in material, design, and extent to that indicated for this Project.
- B. Acoustical Performance: Test operable partitions in an independent acoustical laboratory in accordance with ASTM E90 test procedure and classified in accordance with ASTM E413 to attain no less than the STC rating specified. Provide a complete and unedited written test report by the testing laboratory upon request.
- C. Preparation of the opening shall conform to the criteria set forth per ASTM E557 Standard Practice for Architectural Application and Installation of Operable Partitions.
- D. The operable wall must be manufactured by a certified ISO-9001-2015 company or an equivalent quality control system.

1.3 REFERENCE STANDARDS

A. ASTM International

1. ASTM E557 Standard Practice for Architectural Application and Installation of Operable Partitions.
2. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
3. ASTM C1036 - Standard Specification for Flat Glass.

4. ASTM C1048 - Heat-Treated Flat Glass—Kind HS, Kind FT Coated and Uncoated Glass.
5. ASTM E84 - Surface Burning Characteristics of Building Materials.
6. ASTM E413 - Classification for Rating Sound Insulation

B. International Standards Organization

1. ISO 14021 - Environmental Labels and Declarations - Self-Declared Environmental Claims (Type II Environmental Labeling).
2. ISO 14025:2011-10, Environmental Labels and Declarations - Type III Environmental Declarations - Principles and Procedures.
3. ISO 14040:2009-11, Environmental Management - Life Cycle Assessment - Principles and Framework.
4. ISO 14044:2006-10, Environmental Management - Life Cycle Assessment - Requirements and Guidelines.
5. ISO 21930 – Sustainability in Buildings and Civil Engineering Works — Core Rules for Environmental Product Declarations of Construction Products and Services.

C. Other Standards

1. ADA – Americans with Disabilities Act.
2. ANSI Z97.1 - Safety Glazing Materials Used in Buildings.
3. CPSC 16 CFR 1201 - Safety Standard for Architectural Glazing Materials.
4. NEMA LD3 - High Pressure Decorative Laminates.

1.4 SUBMITTALS

- A. Product Data: Material descriptions, construction details, finishes, installation details, and operating instructions for each type of operable partition, component, and accessory specified.
- B. Shop Drawings: Show location and extent of operable partitions. Include plans, elevations, sections, details, attachments to other construction, and accessories. Indicate dimensions, weights, conditions at openings, and at storage areas, and required installation, storage, and operating clearances. Indicate location and installation requirements for hardware and track, including floor tolerances required and direction of travel. Indicate blocking to be provided by others.
- C. Setting Drawings: Show imbedded items and cutouts required in other work, including support beam punching template.
- D. Samples: Color samples demonstrating full range of finishes available by architect. Verification samples will be available in same thickness and material indicated for the work.
- E. Reports: Provide a complete and unedited written sound test report indicating test specimen matches product as submitted.
- F. Folding door to be manufactured in the United States in compliance with applicable U.S. Federal Trade Commission (FTC) and U.S. Customs Service and Border Protections regulations and be labeled "Made in America".

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Clearly mark packages and panels with numbering systems used on Shop Drawings. Do not use permanent markings on panels.
- B. Protect panels during delivery, storage, and handling to comply with manufacturer's direction and as required to prevent damage.

1.6 WARRANTY

- A. Provide written warranty by manufacturer of operable partitions agreeing to repair or replace any components with manufacturing defects.
- B. Warranty period: Two (2) years.
- C. Suspension System Warranty: Five (5) years.

PART 2 – PRODUCTS

2.1 MANUFACTURERS, PRODUCTS, AND OPERATION

- D. Manufacturers: Subject to compliance with requirements, provide product by the following:

- 1. Modernfold, Inc.

- E. Doors to be manufactured in the U.S.A.

- F. Products: Subject to compliance with the requirements, provide the following product:

- 1. Acousti-Seal Premier - Paired Panel: Manually operated paired panel operable partition.

G. 2.2 OPERATION

- A. Acousti-Seal Premier - Paired Panel: Series of paired flat panels hinged together in pairs, manually operated, top supported with operable floor seals.

- B. Final Closure:

- 1. Horizontally expanding panel edge with removable crank

H. 2.3 PANEL CONSTRUCTION

- A. Nominal 3-inch (76mm) thick panels in manufacturer's standard 48-inch (1220mm) widths. All panel horizontal and vertical framing members fabricated from minimum 18-gage formed steel with overlapped and welded corners for rigidity. Top channel is reinforced to support suspension system components. Frame is designed so that full vertical edges of panels are of formed steel and provide concealed protection of the edges of the panel skin.

B. Panel skin:

1. 0.50-inch (13mm) tackable 100% recycled gypsum board, class "A" rated single material or composite layers continuously bonded to panel frame. Acoustical ratings of panels with this construction minimum:
 - a. 47 STC

C. Hinges for Panels, Closure Panels, Pass Doors, and Pocket Doors shall be:

1. Full leaf butt hinges, attached directly to the panel frame with welded hinge anchor plates within panel to further support hinge mounting to frame. Lifetime warranty on hinges. Hinges mounted into panel edge or vertical astragal are not acceptable.

D. Panel Trim: No vertical trim required or allowed on edges of panels; minimal groove appearance at panel joints.

E. Panel Weights: 47 STC - 7 lbs./square foot

2.4 PANEL FINISH

A. Panel finish shall be:

1. Reinforced vinyl with woven backing weighing not less than 20 ounces (567 grams) per lineal yard.

B. Panel Trim: Exposed panel trim of one consistent color:

2.5 SOUND SEALS

A. Vertical Interlocking Sound Seals between panels: Roll-formed steel astragals, with reversible tongue and groove configuration in each panel edge for universal panel operation. Rigid plastic or aluminum astragals or astragals in only one panel edge are not acceptable.

B. Horizontal Top Seals: Continuous contact extruded vinyl bulb shape with pairs of non-contacting vinyl fingers to prevent distortion without the need for mechanically operated parts.

C. Horizontal bottom floor seals shall be:

1. Modernfold IA2 Bottom seal. Automatic operable seals providing nominal 2-inch (51mm) operating clearance with an operating range of +0.50-inch (13mm) to -1.50-inch (38mm) which automatically drop as panels are positioned, without the need for tools or cranks.

2.6 SUSPENSION SYSTEM

A. Suspension System

1. Suspension Tracks: Minimum 11-gauge, 0.12-inch (3.04mm) roll-formed steel track, suitable for either direct mounting to a wood header or supported by adjustable steel hanger brackets, supporting the load-bearing surface of the track, connected to

structural support by pairs of 0.38-inch (10mm) diameter threaded rods. Aluminum track is not acceptable.

- a. Exposed track soffit: Steel, integral to track, and pre-painted off-white.
- 2. Carriers: One all-steel trolley with steel tired ball bearing wheels per panel (except hinged panels). Non-steel tires are not acceptable.

2.7 ACCESSORIES

- A. Pocket Doors: Acousti-Seal Pocket Doors by Modernfold, Inc., with same construction, finish, and appearance as the adjacent panels.
 - b. Pocket Door configuration shall be manually operated: Type III double doors hinged to a jamb on each side and closing in the center. One of the door panels is equipped with a smaller hinged panel that folds back when the operable partition is extended into the pocket.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. General: Comply with ASTM E557, operable partition manufacturer's written installation instructions, Drawings, and approved Shop Drawings.
- B. Install operable partitions and accessories after other finishing operations, including painting have been completed.
- C. Match operable partitions by installing panels from marked packages in numbered sequence indicated on Shop Drawings.
- D. Broken, cracked, chipped, deformed or unmatched panels are not acceptable.

3.2 CLEANING AND PROTECTION

- A. Clean partition surfaces upon completing installation of operable partitions to remove dust, dirt, adhesives, and other foreign materials according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions in a manner acceptable to the manufacturer and Installer that ensure operable partitions are without damage or deterioration at time of Substantial Completion.

3.3 ADJUSTING

- A. Adjust operable partitions to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

3.4 EXAMINATION

- A. Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

3.5 DEMONSTRATION

- A. Demonstrate proper operation and maintenance procedures to Owner's representative.
- B. Provide Operation and Maintenance Manual to Owner's representative.

END OF SECTION 102226