

PROJECT MANUAL

St. Charles Family Arena Storm Repairs

St. Charles, Missouri

**BID SET
October 1, 2013**

TABLE OF CONTENTS

Division	Section Title	Pages
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DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

000010 INVITATION TO BID.....	12
000050	..... AIA A201-1997 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ..	2
000060	..... SUPPLEMENTARY GENERAL CONDITIONS	8

DIVISION 01 - GENERAL REQUIREMENTS

011000	..... SUMMARY	4
012900	..... PAYMENT PROCEDURES	4
015000	..... TEMPORARY FACILITIES AND CONTROLS	4
017300	..... EXECUTION	6
017329	..... CUTTING AND PATCHING.....	4
017700	..... CLOSEOUT PROCEDURES.....	4

DIVISIONS 02 THRU 04

NOT APPLICABLE

DIVISION 05 - METALS

054000 COLD-FORMED METAL FRAMING.....	4
--------	--------------------------------------	---

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

074120 MANUFACTURED WALL PANELS.....	8
--------	-------------------------------------	---

DIVISION 08 THRU 14

NOT APPLICABLE

END OF TABLE OF CONTENTS

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LEGAL NOTICE

**REQUEST FOR BID
SEALED BID 13-167**

For

St Charles Family Arena Storm Repairs

For

**ST. CHARLES COUNTY GOVERNMENT
ST. CHARLES, MISSOURI**

St. Charles County is seeking bids for **St Charles Family Arena Storm Repairs**. The county reserves the right to terminate the contract for any violation, by the successful bidder, of any term or condition of the contract by giving thirty (30) days written notice stating the reasons therefore and giving the party time to remedy any deficiencies.

BID INSTRUCTIONS

One[1] signed original and one [1] signed copy of the bid must be received in a sealed envelope plainly marked “**13-167 St Charles Family Arena Storm Repairs**” with the date and time of the bid opening in the lower left corner of the envelope.

An authorized representative of the company/person submitting the bid must sign the bid, in blue ink.

Bids must be submitted to the St. Charles County Finance Department, 201 North Second Street Room 541 St. Charles MO 63301 prior to the bid opening.

Bid opening will be on 10/18/2013 at 2:00 PM , in **Room 523** of the St. Charles County Administration Building, 201 North Second Street, St. Charles, MO 63301.

St. Charles County reserves the right to accept and/or reject any and all bids.

A mandatory pre-bid site meeting will be held for the benefit of bidders to assist in determining a scope of work for preparation of their bids. The pre-bid meeting will be held on Friday 10/11/13 at 1:30 pm at the St. Charles Family Arena located at 202 Arena Parkway St. Charles, MO 63303

Bid results may be obtained by emailing a request to the St. Charles County Purchasing Manager at purchasing@sccmo.org, **no phone calls please**. Include the name and number of the bid and date of the bid opening when requesting the results. The time it takes for final bid results to be made public depends on the complexity of the project and the cost of the project.

BID INQUIRIES

Any questions or clarifications concerning this Request for Bid must be submitted in writing via E-mail (preferred), mail or fax to:

Submit questions in writing form only to;

Chris Rollhaus, Project Architect
Hastings & Chivetta Architects, Inc.
622 Emerson Road, Suite 200
St. Louis, MO63141
crollhaus@hcarchitects.com
Phone: 314-863-5717

Verbal clarifications may be given. Only written responses in the form of Addenda will be binding on the Contract scope, cost or time. All questions must be submitted in writing prior to 4:00 P.M. on October 15, 2013.

Prohibited Communication

Contact with any representative, other than through the procedure outlined in the section titled “Bid Inquiries”, concerning this request is prohibited PRIOR TO BID OPENING. Representative shall include, but not be limited to, all elected and appointed officials, and employees of St. Charles County and their Agents within St. Charles County. Any Offeror engaging in such prohibited communications prior to Bid Opening may be disqualified at the sole discretion of St. Charles County.

TERMS AND CONDITIONS

- St. Charles County reserves the right to reject any and all bids or parts of a bid and waive technicalities, and to adjust quantities.
- All bids will be considered final. No additions, deletions, corrections, or adjustments will be accepted after the time of bid opening.
- All delivery costs or charges must be included in the F.O.B. destination bid price.
- City, County and State of Missouri Sales Tax and Federal Taxes are not applicable to sales made to St. Charles County and must be excluded.
- The contract shall be effective for the approximate twelve (12) month period from the date of the notice of award.
- The electronic version of this bid/RFP is available upon request. The document was entered into WORD for Microsoft Windows. The Purchasing Office does not guarantee the completeness and accuracy of any information provided on the electronic version. Therefore, respondents are cautioned that the hard copy of this bid/RFP on file in the Purchasing Office governs in the event of a discrepancy between the information contained in or on the electronic version and that which is on the hard copy.
- Vendors are required to clearly identify any deviations from the specifications in this document.
- An authorized officer of the company submitting the bid must sign all bids, in blue ink.
- Vendors must submit two [2] signed copies of their bid; one is to be an original and so marked.
- All prices and notations must be in blue ink or typewritten on the attached form. Mistakes must be crossed out, corrections typed adjacent and must be initialed in blue ink by the person signing the bid.
- St. Charles County will not award any bid to an individual or business having any outstanding amounts due from a prior Contract or business relationship with the County or who owes any amount(s) for delinquent Federal, State or Local taxes, fees and licenses.
- Sealed proposals received after the designated time of the receipt of the sealed proposals will be considered as “No Bid” and “Void” and will not be opened.
- The successful bidder is specifically denied the right of using in any form or medium the names of St. Charles County or any other public entity within the St. Charles County for public advertising unless express written permission is granted.
- All bidders must possess the necessary and appropriate business and/or professional licenses in their field.

- Award will be made to the low responsive, responsible bidder, or to the offeror whose proposal is most advantageous to the County, price and other factors considered. When payments are to be made to the County, award will be made to the most advantageous offer.
- County reserves the right to accept any item or group of items offered, unless the bidder qualifies his bid by specific limitations. The bid can be on an "all or none" basis if wording in the bid so states and if all items solicited are included in the bid.
- When applicable, provide unit prices and extension prices. Where there is disagreement in the unit and extension prices, the unit price shall govern.

Employment of Unauthorized Aliens Prohibited (Missouri Revised Statutes Section 285.530)

As a condition for the award of any contract or grant in excess of five thousand dollars by St. Charles County to a business entity, the business entity shall, by sworn affidavit and provision of documentation**, affirm its enrollment and participation in a federal work authorization program (**E-Verify**) with respect to the employees working in connection with the contracted services. Every such business entity shall sign an affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. [RSMO 285.530 (2)]

An employer may enroll and participate in a federal work authorization program (**E-Verify**) and shall verify the employment eligibility of every employee in the employer's hire whose employment commences after the employer enrolls in a federal work authorization program. The employer shall retain a copy of the dated verification report received from the federal government. Any business entity that participates in such program shall have an affirmative defense that such business entity has not violated subsection 1 of this section. [RSMO 285.530 (4)]

Any entity contracting with St. Charles County shall only be required to provide the referenced affidavit on an annual basis. A copy of the affidavit is included in this bid request. Vendors may choose to send the required documentation using one of the following options:

- Send the notarized affidavit and E-Verify MOU signature page to: St. Charles County, Attn: Purchasing Manager, 201 N Second Street, Room 541, St. Charles, MO 63301 prior to responding to any solicitations; **OR**
- Send the notarized affidavit and E-Verify MOU signature page along with a bid solicitation response.

These documents will be kept on file. The notarized affidavit and E-Verify MOU signature page will remain current for **one year** from the date of the notarized affidavit.

**** PLEASE NOTE:**

Acceptable enrollment and participation documentation consists of a valid copy of the signature page of the E-Verify Memorandum of Understanding, completed and signed by the Contractor, and the Department of Homeland Security - Verification Division

The online address to enroll in the E-verify program is:

<https://e-verify.uscis.gov/enroll/StartPage.aspx?JS=YES>

Open Records

Any and all information contained in or submitted with the bid becomes a public record subject to the Missouri Sunshine Law when the bids are opened. If the bidder believes that any information contained in or submitted with the bid is protected from disclosure by the Missouri Sunshine Law, the bidder must clearly identify what information the bidder believes is so protected and must also clearly identify the legal basis therefor.

Insurance

Worker's Compensation and Employer's Liability: The successful contractor and each subcontractor shall maintain a policy of Worker's Compensation insurance, or be a qualified self-insurer, providing Statutory limits and Employer's Liability coverage with limits of no less than \$500,000 during the life of the contract.

Automobile, General Liability (including products and completed operations) and Property Damage: Minimum coverage to be maintained by Contractor and each subcontractor in the amount of \$1,000,000 for bodily injury or death to any one person and \$3,000,000 per occurrence. Coverage for completed operations shall also be included. Property damage coverage of at least \$1,000,000 shall be maintained. In the alternative, a Combined Single Limit Policy in the amount of \$3,000,000 shall be maintained. Automobile coverage must include non-owned vehicles.

All such insurance shall be written through an insurance company licensed to do business in the State of Missouri and acceptable to Saint Charles County. The policy must specifically state that the coverage, as it pertains to the County, shall be primary; that any or all insurance carried by an additional insured is strictly excess and secondary, and will not contribute to the Contractor's policy.

The Contractor and each subcontractor agree to furnish Saint Charles County with a Certificate of Insurance naming them as an Additional Insured on each of their respective policies and include a provision for at least 30 days written notice of any material change or cancellation.

Bonds

If deemed necessary by St. Charles County, one or both of the following Bond types may be required:

Performance Bond- A 100% Performance and Payment Bond in favor of the Owner. The Security Co. representing Contractor must be authorized to do business in the State of Missouri and be approved by Owner.

Bid Bond- A 5% deposit of the bid total, presented in the form of a cashier's check, Certified check, or bid bond, made payable to St. Charles County.

Bid Specification

St. Charles County Government is seeking bids for a Contractor to remove an existing motorized rolling grille and provide / install a new replacement motorized rolling grille in its place. The project must meet the following specifications.

General Conditions:

- **The Contractor will be required to submit a Bid Bond and a Performance and Payment Bond.**
- The Contractor must comply with all provisions of the Prevailing Wage Law under **Annual Wage Order #20 as amended 8/22/2013** for this project. The contractor will forfeit a **penalty** to the County of \$100 per day (or portion of a day) if a worker is paid less than the prevailing rate for any work done under the contract by the contractor or by any subcontractor (see section 290.250, RSMo). **Certified payroll shall be submitted with request for payment**
- The Contractor must comply with all Federal and State Employment / Labor regulations including those from the U.S. "Occupational Safety and Health Administration".
- The Contractor must provide all applicable Insurance Certificates to the County upon the award of the bid.
- The Contractor must specifically claim any exclusions or deviations from the bid specifications. The Contractor must submit any such exclusions or deviations with their proposal.

Miscellaneous Clarifications:

- The Contractor must provide a one year warranty for the project. The warranty must cover both materials and labor for a period of one year from the date of the County's acceptance of the installation at the Family Arena. The subject one year warranty is in addition to the individual warranties provided by the manufacturers of the components.
- The Contractor shall perform all work from 7:30 am until 4:00 pm during the work week. The Contractor must complete the entire replacement project within two consecutive business days of the same week.
- The Contractor must provide appropriate barricades as required to perform the work while protecting County employees from the work being performed. The area will be closed to vehicular traffic during the project, but an adjacent personnel door will have to remain open for employee access during the project.
- The Contractor must field confirm all measurements and submit a list of major materials (including manufacturer's model numbers and appropriate descriptions) to the County for review before purchasing any material for the project.

Exception Sheet

If the item(s) and/or services proposed in the response to this bid is in any way different from that contained in this proposal or bid, the bidder is responsible to clearly identify all such differences in the space provided below. Otherwise, it will be assumed that the bidder's offer is in total compliance with all aspects of the proposal or bid.

Below are the exceptions or differences to the stated specifications (attach additional sheets as needed):

Date: _____

Signature: _____

Title: _____

Company: _____

Project Specifications

Project Specifications as provided by Hastings & Chivetta Architects, Inc.

See Drawings and Project Manual dated September 20, 2013.

BID FORM

SB 13-167

St. Charles Family Arena Storm Repairs

BID OPENING DATE: 10/17/2013 at 9:00 AM

(Bidder name)

Submits the following bid for this project:

Total Bid Price for St Charles Family Arena Storm Repairs

\$ _____

Describe the warranty offered (include documentation) _____

Authorized signature

Date

THIS FORM MUST BE COMPLETED AND ENCLOSED WITH THE BID

Audit Clause for Contracts

Examination of Records

The Contractor's records must include, but not be limited to, accounting records (hard copy, as well as computer readable data), written policies and procedures, subcontractor files, indirect cost records, overhead allocation records, correspondence, instructions, drawings, receipts, vouchers, memoranda, and any other data relating to this contract shall be open to inspection and subject to audit and/or reproduction by the County Auditor, or a duly authorized representative from the County, at the County's expense. The contractor must preserve all such records for a period of three years, unless permission to destroy them is granted by the County, or for such longer period as may be required by law, after the final payment. Since the Contractor is not subject to the Missouri Sunshine Law (Chapter 610, RSMo), information regarding the Contractor's operations, obtained during audits, will be kept confidential.

The Contractor will require all subcontractors under this contract to comply with the provisions of this article by including the requirements listed above in written contracts with the subcontractors.

Vendor Information

Company Name: _____

Business Address: _____

Business Hours: _____

Phone: _____ Fax: _____

Email address: _____

Contact Person: _____

Authorized Signature: _____

(Indicates acceptance of all bid terms and conditions)

Date: _____

AFFIDAVIT OF WORK AUTHORIZATION

The bidder/contractor who meets the section 285.525, RSMo definition of a business entity must complete and return the following Affidavit of Work Authorization.

Comes now _____ (Name of Business Entity Authorized Representative) as _____ (Position/Title) first being duly sworn on my oath, affirm _____ (Business Entity Name) is enrolled and will continue to participate in the E-Verify federal work authorization program with respect to employees hired after enrollment in the program who are proposed to work in connection with the services related to contract(s) with the County for the duration of the contract(s), if awarded in accordance with subsection 2 of section 285.530, RSMo. I also affirm that _____ (Business Entity Name) does not and will not knowingly employ a person who is an unauthorized alien in connection with the contracted services provided to the contract(s) for the duration of the contract(s), if awarded.

In Affirmation thereof, the facts stated above are true and correct. (The undersigned understands that false statements made in this filing are subject to the penalties provided under section 575.040, RSMo.)

Authorized Representative's Signature

Printed Name

Title

Date

E-Mail Address

Subscribed and sworn to before me this _____ of _____. I am
(DAY) (MONTH, YEAR)

commissioned as a notary public within the County of _____, State of
(NAME OF COUNTY)

_____, and my commission expires on _____.
(NAME OF STATE) (DATE)

Signature of Notary

Date

EXHIBIT A

**ST. CHARLES COUNTY
DOMESTIC PRODUCTS PROCUREMENT ACT (BUY AMERICAN)**

The Missouri Domestic Products Procurement Act (34.350-34.359 RSMo) requires that for all bids with a value of \$25,000 or more, the goods or commodities purchased by any public agency (which definition includes all political subdivisions of the State, including counties) or used or supplied in the construction, alteration, repair, or maintenance of any public works must be **manufactured or produced** in the United States. As defined in 34.350 RSMo, United States means the United States of America, the District of Columbia, and all territories and possessions subject to the jurisdiction of the United States. The law also requires that the bidder must provide proof of compliance. **Note: In general, if an import tariff is applied to an item, it does not qualify for the Buy American preference. In addition, Most Favored Nation status does not allow application of the preference.**

Section A – All Products Are Manufactured or Produced In U.S.

If all products bid qualify as domestic products under Missouri law, complete only Section A.

I hereby certify that all products qualify as domestic, that the information provided is true and correct, and complies with all provisions of Sections 34.350-34.359 RSMo. I understand that any misrepresentation herein constitutes the commission of a class A misdemeanor pursuant to Section 34.355 of the Revised Statutes of Missouri.
SIGNATURE
COMPANY NAME

If Section A is completed, do not complete Section B.

Section B – Only One Product Line or No Products Are Manufactured or Produced In U.S.

If only one product line or no products are manufactured or produced in the U.S. complete only section B.

I hereby certify that there is only one product line or no product manufactured or produced in the U.S., that the information provided is true and correct, and complies with all provisions of Sections 34.350-34.359 RSMo. I understand that any misrepresentation herein constitutes the commission of a class A misdemeanor pursuant to Section 34.355 of the Revised Statutes of Missouri.
SIGNATURE
COMPANY NAME

Section C – Products May Qualify Because of Qualifying Treaty

If some or all products bid qualify for domestic status because of a trade treaty, etc., then the bidder must identify each product, country and qualifying treaty, etc. below. The bidder must list ALL products which are or may qualify as domestic below. If more space is needed, please copy this form and submit as an attachment.

BID ITEM NUMBER(S)	COUNTRY WHERE MANUFACTURED OR PRODUCED	QUALIFYING TREATY, LAW, AGREEMENT, OR REGULATION

SECTION C

I hereby certify that the specific items listed above are domestic, that the information provided is true and correct, and complies with all provisions of Sections 34.350-34.359 RSMo. I understand that any misrepresentation herein constitutes the commission of a class A misdemeanor pursuant to Section 34.355 of the Revised Statutes of Missouri.
SIGNATURE
COMPANY NAME

SECTION 000050 - GENERAL CONDITIONS

AIA DOCUMENT A201, 1997 EDITION

The "General Conditions of the Contract for Construction" AIA Document A201, 1997 Edition, published by the American Institute of Architects, is hereby made a part of the Contract Documents.

END OF SECTION 000050

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SECTION 000060 - SUPPLEMENTARY GENERAL CONDITIONS

PART 1 - GENERAL

SUMMARY

These Supplementary Conditions amend and supplement the General Conditions defined in Document 000050 and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions that are defined in the General Conditions have the meanings assigned to them in the General Conditions.

MODIFICATIONS TO GENERAL CONDITIONS

ARTICLE 1 - GENERAL PROVISIONS

Add the following Subparagraph

ADDITIONAL DEFINITIONS

The term "product" includes materials, systems and equipment.

The term "furnish" is used to mean "supply and deliver to the Project site, read for unloading, unpacking, assembly, installation, and similar operations.

The term "install" is used to describe operations at the Project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."

The term "provide" means "to furnish and install, complete and ready for the intended use."

Add the following clauses

1.2.1.1 . In case of a discrepancy between the Drawings and Specifications, the greater quantity or better quality, as determined by the Architect, shall govern.

1.2.3.1 Precedence of Documents: In the event of ambiguity or contradiction within the Contract Documents, the following order of precedence shall be

The Agreement between Owner and Prime Contractor

The Addenda, with the latter having precedence over those of earlier date

The Supplementary General Conditions

The General Conditions of the Contract

The more stringent requirement of the Drawings or Specifications

Claims for additional costs or extensions of Time because of the failure of the Contractor to familiarize itself with conditions at the site, will not be considered.

ARTICLE 2 - OWNER

Delete this paragraph in its entirety.

ARTICLE 3 - CONTRACTOR

Delete the last sentence of each paragraph and substitute the following:

3.2.1 These obligations are for the purpose of facilitating construction by the Contractor and [changed from “not”] for the purpose of discovering errors, omissions, of inconsistencies in the Contract Documents. Any errors, inconsistencies, or omissions discovered by the Contractor shall be reported promptly to the Architect as a request for information in such form as the Architect may require.

3.2.3 The Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies, or omissions in the Contract Documents or for differences between field measurements or conditions and the Contract Documents unless the Contractor recognized, such error, inconsistency, or omission, or difference and failed to notify the Architect.

Add the following subparagraph:

3.3.4 The Contractor shall lay out the Work, in accordance with the Drawings and Project conditions with qualified staff. The Contractor shall be responsible for any damage that may be sustained by the Owner or others from incorrect location of the Work.

Modify this subparagraph as follows:

3.4.2 The Contractor may make substitutions only in accordance with the provisions of the specifications for Product Substitutions, after evaluation by the Architect and in accordance with a Change Order.

Add new paragraph to 3.6 Taxes as follows:

3.6.2 Bidders shall be responsible for informing themselves of tax laws, requirements, regulations, and interpretations as they apply to this project. Bidders are instructed to include sales tax in their bid, unless specifically exempted.

3.6.3 Unless otherwise specified, the contract sum includes all taxes imposed prior to the date of bid opening, and which are applicable to the work.

Delete the following words:

3.12.6 “... related thereto, or will do so, and has checked...”

Add the following paragraphs

3.14.3 Permission to patch any areas or items of Work does not imply a waiver of the Architect’s right to require complete removal and replacement in said areas and of said items, if in the Architect’s opinion, said patching does not satisfactorily restore the quality and appearance of the Work to a like new, or no less than equal match to the original area(s) or item(s) as judged solely by the Architect.

3.14.4 The General Contractor through its various subcontractors and the various trades under its jurisdiction shall provide all necessary openings in walls, floors, ceiling, roofs, partitions, etc. for the installation of any particular trade. All such cutting, patching, and repairing shall be done by the particular trade affected.

ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

Add the following sentence:

Wherever the term "Architect," or "Engineer," or "Architect / Engineer" appears in the Contract Documents, the terms shall refer to Hastings + Chivetta Architects, Inc. 622 Emerson Rd, St. Louis, Missouri.

Delete the following words in the first sentence:

at the site which are (1) subsurface or otherwise concealed physical conditions..."

ARTICLE 7 - CHANGES IN THE WORK

Add the following subparagraph:

7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in paragraph 7.3.3 and the "Breakdown of Cost Format" for Subcontractors and Prime Contractors as follows:

UnitType	UnitPrice	Total	Total	Total
Materials				
Item describe	??	l.f.	\$0.00	\$0.00
Item describe	??	ea	\$0.00	\$0.00
Item describe	??	ea	\$0.00	\$0.00
Sales taxes	??	ea	\$0.00	\$0.00
Total Materials				\$0.00
Labor				
Journeymen	??	Hrs	\$0.00	\$0.00
Helper ??	Hrs	\$0.00	\$0.00	\$0.00
Laborer	??	Hrs	\$0.00	\$0.00
Payroll Taxes			0.00%	\$0.00
Insurance			0.00%	\$0.00
Total Labor				\$0.00
Equipment				
List each	??	Hrs	\$0.00	\$0.00
Item ??	Hrs	\$0.00	\$0.00	\$0.00
Total Equipment				\$0.00
Subcontracts	\$0.00	\$0.00		
Total Subcontracts	\$0.00			
Subtotal all work	\$0.00			
Overhead and Profit				
On direct work		10.00%		\$0.00
On subcontracts (if any)		5.00%		\$0.00
Subtotal Overhead & Profit			\$0.00	
Grand Total Price Proposed				\$0.00

Modify this subparagraph as follows:

7.3.6 At the end of the first sentence, change the words "...a reasonable allowance for overhead and profit." to read "...an allowance for overhead and profit as set forth in Subparagraph 7.3.10."

Add the following Subparagraph:

7.3.10 In Subparagraph 7.3.6, the combined allowance for overhead and profit for any Changes in the Work, included in the total cost to the Owner, shall be based on the following schedule:

For the Contractor, for work done by the Contractor's own forces, 15% of the cost.
For the Contractor, for work done by the Contractor's subcontractors, 5% of the amount due the subcontractor.

For each subcontractor involved, for the Work performed by that subcontractor's own forces, 15% of the cost.

For each subcontractor involved, for Work performed by that subcontractor's sub-subcontractor, 5% of the amount due the sub-subcontractor.

For sub-subcontractors, for Work performed by that sub-subcontractor's own forces, 10% of the cost.

Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.6.

In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials, and subcontractors. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are subcontracts, they shall be itemized also. In no case will a change involving over \$1,000.00 be approved without such itemization.

ARTICLE 8 - TIME

Add the following paragraph:

OVERTIME

Where the use of overtime labor may be necessary to meet the requirements of sound construction and to secure the workmanship required by the Contract Documents or to meet the scheduled completion dates, such overtime shall be the Contractor's responsibility and included in the Contract Sum.

Except as provided in 8.4.1 above, overtime labor shall be used only if it is necessary due to circumstances beyond the control of the Contractor, and it is authorized by written instruction of the Owner. All such overtime labor shall be paid by the Owner only on the basis of the amount which the overtime rates exceed the regular rates of pay, to which additional tax and insurance expense shall be added. No overhead and profit shall be charged against the Owner on account of any overtime labor.

ARTICLE 9 - PAYMENTS AND COMPLETION

Add the following clauses:

9.3.1.3 Until Substantial Completion, the Owner will pay ninety percent (95%) of the amount due the Contractor on account of progress payments.

9.8.3.1 Specific attention is directed to requirements in Division 01 - General Requirements of the Specifications regarding Substantial Completion and reimbursement of the Architect for the cost of its additional services.

Revise the second sentence as follows and delete the last sentence:

Owner shall make payment of to reduce retainage applying to such Work or designate portion thereof to five percent (5%) of the value of the such Work, less amounts as the Architect shall determine for incomplete Work, Work not in accordance with the Contract Documents, and unsettled claims.

Add the following:

9.19.2 Specific attention is directed to requirements in Division 01 - General Requirements of the Specifications regarding Final Completion and reimbursement of the Architect for the cost of his additional services.

ARTICLE 11 - INSURANCE

Delete the semicolon at the end of Clause 11.1.1.1 and add:

11.1.1.1, including private entities performing Work at the site and exempt from the coverage on account of number of employees or occupation, which entities shall maintain voluntary compensation coverage at the same limits specified for mandatory coverage for the duration of the Project;

Delete the semicolon at the end of Clause 11.1.1.2 and add:

11.1.1.2 of persons or entities excluded by statute from the requirements of Clause 11.1.1.1 but required by the Contract Documents to provide the insurance required by that Clause.

Add the following clause:

11.1.1.9 The insurance required by Subparagraph 11.1.1 shall be with carriers approved by the Owner. The insurance shall include all major divisions of coverage and be on comprehensive basis including:

Premises Operations (including X-C/U as applicable).
Independent Contractor's Protective
Products and Completed Operations
Personal Injury Liability with Employment Exclusion.
Contractual, including specified provision for Contractor's obligation under Paragraph 3.18.
Owned, non-owned and hired motor vehicles.
Broad Form Property Damage including Completed Operations.
Umbrella Excess Liability

Add the following clause:

11.1.2.1.1 The insurance required by Subparagraph 11.1.1. shall be written for not less than the following limits:

Statutory Workers' Compensation, Employer's Liability:
Worker's Compensation Statutory
Employer's Liability Not less than \$500,000

Broad Form All States Coverage

General Liability - Commercial General Liability on Occurrence Form

Including: Products/Completed Operations

Contractual Liability for this Agreement

Independent Contractor Protective, Explosion Collapse and Underground Hazards (XCU) Personal Injury, and Employees named as additional insured

Limits:	General Aggregate	\$2,000,000
	Products / Completed Operations	
	Aggregate	\$2,000,000

Personal and Advertising

Injury	\$1,000,000
Each occurrence	\$1,000,000
Fire Damage	
(Any one occurrence)	\$ 50,000
Medical Expenses	\$ 5,000

The policy shall be amended to provide the general aggregate limit to apply separately to each of the insured's projects away from its owned or rented premises.

Commercial General Liability insurance under a "claims-made" policy is not acceptable. Coverage must be provided on an "occurrence" basis.

Products and Completed Operations must be maintained for one (1) year after final payment.

Automobile Liability, Including All Vehicles (any Auto):

Combined Single Limit of	\$1,000,000
Or	
Bodily Injury (per person)	\$ 500,000
Bodily Injury (per accident)	\$ 500,000
Property Damage	\$ 500,000

Excess Umbrella Liability, to provide insurance in excess of Employer's Liability. Commercial General Liability and Automobile Liability policies required hereunder:

\$5,000,000 each occurrence and \$5,000,000 general policy aggregate.

The coverage and amounts above are minimum requirements and do not establish limits to the contractor's liability. Other coverage and higher limits may be provided at the Contractor's options and expense.

Add the following sentences to sections indicated:

11.1.3 If this insurance is written on the Comprehensive General Liability policy form, the Certificates shall be AIA Document G705, Certificate of Insurance. If this insurance is written on a Commercial General Liability policy form, the ACORD form 25S will be acceptable.

PERFORMANCE BOND AND PAYMENT BOND Delete Subparagraph 11.5.1 and substitute the following:

11.5.1 If directed by Owner the Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum, including assigned subcontracts.

11.5.1.1 The form of policy for this coverage shall be Completed Value.

11.5.1.1 If so directed, the Contractor shall deliver the required bonds to the Owner not later than three days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.

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

ARTICLE 13

Add the following paragraph:

EQUAL OPPORTUNITY

13.8.1 The Contractor shall maintain policies of employment as follows:

13.8.1.1 The Contractor and the Contractor's subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notice setting forth the policies on non-discrimination.

13.8.1.2 The Contractor and the Contractor's subcontractors shall, in all solicitations of advertisements for employees placed by them or on their behalf, shall state that all qualified applications will receive consideration for employment without regard to race, religion, color, sex or national origin.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SUPPLEMENTARY GENERAL CONDITIONS

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SECTION 011000 – SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Owner-furnished products.
4. Access to site.
5. Work restrictions.
6. Specification and drawing conventions.

- B. Related Requirements:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification: St. Charles Family Arena – Storm Damage Repair

1. Project Location: St. Charles Family Arena, 2002 Arena Parkway, St. Charles, MO 63303

- B. Owner: St. Charles County Public Arena Authority

1. Owner's Representative: Mike Buford (636) 949-7339

- C. Architect: Hastings + Chivetta Architects, Inc. 622 Emerson Rd, Suite 200; St. Louis, Missouri

- D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. Structural Engineer: Alper Audi, Inc. 1804 Borman Circle Drive. St. Louis, Missouri 63146.

- E. Contractor: To be selected by competitive bidding.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
1. The project consists of the repair and replacement of all damaged materials including but not limited to those indicated on the drawings. All new material shall match existing materials in size, profile, texture, and color.
 2. All areas where damage has occurred require a full inspection of the entire assembly to verify if any structural damage has occurred that requires repair or replacement of portions of the assembly where damage is not readily apparent.
 3. These specifications include the project's original specification sections for bidding purposes. Bidder shall include any and all updates to said specification in effect at time of bidding.
 - a. All work shall be performed in compliance with all specification updates at time of bidding.
- B. Type of Contract:
1. Project will be constructed under a single prime contract in a single phase.

1.5 WORK BY OWNER

- A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.
- B. Concurrent Work: Owner will perform the following during the course of construction. Contractor shall make allowance within the schedule for Owner's own forces or separate contractors for the following:

1.6 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.7 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 - 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.8 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to Sunset, Monday through Friday, unless otherwise permitted by County.
 - 1. Weekend Hours: As permitted by County Ordinance.
 - 2. Early Morning Hours: As permitted by County Ordinance.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 - 1. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Controlled Substances: Use of controlled substances within the existing building or on Project site is not permitted.
- F. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.
- G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- H. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
 - 1. Maintain list of approved screened personnel with Owner's representative.

1.9 HAZARDOUS MATERIALS

- A. Hazardous materials are not anticipated. Contractors discovering hazardous materials in the course of the Work are to suspend operations in the immediate area and notify the Owner.
- B. Owner will arrange to remove hazardous materials under a separate contract. Do not resume work in the area until all materials are removed or contained in a manner acceptable to authorities having jurisdiction.
- C. Owner will dispose of hazardous materials in an approved manner off-site.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor and based on information provided by each individual prime contractor, allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing each Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Each contractor shall coordinate preparation of the Schedule of Values with Contractor's consolidated Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - c. Contractor's Construction Schedule.
 - 2. Submit a Schedule of Values to the Contractor at earliest possible date but no later than the date required by the General Conditions for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Submit draft of first Application for Payment on the approved forms to the Architect for review. The Contractor will copy the Owner upon request.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of Contractor.
 - d. Name of the subcontractor.
 - e. Name of manufacturer or fabricator.
 - f. Name of supplier.
 - g. Change Orders (numbers) that affect value.
 - h. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
6. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
7. The Contractor shall prepare a consolidated Schedule of Values for distribution to the Owner and Architect prior to the first application for payment.
8. Schedule Updating: Update and resubmit the Schedule of Values to the Contractor before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum. The CM will provide a updated consolidated schedule of values, noting changes in cost or category, with each payment application.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Contractor. Owner and Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements. Refer to the appropriate forms and instructions in Division 00.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.

- C. Payment Application Forms: Use the agreed forms provided by the Contractor and approved by the Owner for Applications for Payment.
- D. Application Preparation: Contractors shall complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of the Contractor. With the Owner's agreement, the Contractor shall prepare a separate consolidated Application, or joint applications by all submitting Contractors with a signed CM summary indicating totals in all line categories. Contractor will provide separate line items for his own Work at risk.
- E. Contractor will provide a copy of the Application to the Architect and Owner for review. The Architect will return incomplete applications without action.
1. Entries from each Contractor shall match data on the their own Schedule of Values and collectively, match the Contractor's Schedule of Values. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders issued before last day of construction period covered by application.
- F. Transmittal: Submit 2 signed and notarized original copies of each Application for Payment to the Contractor for distribution to the Architect with One photocopy to the Owner for simultaneous review, by a method ensuring receipt within 24 hours. One original copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment and applicable to contracts described in Division 00.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of sub-Contractors.
 2. Schedule of Values.
 3. Contractor's approved Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits, not already obtained by Contractor.
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction conference.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
 15. Data needed to acquire Owner's insurance.
 16. Initial settlement survey and damage report if required.
- I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. Final Application for Payment form(s) provided by Contractor.
 5. Evidence that claims have been settled.
 6. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 7. Other documents as required by the terms of the contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- B. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 SUBMITTALS

- A. Site Plan: Provide a marked up site plan showing temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- B. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- B. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
- B. Access Roads and Paved Areas: Maintain temporary roads and paved areas adequate for construction operations.
 - 1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- C. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- D. Parking: Provide onsite parking areas for construction personnel. .

- E. Project Identification and Temporary Signs: Provide Project identification and other signs. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
 - 1. Provide temporary, directional signs for construction personnel and visitors.
 - 2. Maintain and touchup signs so they are legible at all times.

- F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.

- G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

- H. Existing Elevator Use: Use of Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
 - 1. Do not load elevators beyond their rated weight capacity.
 - 2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

- I. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
 - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

- B. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

- C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

- D. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
- E. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 015000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. General installation of products.
2. Coordination of Owner-installed products.
3. Progress cleaning.
4. Protection of installed construction.
5. Correction of the Work.

- B. Related Sections include the following:

1. Division 01 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 01 Section "Submittal Procedures" for submitting surveys.
3. Division 01 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
4. Division 01 Section "Closeout Procedures."

1.3 SUBMITTALS - not used.

1.4 QUALITY ASSURANCE - not used.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.

- B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the existing drawings and benchmarks. If discrepancies are discovered, notify Architect and Contractor promptly.
- B. Building Lines and Levels: Locate and lay out control lines and levels for new building elements and floor levels including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels.
- C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name

and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Contractor.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 8 feet in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Special protections are specified elsewhere for the following areas:
 1. New and existing roofing. Refer to Division 01 Section Temporary Protections and Facilities.
- C. Comply with manufacturer's written instructions for temperature and relative humidity control of newly installed materials and systems.

3.7 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.
- F. Remove and replace construction concealed prior to required testing or observation.

END OF SECTION 017300

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SECTION 017329 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching new construction to facilitate related construction.
- B. Related Sections include the following:
 - 1. Divisions 2 through 49 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 DEFINITIONS

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

1.4 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety
- C. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- D. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather-tight condition.

- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017329

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Sections include the following:
 - 1. Division 01 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2. Division 01 Section "Execution" for progress cleaning of Project site.
 - 3. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 4. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 8. Complete startup testing of systems.

9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect and Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures" and the General Conditions.
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training videotapes.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect and Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

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

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Contractor will provide final cleaning services according to the terms of the General Conditions and specific provisions of each Section of these specifications. Contractor to conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations. Special cleaning operations are as follows:
 - 1. Clean and polish all surfaces and glazing of new storefront and entrance systems and hardware. Remove all construction dirt and leave glass surfaces, inside and out, haze free.
 - 2. Professionally clean carpet materials of all stains and construction dirt. Replace all carpet tiles that show evidence of tracking or directional wear.
- B. Pest Control: Contractor will engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

RELATED DOCUMENTS

Documents and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

SUMMARY

Types of cold-formed metal framing units include the following:

- C-shaped load-bearing steel studs.

SUBMITTALS

General: Submit the following in accordance with Conditions of Contract and Division 1 Specification sections.

Product data and installation instructions for each item of cold-formed metal framing and accessories.

Shop Drawings showing layout, spacing, sizes, thickness, and types of cold-formed metal framing, fabrication, fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, openings framing, supplemental framing, strapping, bridging, splices, accessories, connection details, and attachments to other units of work.

QUALITY ASSURANCE

Component Design: Calculate structural properties of studs and joists in accordance with American Iron and Steel Institute (AISI) "Specification for Design of Cold-Formed Steel Structural Members". Loading shall be per ASCE-7.

Welding: Use qualified welders and comply with American Welding Society (AWS) D1.3, "Structural Welding Code - Sheet Steel".

Pre-Installation Conference: Prior to start of installation of metal framing systems, meet at project site with installers of other work including door and window frames and mechanical and electrical work. Review areas of potential interference and conflicts, and coordinate layout and support provisions for interfacing work.

- Coordinate with provisions of Division 1 Section "Project Meetings".

PART 2 - PRODUCTS

MANUFACTURERS

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

Allied American Studco, Inc.
Angeles Metal Systems.
California Expanded Metal Products Co.
California Metal Systems, Inc.
Clark Steel Framing Industries.
Consolidated Fabricators Corp.
Consolidated Systems, Inc.
Dale Industries, Inc.
Design Shapes in Steel.
Dietrich Industries, Inc.
Knorr Steel Framing Systems.
MarinoWare; Div. of Ware Industries, Inc.
Safco Corp.
Steel Construction Systems.
Steel Developers, LLC.
Steeler, Inc.
Studco of Hawaii, Inc.
Super Stud Building Products, Inc.
Unimast, Inc.
United Metal Products, Inc.
Western Metal Lath.

METAL FRAMING

System Components: Manufacturer's standard load-bearing steel studs and joists of type, size, shape and gage as indicated. With each type of metal framing required, provide manufacturer's standard steel runners (tracks), blocking, lintels, clip angles, shoes, reinforcements, fasteners, and accessories for application indicated, as needed to provide a complete metal framing system. Design slip clip connections where indicated for the design loads indicated on the drawings. These shall be designed by a professional engineer registered in the state of the Project.

All steel framing members should be marked for ease of identification based on industry standard. Markings should indicate size, shape, and yield strength of member.

Materials and Finishes:

For 16-gage and heavier units, fabricate metal framing components of structural quality steel sheet with a minimum yield point of 50,000 psi; ASTM A 653.

For 18-gage and lighter units, fabricate metal framing components of commercial quality steel sheet with a minimum yield point of 33,000 psi; ASTM A 653.

Provide galvanized finish to metal framing components complying with ASTM A 924 for minimum G 60 coating.

Finish of installation accessories to match that of main framing components, unless otherwise indicated.

Fasteners: Provide nuts, bolts, washers, screws, and other fasteners with corrosion-resistant plated finish.

Electrodes for Welding: Comply with AWS Code and as recommended by stud manufacturer.

Galvanizing Repair: Where galvanized surfaces are damaged, prepare surfaces and repair in accordance with procedures specified in ASTM A 780.

FABRICATION

General: Framing components may be prefabricated into assemblies before erection. Fabricate panels plumb, square, true to line, and braced against racking with joints welded. Perform lifting of prefabricated units to prevent damage or distortion.

Fabricate units in jig templates to hold members in proper alignment and position and to assure consistent component placement.

Fastenings: Attach similar components by welding. Attach dissimilar components by welding, bolting, or screw fasteners, as standard with manufacturer. Wire tying of framing components is not permitted.

Wire tying of framing components is not permitted.

Fabrication Tolerances: Fabricate units to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8 inch in 10 feet.

PART 3 - EXECUTION

INSTALLATION

General: Install metal framing systems in accordance with manufacturer's printed or written instructions and recommendations.

Runner Tracks: Install continuous tracks sized to match studs. Align tracks accurately to layout at base and tops of studs. Secure tracks as recommended by stud manufacturer for type of construction involved, except do not exceed 24 inches o.c. spacing for nail or power-driven fasteners at corners and ends of tracks.

Installation of Wall Studs: Secure studs to top and bottom runner tracks by either welding or screw fastening at both inside and outside flanges.

Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

Where stud system abuts structural columns or walls, including masonry walls, anchor ends of stiffeners to supporting structure.

Install supplementary framing, blocking, and bracing in metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishings, and similar work requiring attachment to the wall or partition. Where type of supplementary support is not otherwise indicated, comply with stud manufacturer's recommendations and industry standards in each case, considering weight or loading resulting from item supported.

Frame wall openings larger than 2 feet square with double stud at each jamb of frame except where more than two are either shown or indicated in manufacturer's instructions. Install runner tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with stud shoes or by welding, and space jack studs as full-height studs of wall.

Frame both sides of expansion and control joints with separate studs; do not bridge the joint with components of stud system.

Install horizontal stiffeners in stud system, spaced (vertical distance) at not more than 54 inches o.c. of stud system.

Erection Tolerances: Bolt or weld wall panels (at both horizontal and vertical junctures) to produce flush, even, true-to-line joints.

Maximum variation in plane and true position between prefabricated assemblies should not exceed 1/16 inch.

Field Painting: Touch-up damaged shop-applied protective coatings. Use compatible primer from prime-coated surfaces; use galvanized repair system for galvanized surfaces.

END OF SECTION 054000

SECTION 074120 - MANUFACTURED WALL PANELS

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section includes the following:

Metal wall panels with exposed fasteners. (Panel Type 1, 3 and 4)

Metal wall panels with concealed fasteners. (Panel Type 2)

Related Sections include the following:

Division 5 Section "Cold-Formed Metal Framing" for metal studs, bracing, anchorage, and framing accessories.

PERFORMANCE REQUIREMENTS

General: Provide manufactured wall panel assemblies complying with performance requirements indicated and capable of withstanding structural movement, thermally induced movement, and exposure to weather without failure or infiltration of water into the building interior.

Air Infiltration: Maximum 0.06 cfm/sq. ft. (0.3 L/s per sq. m) per ASTM E 283 at a static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa), using minimum 10-by-10 foot (3050-by-3050 mm) test panel that includes side joints.

Water Penetration, Static Pressure: No uncontrolled water penetration per ASTM E 331 at a minimum static differential pressure of 6.24 lbf/sq. ft. (299 Pa), using minimum 10-by-10 foot (3050-by-3050 mm) test panel that includes side joints.

Structural Performance: Provide metal wall panel assemblies capable of withstanding the effects of indicated loads and stresses within limits and under conditions indicated, per ASTM E 72:

Limits of Deflection: Metal wall panel assembly shall withstand scheduled wind pressure with the following allowable deflection:

Maximum allowable deflection limited to L/180 deflection of panel perimeter normal to plane of wall with no evidence of failure.

Secondary Metal Framing: Design secondary metal framing for metal wall panel assembly according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions."

Side Joint Disengagement: Panels must be designed and tested under Negative load per ASTM E 72.

SUBMITTALS

Product Data: Include manufacturer's product specifications, standard details, certified product test results, and general recommendations, as applicable to materials and finishes for each component and for total panel assemblies.

Shop Drawings: Show layouts of panels, details of corner conditions, joints, panel profiles, supports, anchorages, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work.

For installed products indicated to comply with certain design loadings, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Samples for Verification: Provide sample panels 12 inches (300 mm) long by actual panel width, in the profile, style, color, and texture indicated. Include clips, caps, battens, fasteners, closures, and other exposed panel accessories.

Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

Product Test Reports: Indicate compliance of manufactured wall panel assemblies and materials with performance and other requirements based on comprehensive testing of current products.

QUALITY ASSURANCE

Installer Qualifications: Engage an experienced installer certified by manufacturer who has completed metal wall panel projects similar in material, design, and extent to that indicated for this Project and with a minimum 10 years experience.

Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated.

Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated without delaying the Work, as documented according to ASTM E 699.

Fire-Test-Response Characteristics: Where fire-resistance-rated wall panel assemblies are indicated, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

Fire-Resistance Ratings: As indicated by design designations in UL's "Fire Resistance Directory" or in the listing of another testing and inspecting agency acceptable to authorities having jurisdiction.

Mockups: Before installing wall panels, construct mockups for each form of construction and finish required to verify selections made under Sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using exposed and concealed materials indicated for the completed Work.

Locate mockups 2 ft high x 2 ft. wide in the location as directed by Architect.

Seal panel end laps with a bead of non-curing butyl sealant, full width of panel

Notify Architect 7 days in advance of the dates and times when mockups will be constructed.

Demonstrate the proposed range of aesthetic effects and workmanship.

Obtain Architect's approval of mockups before proceeding with construction of wall panels.

Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

When directed, remove mockups from Project site.

DELIVERY, STORAGE, AND HANDLING

Deliver panels and other components so they will not be damaged or deformed. Package panels for protection against damage during transportation or handling.

Handling: Exercise care in unloading, storing, and erecting wall panels to prevent bending, warping, twisting, and surface damage.

Stack materials on platforms or pallets, covered with tarpaulins or other suitable weathertight and ventilated covering. Store panels to ensure dryness. Do not store panels in contact with other materials that might cause staining, denting, or other surface damage.

PROJECT CONDITIONS

Field Measurements: Verify location of structural members and openings in substrates by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

Established Dimensions: Where field measurements cannot be made without delaying the Work, either establish opening dimensions and proceed with fabricating wall panels without field measurements or allow for trimming panel units. Coordinate wall construction to ensure actual locations of structural members and to ensure opening dimensions correspond to established dimensions.

WARRANTY

General Warranty: Special warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

Special Finish Warranty: Submit a written warranty, signed by manufacturer, covering failure of the factory-applied exterior finish on metal wall panels within the specified warranty period and agreeing to repair finish or replace wall panels that show evidence of finish deterioration. Deterioration of finish includes, but is not limited to, color fade, chalking, cracking, peeling, and loss of film integrity.

Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

MANUFACTURERS

Manufacturers: Subject to compliance with requirements, provide panels by the following:

Steel Wall Panels: Centria

METALS AND FINISHES

Coated Steel Sheet Prepainted with Coil Coating: Steel sheet coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755 (ASTM A 755M) and the following requirements:

Galvanized Steel Sheet: ASTM A 653, G90 (ASTM A 653M, Z275); structural quality.
Surface: Smooth, flat, mill finish.

Exposed Finish for Exterior Panels: Apply the following coating in thickness indicated. Furnish appropriate air-drying spray finish in matching color for touchup.

Fluoropolymer 2-Coat Coating System: Manufacturer's standard 2-coat, thermocured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight with a total minimum dry film thickness of 0.9 mil (0.023 mm) and 30 percent reflective gloss when tested according to ASTM D 523.

Metallic Fluoropolymer: AAMA 621. Three-coat fluoropolymer finish with suspended metallic flakes containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

Durability: Provide coating field tested under normal range of weather conditions for a minimum of 20 years without significant peel, blister, flake, chip, crack, or check in finish; without chalking in excess of a chalk rating of 8 according to ASTM D 4214; and without fading in excess of 5 Hunter units.

Panel	Gauge	Panel Type	Color
Type 1	20	Econolap ½"	Bright Silver Metallic
Type 2	22	IW11A	#181 Slate Gray (Eave and Upper Band)
Type 2	22	IW11A	#183 Evergreen (Lower 3 Bands)
Type 3	24	MR3-36	Bright Sliver Metallic

Concealed Finish for Exterior Panels: Apply the following coating in thickness indicated. Furnish appropriate air-drying spray finish in matching color for touchup.

Acrylic-Enamel Coating: Consisting of epoxy primer and acrylic-enamel topcoat, with a dry film thickness of not less than 0.2 mil.

Color: Manufacturer's standard color to be selected by Architect.

Exposed Finish for Interior Panels: Apply the following:

Acrylic-Enamel Coating: Consisting of epoxy primer and acrylic-enamel topcoat, with a dry film thickness of not less than 0.2 mil (0.005 mm) for primer and 0.8 mil (0.02 mm) for topcoat.

Color: Manufacturer's standard color to be selected by Architect.

Prime Coat for Interior Concealed Surfaces: Apply pretreatment and white or light-colored, baked-on polyester primer coat; with a minimum dry film thickness of 0.2 mil (0.005 mm).

WALL PANEL ASSEMBLIES

Exterior Wall Panels: Fabricate panel face sheets to the profile or configuration indicated; and of the material, finish, and thickness indicated. Design joints between panels to form weathertight seals.

Steel Face Sheet: As indicated on page 4.

Interior Wall Panels: Fabricate interior panel liner face sheets to the profile or configuration indicated; and of the material, finish, and thickness indicated.

Steel Face Sheet: 20 U.S. Standard Gauge thick, coated steel sheet with organic coating finish, unless otherwise indicated.

BLANKET WALL INSULATION

Metal Building Insulation: Glass-fiber-blanket insulation, complying with ASTM C 991, Type II, of 0.5-lb/cu. ft. (8-kg/cu. m) density, thickness as indicated, with a flame-spread rating of 25 or less, and 2-inch- (50-mm-) wide, continuous, vapor-tight edge tabs.

Facing: Polypropylene-reinforced polyester.

Retainer Strips: 0.019-inch (0.5-mm) thick, formed, galvanized steel retainer clips colored to match insulation facing.

Mineral-Fiber-Blanket Insulation: Thermal insulation combining glass or slag/rock-wool fibers with thermosetting resins to comply with ASTM C 665 and as follows:

Type II: Faced one side with nonreflective vapor-retarder membrane.

Class A: Membrane-faced surface with a flame-spread rating of 25 or less.

MISCELLANEOUS MATERIALS

Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads.

Use stainless-steel fasteners for exterior applications and galvanized steel fasteners for interior applications.

Provide exposed fasteners with heads matching color of panel by means of factory-applied coating.

Provide metal-backed neoprene washers under heads of exposed fasteners located on weather side of panels.

Accessories: Unless otherwise specified, provide components required for a complete wall panel assembly including trim, copings, fasciae, mullions, sills, factory mitered corner units, clips, seam covers, flashings, louvers, sealants, gaskets, fillers, closure strips, and similar items. Match materials and finishes of panels.

Closure Strips: Closed-cell, self-extinguishing, expanded, cellular, rubber or cross-linked, polyolefin-foam flexible closure strips. Cut or premold to match configuration of panels. Provide closure strips where indicated or necessary to ensure weathertight construction.

Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.

Joint Sealant: One-part elastomeric polyurethane, polysulfide, or silicone-rubber sealant as recommended by panel manufacturer.

Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat, unless otherwise indicated. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

FABRICATION

General: Fabricate and finish panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

Sound Control: Where sound-absorption requirement is indicated, fabricate interior liner panels with 1/8-inch- (3-mm-) diameter holes uniformly spaced approximately 1000 holes per square foot (10 750 holes per square meter). Cover insulation with polyethylene film and provide inserts of wire mesh to form acoustical spacer grid.

Apply bituminous coating or other permanent separation materials on concealed panel surfaces where panels would otherwise be in direct contact with substrate materials that are noncompatible or could result in corrosion or deterioration of either materials or finishes.

Fabricate panel joints with captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will minimize noise from movements within panel assembly.

SECONDARY FRAMING

Panel Supports and Anchorage: Provide girts, furring channels, angles, plates, bracing, and other secondary framing members.

Girts: C- or Z-shaped sections fabricated from 0.0598-inch- (1.5-mm-) thick, shop-painted, roll-formed steel.

Flange and Sag Bracing: 1-5/8-by-1-5/8-inch (41-by-41-mm) angles, fabricated from 0.0598-inch- (1.5-mm-) thick, shop-painted, roll-formed steel.

Base or Sill Angles: Fabricate from 0.079-inch- (2.0-mm-) thick, cold-formed, galvanized steel sections.

Secondary structural members, except columns and beams, shall be manufacturer's standard sections fabricated from 0.079-inch- (2.0-mm-) thick, cold-formed galvanized steel or as required to meet project requirements.

PART 3 - EXECUTION

EXAMINATION

Examine substrates and conditions, with Installer present, for compliance with requirements indicated for conditions affecting performance of metal panel walls.

Panel Supports and Anchorage: Examine wall framing to verify that girts, angles, and other secondary structural panel support members and anchorage have been installed to meet requirements of panel manufacturer.

Do not proceed with wall panel installation until unsatisfactory conditions have been corrected.

PREPARATION

Coordinate metal wall panels with rain drainage work; flashing; trim; and construction of soffits, roofing, parapets, walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

Promptly remove protective film, if any, from exposed surfaces of metal panels. Strip with care to avoid damage to finish.

Secondary Structural Supports: Install girts, angles, and other secondary structural panel support members and anchorage according to the Light Gage Structural Institute's "Guide Specifications," Section 07410, "Manufactured Roof and Wall Panels."

PANEL INSTALLATION

General: Comply with panel manufacturer's written instructions and recommendations for installation, as applicable to project conditions and supporting substrates. Anchor panels and other components of the Work securely in place, with provisions for thermal and structural movement.

Field cutting exterior panels by torch is not permitted.

Install panel Type 1 and 3 with concealed fasteners.

Install panel Type 2 with exposed exterior and interior fasteners, prefinished to match panel finishes.

Locate and space exposed fasteners in true vertical and horizontal alignment. Use proper tools to obtain controlled, uniform compression for positive seal without rupture of neoprene washer.

Accessories: Install components required for a complete wall panel assembly including trim, copings, fasciae, mullions, sills, factory mitered corner units, clips, seam covers, flashings, louvers, sealants, gaskets, fillers, closure strips, and similar items.

Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of wall panel assemblies. Provide types of gaskets, fillers, and sealants recommended by panel manufacturer.

Install weatherseal to prevent air and moisture penetration. Flash and seal panels at ends and intersections with other materials with rubber, neoprene, or other closures to exclude weather.

Seal panel end laps with a bead of non-curing butyl sealant, full width of panel. Seal side joints as recommended by panel manufacturer.

Wall Panels: Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as necessary for waterproofing. Handle and apply sealant and back-up according to sealant manufacturer's written instructions.

Align bottom of wall panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.

Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.

Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.

Separate dissimilar metals by painting each metal surface in area of contact with a bituminous coating or by other permanent separation as recommended by manufacturers of dissimilar metals.

Coat back side of metal panels with bituminous coating where it will contact wood, ferrous metal, or cementitious construction.

Installation Tolerances: Shim and align panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on level, plumb, and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

CLEANING AND PROTECTING

Damaged Units: Replace panels and other components of the Work that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

Cleaning: Remove temporary protective coverings and strippable films, if any, as soon as each panel is installed. On completion of panel installation, clean finished surfaces as recommended by panel manufacturer and maintain in a clean condition during construction.

END OF SECTION 074120