NORTHERN ARIZONA UNIVERSITY

University Union – Exterior Tile Replacement

1050 S KNOLES DR
FLAGSTAFF, AZ 86011

P R O J E C T M A N U A L

VOLUME 1 OF 1

LIGHTVOX

4602 EAST THOMAS ROAD
PHOENIX, AZ 85018

100% CD ISSUANCE

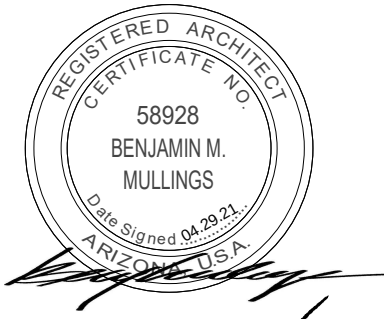
NAU PROJECT NO.: 09.303.201
LIGHTVOX PROJECT NO.: 3001.19.03

DATE: 04.29.2021

SECTION 00 01 07

SEALS PAGE

1.01 DESIGN PROFESSIONALS OF RECORD

ARCHITECT Lightvox Studio PLLC 4602 E Thomas Rd Phoenix, Arizona 85018 Phone: (602) 604–6626 Contact: Benjamin Mullings	Responsible for Divisions 01–12 except where indicated as prepared by other design professionals of record.	
STRUCTURAL ENGINEER Rudow + Berry 4032 N. Miller Rd Suite A100 Scottsdale, Arizona 85251 Phone: (480) 946–8171 Contact: Mark Rudow	Responsible for Wind loads for component design at New Steel Skin.	

END OF SECTION 00 01 07

DOCUMENT 00 01 10

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ARIZONA BOARD OR REGENTS
NORTHERN ARIZONA UNIVERSITY
FLAGSTAFF, ARIZONA

PROJECT MANUAL
BIDDING DOCUMENTS AND SPECIFICATIONS
FOR
University Union Exterior Tile
NAU PROJECT NUMBER 09.303.201

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00 10 00 Solicitation

00 10 00 Advertisements and Invitations

00 11 16 Invitation to Bid

Sealed bids are being solicited by Facility Services, Office of Planning, Design and Construction, Northern Arizona University, for and on behalf of the Arizona Board of Regents, for the furnishing of all labor, material, transportation and services required for Project Number: 09.303.201, Project Name: University Union Exterior Tile on the Campus of Northern Arizona University, Flagstaff, Arizona, in accordance with the plans and specifications on file with Facility Services, Office of Planning, Design and Construction.

Bids will be received at Facility Services, Building #77, Main Reception Desk, Northern Arizona University, Flagstaff, Arizona, until Friday, May 14, 2021 at 11:00AM Arizona Local Time.

Offerors dropping off bids in person are required to wear a face covering. When dropping off bids in person, social distancing measures apply. NAU reserves the right to turn away Offerors who do not comply with these requirements.

Bids will be opened publicly directly thereafter and read aloud via a ZOOM meeting. The ZOOM meeting invitation for the bid opening is provided in Section 00 21 14.6 of the Division 00 bidding document.

A **mandatory** Pre-Bid Conference will be held via ZOOM on Tuesday, May 4, 2021 at 11:00AM Arizona Local Time. Pre-registration for the Pre-Bid Conference ZOOM meeting is required. Registration for this meeting can be done at the following link: https://nau.zoom.us/meeting/register/tZIsdu6qqT4vGdW2B-g11MTUa4PsWm5cMPHj

After registering, you will receive a confirmation email containing information about joining the meeting.

Plans and Specifications for the proposed work may be inspected online at https://in.nau.edu/facility-services/bids-rfq/. ***The scope of work for this project is to replace the failing exterior tiles system with an extruded metal panel solution per plans and specifications. A more detailed scope of work is included in the plans and specifications and will be reviewed at the mandatory pre-bid ZOOM meeting.***

The site visit is optional and will be held on Wednesday, May 5, 2021 , starting at 11:00AM Arizona Local Time. NAU PDC staff will accompany the Offerors. There will be an opportunity to ask and have questions answered during the site walk.

Pre-registration for the site visit is required. Offerors interested in attending the site visit shall contact Judith Scholar Winfield (O: 928-523-4468, judith.scholarwinfield@nau.edu) to pre-register on or before Tuesday, May 4, 2021 at 2:00PM Arizona Local Time**.** Offerors shall bring

no more than **2** attendees and will need to notify NAU of the number of attendees at the time of registering for the site visit. NAU Covid-19 protocol applies (masks required, social distancing measures). Information on NAU's Covid-19 policies can be found at https://nau.edu/coronavirus.

All vehicles parking on campus **must** have a permit. Parking permits for the pre-submittal site visit are available at the parking kiosks at the entrances to campus or can be purchased online in advance. See https://in.nau.edu/university-transit-services for more information and to purchase a parking permit. Parking permits may be provided by NAU PDC staff and Offerors will be informed of this at the time of registering for the site visit.

A certified check, cashier's check or NAU Bid Bond Form FS#9 for ten percent (10%) of the amount of bid, must accompany each proposal, as a guarantee that the Contractor will enter into a contract to perform the proposal in accordance with the plans and specifications or as Liquidated Damages in the event of failure or refusal of the Contractor to enter into the contract. Checks or bonds will be returned to the unsuccessful bidders, and to the successful bidder upon the execution of a satisfactory bond and contract, as prescribed by Arizona Revised Statutes.

The Contractor, to whom the contract is awarded, shall, after receipt of Notice of Intent to Award, furnish to the aforesaid Board of Regents a satisfactory performance and payment bond in an amount equal to one hundred percent (100%) of the full amount of the bid, such bond not to be expressly limited as to time in which action may be instituted against the surety company for possible nonperformance of the Contractor. Bonds must be from a corporate surety company licensed to issue surety bonds in the State of Arizona. Individual sureties will not be accepted.

Work shall commence immediately after receipt of an executed contract or a Notice to Proceed and shall be Substantially Complete by August 15, 2021, and shall be Finally Complete by October 22, 2021. Bonds and insurance certificates must be submitted and approved prior to commencement of work.

The Board of Regents reserves the right to reject any or all bids, to waive or decline to waive irregularities in any bid, or to withhold the award for any reason it may determine, and also reserves the right to hold any or all bids for a period of **60** days after the date of the opening thereof. No bidder may withdraw a bid during this **60**-day period without forfeiture of the bid bond.

Women owned and minority owned firms are encouraged to apply. Persons with a disability may request a reasonable accommodation by contacting Facility Services, (928) 523-4227.

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ARIZONA BOARD OF REGENTS
Dr. Daniel Okoli

Bids should be addressed to:
NAU Planning, Design and Construction
Attention: Judith Scholar Winfield
PO Box 5637
Flagstaff, Arizona 86011
Phone: (928) 523.4468
Email address: judith.scholarwinfield@nau.edu **Publication Date:** 4/29/21

Section Number	Title
00 20 00	**INSTRUCTIONS FOR PROCUREMENT**
00 21 00	**Instructions**
00 21 13	Instructions to Bidders
00 21 13.1	Correspondence

Address all correspondence relating to the project to:
Facility Services
Planning, Design, and Construction
Attn: Judith Scholar Winfield
Northern Arizona University
P.O. Box 5637
Flagstaff, AZ 86011
judith.scholarwinfield@nau.edu

Reference the Project by both name and NAU project number in all correspondence.

00 21 13.2 Sealed Bids

Owner (Northern Arizona University) will receive sealed bids (at the time and place specified in Section 00 11 16, Invitation to Bid) for the labor, equipment and materials necessary to perform all functions and work indicated on the drawings and specified herein. Proposals shall be submitted on the required forms included in Section 00 43 00 of these specifications.

00 21 13.3 Execution of Contract and Bonds

The Contract Agreement, which the successful bidder, as Contractor, will be required to execute, is referenced in Section 00 52 00 of this manual. The form of Bonds and insurance certificates required to be furnished are included in Section 00 62 16 of this manual and shall be carefully examined by the bidder. The successful bidder will be required to execute the Standard Form Agreement between Owner and Contractor (Contract) and submit completed bonds and insurance certificates within five (5) working days after Notice of Intent to Award. Failure to execute a Contract Agreement and to file satisfactory payment and performance bonds and insurance certificates issued by companies deemed qualified by the Owner shall be just cause for the cancellation of the Award of Project and the forfeiture of the Bid Bond which shall become the property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, canceled, or re-advertised as the Owner may elect.

Owner reserves the right to waive irregularities in consideration of award to the lowest responsive and responsible bidder.

00 21 13.4 Bidding Documents

Bidders may obtain from Owner (Planning, Design, and Construction), a complete set of Bidding Documents stated in the Invitation to Bid, Section 00 11 13 of this document.

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Electronic copies of these documents can be found at: https://in.nau.edu/facility-services/bids-rfq/

General Contractors shall be responsible for distribution of bidding documents to Subcontractors.

Complete sets of bidding documents are to be used in preparing Bids. Neither Owner nor Design Professional (DP) assumes any responsibility for errors or misinterpretations resulting from using incomplete sets of bidding documents.

Owner or DP, in making copies of bidding documents available on above terms, does so only for purpose of obtaining bids on the work and does not confer a license or grant for any other use.

00 21 13.5 Interpretation or Correction of Bidding Documents

Bidders shall notify Owner and/or DP promptly of any ambiguity, inconsistency or error discovered upon examination of bidding documents or of site and local conditions. **Failure to so notify Owner/DP is deemed a waiver of any claim by Contractor,** based upon any such ambiguity, inconsistency or errors. The DP shall maintain a log of all inquiries and shall provide written notification of such to Owner (Facility Services Project Manager).

Interpretation, correction or change of bidding documents will be made by written Addendum. Interpretations, corrections or changes of bidding documents made in any other manner will not be binding; Bidders may not rely upon such interpretations, corrections and changes.

00 21 13.6 Bidder's Representation

Each Bidder by making their Bid represents that:

They have read and understand the bidding documents and all Contract Documents and that Bid is made in accordance therewith.

They have visited the site and are familiar with local conditions under which Work is to be performed, including verification of all field measurements, and have inspected all accessible spaces.

They have thoroughly familiarized themselves with all specific products and their proposed uses.

Their bid is based upon the materials, systems and equipment described in the bidding documents without exceptions.

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They have satisfied themselves that the products specified are appropriate for the uses proposed.

Their subcontractors with project involvement exceeding $100,000 are bondable.

They have advised each subcontractor to become thoroughly familiar with the Contract Documents, including the specifications and referenced standards, insofar as they affect each subcontractor.

They will install all Work properly, will place their warranty on the Work, and provide guarantees required.

00 21 13.7 Bid Period

Unless otherwise noted, all bids and bid prices shall remain firm for a period of sixty (60) days after the date of Bid opening and the Contractor shall be prepared to begin construction within ten (10) calendar days of receipt of notice of intent to award.

00 21 13.8 Contractor Qualifications

The Contractor shall submit with bid package the Statement of Qualifications (FS #2) included in Section 00 45 13 of these specifications.

The competency and responsibility of Bidders, of their proposed Subcontractors, and of the Surety issuing the Contractor's performance and payment bonds, will be reviewed prior to award.

00 21 14 Bidding Procedure

00 21 14.1 Form and Style of Bids

Bids must be submitted on Form of Bid (FS#1) provided in Section 00 41 13 of these specifications.

Blanks on the Form of Bid shall be typed in or printed legibly in ink.

Where indicated on Form of Bid, express sums both in words and digits; in case of discrepancy between the two, the amount written in words shall govern.

Where blanks on the Form of Bid (FS#1) are not filled-in, Owner reserves the right to reject the Bid on the basis of incompleteness.

Signer of Bid must initial any insertion, alteration or erasure.

Each copy of Bid shall include (on the Contractor Statement of Qualifications - FS #2) the legal name of Bidder and statement whether Bidder is sole proprietor, partnership, corporation or other legal entity. Each copy shall be signed by person, or persons, legally

authorized to bind Bidder to a contract. Bid by a corporation shall give the state of incorporation and have corporate seal affixed.

Bid bonds submitted by agent must have current Power of Attorney attached certifying agent's authority to bind Bidder.

The list of **required bid forms** is:

1. Form of Bid (FS#1)
2. Contractor Statement of Qualifications (FS#2)
3. Subcontractor List (FS#3)
4. Bid Bond (FS#9)
5. Notification & Confirmation of Asbestos Containing Materials (FS#13)
6. 00 73 38 – Sudan, Iran & Israel (FS#113)

All additional forms that are standard for Owner that must be used throughout the Contract for Construction are noted in Section 00 52 00 and 00 60 00 of these specifications and available through the office of Facility Services, Planning, Design and Construction.

00 21 14.2 Bid Bond

A Certified or Cashier's Check or Bid Bond (NAU form FS#9, see Section 00 43 13) of a corporate surety acceptable to the Arizona Board of Regents, payable to Northern Arizona University for Ten (10%) percent of the amount of the bid, is required as a guarantee that the bidder will enter into the contract if awarded. It shall be declared forfeited as Liquidated Damages if the successful bidder refuses to enter into said contract after being requested to do so by the Arizona Board of Regents/Northern Arizona University.

00 21 14.3 Bidders Qualifications

Bids will be accepted only from those Contractors who are licensed in the State of Arizona and qualified under the laws of the State of Arizona to perform the work specified. All work performed under the Contract by such licensed Contractors must be made to comply with all applicable laws and requirements of any governing bodies or regulatory agencies having jurisdiction over such Work.

The Contractor shall determine that subcontractors are licensed, insured, and qualified to perform their respective work under the contract and shall determine, that they are bondable, as required in Section 00 43 36. Each Bidder shall also submit a Subcontractor List (form FS #3 - included in Section 00 43 36 of these specifications) as outlined below in Section 00 21 14.31.

00 21 14.4 Subcontractors

00 21 14.4.1 Subcontractor List Form

In compliance with Contract, the Contractor shall list on the Subcontractor list form provided in Section 00 43 36, the names of **all** qualified subcontractors and/or suppliers he

will employ for the various portions of the work indicated for this Project. **All technical sections of this specification** shall be included. Failure to provide a complete list of subcontractors (FS#3) may be considered non-responsive. In addition to the general information required on that form, the Contractor shall provide the license number and class for each subcontractor proposed to do work under the contract. Failure on the part of the Contractor to completely list the names of all anticipated subcontractors will constitute sufficient grounds to reject the bid.

If the Contractor is going to do any portions of the work himself, he shall enter the word "Self" opposite that item in the list; list only one name for each item.

The Subcontractor List must be included inside the bid packet. No subcontractor substitutions will be permitted without prior written approval by the Owner.

A complete up-to-date revised list of Subcontractors shall be submitted to the Owner with indications of any work performed by Subcontracting firms classified as minority owned or small businesses, and final contract values, as part of the close-out procedures prior to Final Payment.

The Owner will promptly reply to the Contractor in writing stating if the Owner or the DP, after due investigation, has any objection to any such proposed subcontractor or supplier. The Contractor shall not employ any subcontractor or supplier against whom the Owner or the DP has reasonable objection. If, prior to the award of the Contract, the Owner or DP has a reasonable objection to any subcontractor or supplier and refuses in writing to accept such person or organization, the apparent low bidder may, prior to the award, either withdraw his bid without forfeiture of bid security or may propose an acceptable substitution thereof provided that same results in no change in the bid price. Failure of the bidder to submit an acceptable substitute in a timely manner shall render its bid non-responsive.

No substitution or change shall be made by the Contractor in the subcontractor/supplier list after its submission to the Owner without prior written approval by the Owner. Unapproved or untimely substitutions may be cause for invalidation of the Contractor's bid in the Owner's discretion, thereby rendering the Contract voidable.

All work performed for the Contractor by a subcontractor shall be pursuant to an appropriate written agreement which specifically binds the subcontractor to all applicable terms and conditions of the Contract Documents, but no contractual relationship shall exist between any subcontractor or supplier of any tier and the Owner. Upon request, the Contractor shall provide fully executed copies of any subcontracts and purchase orders to the Owner.

00 21 14.4.2 Subcontractor Bonds

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The Owner may require each Subcontractor whose subcontract amount will be $100,000 or more to furnish payment and performance bonds on Owner's form or on a form approved by Owner, which provides equal or better coverage, for the full amount of its subcontract. These bonds shall be obtained by the Subcontractor as a separate entity and the cost shall be included in the Subcontractor's bid to the Contractor. Bonds will guarantee the faithful performance of the subcontract and the payment of all obligations thereunder by the subcontractor. The Contractor shall provide Owner with a copy of each required Subcontractor's bond, within fourteen (14) calendar days after the Notice to Proceed is issued by the Owner. Copies of all applicable bonds must be received before processing of the first pay application will occur.

00 21 14.4.3 Subcontractor Insurance

All Subcontractors are required to maintain insurance in force according to the Construction Agreement.

00 21 14.5 Addenda

Any addenda issued by the Owner during the time of bidding shall be considered to be included in the bid, and will become a part of the executed contract. Acknowledgement of receipt of Addenda shall be made on the Form of Bid (FS #1) in the space provided.

Final Addenda shall be issued a minimum of three (3) days prior to the bid date.

If a Bidder should fail to receive any addendum, or should fail to acknowledge receipt of same, the Bidder shall have the option of accepting a contract, if offered, including all addenda, at the Bid price, or withdrawing the bid without penalty. NAU and/or the DP are not responsible for ensuring delivery of addenda to any Bidder. Failure to receive addenda or failure to acknowledge receipt shall not constitute a basis for claim, protest, or re-issue of the invitation to bid.

00 21 14.6 Submittal of Bids

Copies of the Form of Bid (FS#1), Bid Bond (FS#9) or Certified Check or Cashier's Check for ten percent of the amount of the bid, Subcontractors List (FS#3), and other documents required to be submitted with Bid per Section 00 43 13 (see required forms, Section 00 43 13) shall be enclosed in sealed, opaque envelope. Address envelope to Facility Services, identifying project name, Bidder's name and address.

If Bid is sent by mail to PO BOX 5637, Flagstaff AZ 86011, a sealed envelope shall be enclosed within a separate mailing envelope with "BID ENCLOSED" and identification of the Project and date and time for bid opening plainly indicated on the face thereof.

Bids must be received at the designated location prior to time and date for receipt of Bids indicated in advertisement. If received after the time and date for receipt of Bids, or any extension thereof made by Addendum, the bid package will be returned unopened.

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Bidder assumes full responsibility for timely delivery of bids. Bids sent by mail that have not been delivered to Facility Services, Building 77, Main Reception Desk, PO BOX 5637, Flagstaff, AZ 86011 by the designated time of the bid opening will not receive consideration; including specifically, but not limited to, bids received by NAU Post Office but not delivered to the bid opening location.

Electronic, oral, telephonic, FAXES, or telegraphic Bids are invalid and will be considered non-responsive.

Bidders dropping off their bids in person to Facility Services, Building 77, Main Reception Desk are required to observe State and Local guidance with regards to public health matters such as Covid-19, including wearing a mask, observing social distancing and other protocols as mandated.

00 22 00 Supplementary Instructions

00 22 11 Drawings and Schedules

00 22 11.1 Complimentary Drawings

Upon award of Contract, the Contractor will be furnished any available sets of Plans, Specifications, and project manuals, if any. Additional sets may be printed from: https://in.nau.edu/facility-services/bids-rfq/ .

00 22 11.2 Interpretation of Drawings and Specifications

The Contractor shall study and compare the Contract Documents sufficiently in advance of bidding the work to be performed and immediately report any material error, inconsistency, conflict, ambiguity, or omission that is discovered.

The Contract Document specifications for the applicable Contract in use can be found at https://in.nau.edu/facility-services/dp-contract/

The Drawings are intended to show general arrangements, design and extent of Work and are not intended to serve as Shop Drawings. Where required, the Contractor shall perform no portion of the Work without approved Shop Drawings, Product Data or Samples; any Work performed in violation of this provision will be solely at the Contractor's risk regardless of DP's and/or Owner's knowledge of such Work.

Contract Documents shall be interpreted as being complementary, requiring a complete project or designated portion thereof. Generally, the specifications address quality, types of materials and contract conditions while the drawings show placement, sizes, and fabrication details of materials. In the event of conflict in the Contract Documents, the priorities stated below shall govern:

A. Addenda shall govern over all other Contract Documents;

B. Subsequent addenda shall govern over prior addenda, but only to the extent modified;
C. In case of conflict between drawings and specifications, the specifications shall govern;
D. Conflicts within the plans:
   (1) Schedules, when identified as such, shall govern over all other portions of the plans.
   (2) Specific notes shall govern over all other notes and all other portions of the plans, except the schedules described in 00 22 11.2 D (1) above.
   (3) Larger scale drawings shall govern over smaller scale drawings.
   (4) Figured or numerical dimensions shall govern over dimensions obtained by scaling.
E. Conflicts within the specifications:
   Contract General Conditions shall govern over all sections of the specifications except for specific Modifications thereto that may be stated in Supplementary General Conditions or addenda. No other section of the specifications shall modify the Contract General Conditions.
F. In the event provisions of codes, safety orders, Contract Documents, referenced manufacturer's specifications or industry standards are in conflict, the more restrictive or higher quality shall govern.
G. I n the event of any conflict or ambiguity, the Contractor shall request an interpretation by the DP before performing the Work.
H. In the event of any conflict between the Specifications and Northern Arizona University Technical Standards, the Contractor shall notify the Owner for direction prior to bid. Otherwise the more restrictive or higher quality shall govern.

If the Contract Documents are not complete as to any minor detail of a required construction system or with regard to the manner of combining or installing of parts, materials, or equipment, but there exists an accepted trade standard for good and skillful construction, such detail shall be deemed to be an implied requirement of the Contract Documents in accordance with such standard.

“Minor detail” shall include the concept of substantially identical components, where the price of each such component is small even through the aggregate cost or importance is substantial, and shall include a single component which is incidental, even though its cost or importance may be substantial.

The quality and quantity of the parts or material so supplied shall conform to trade standards and be compatible with the type, composition, strength, size, and profile of the parts or materials otherwise set forth in the Contract Documents.

00 23 00 Definitions

Definitions set forth in General Conditions of the Standard Form Agreement Between Owner and Contractor, or in other Contract Documents are applicable to Bidding

Documents. Definitions below are in addition to the definitions of the Contract Documents and are not considered a replacement.

Alternate Bid(s): A sum stated in addition to the Base Bid for which Bidder offers to perform Work described as the alternate. The Owner may select all, none or any combination of alternates.

Approved: Where used in conjunction with the DP's response to Submittals, requests, applications, inquiries, reports and claims by the Contractor, the meaning of the term "approved" will be held to the limitations of the DP's responsibilities and duties as specified in the General and Supplementary Conditions. In no case will "approval" by the DP be interpreted as a release of the Contractor from responsibilities to fulfill the requirements of the Contract Documents.

Base Bid: A sum stated in the Bid for which Bidder offers to perform Work described as base, to which Work may be added or deducted for sums stated in Alternate Bid(s).

Bid: A complete and properly signed proposal to do the Work or designated portion thereof for some stipulated sum therein supported by data required in Bidding Documents.

Bidder: One who submits a Bid for prime Contract with Owner for Work described in the Contract Documents.

Bidding Documents: Include Advertisement for Bids, Instructions to Bidders, Bid Form, other bidding and Contract forms and Contract Documents including Addenda issued prior to receipt of bids.

Contract Documents: Are further defined per Agreement at the following link: https://in.nau.edu/facility-services/dp-contract/ , and also include, but are not limited to, the Agreement, amendments, change orders, these Design-Builder General Conditions, any supplementary or special conditions referenced in the Agreement and any other items stipulated to as being included in the Contract Documents, including the complete design as accepted by the Owner.

Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

Install: Except as otherwise defined in greater detail, the term "install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance.

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Installer: The entity (person or firm) engaged by the Contractor or its subcontractor or sub-subcontractor for the performance of a particular unit of work at the project site, including installation, erection, application, cleaning and similar required operations.

Provide: Except, as otherwise defined in greater detail, the term "provide" means furnish and install, complete and ready for the intended use, as applicable in each instance.

Work: Is comprised of all activities (including design, other related services and construction activities) required to complete the Project as defined by the Project Criteria and Contract Documents, including procuring and furnishing all materials, equipment, services, and labor reasonably inferable from the Contract Documents, or from prevailing trade usage and custom.

00 24 00 Scopes

00 24 13 Scopes of Bids

00 24 13.1 Base Scope

The scope of this project is to replace the failing tile with an extruded metal panel system per plans and specifications.

00 24 13.2 List of Alternates

Reference 01 23 00 Alternates in Project Manual

00 25 00 Procurement Meetings

00 25 13 Pre-Bid Meeting

A Mandatory Pre-Bid Conference will be held via ZOOM on Tuesday, May 4, 2021 at 11:00AM Arizona Local Time, for benefit of all prospective Bidders. Pre-Registration for the Pre-Bid Conference ZOOM meeting is required. Registration for this meeting can be done at the following link:
https://nau.zoom.us/meeting/register/tZIsdu6qqT4vGdW2B-g11MTUa4PsWm5cMPHj

After registering, you will receive a confirmation email containing information about joining the meeting.

Planning, Design, and Construction Staff and DP will be present to discuss technical aspects of the project. **All Bidders are required to be represented in order for their bid to be accepted by Owner.**

00 25 13.1 Optional Pre-Bid Site Inspection

The optional Pre-Bid Site inspection will be held on Wednesday, May 5, 2021, starting at 11:00AM Arizona Local Time. Pre-registration for the site visit is required. Offerors interested in attending the site visit shall contact Judith Scholar Winfield (O: 928-523-4468, judith.scholarwinfield@nau.edu) to pre-register on or before May 4, 2021, at 2:00PM

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Arizona Local Time. Offerors shall bring no more than 2 attendees and will need to notify NAU of the number of attendees at the time of registering for the site visit. NAU Covid-19 protocol applies (masks required, social distancing measures). Information on NAU's Covid-19 policies can be found at https://nau.edu/coronavirus .

No other formal inspection tours should be anticipated. Bidders should come prepared to gather all on-site information necessary for preparing their proposal. A Bidder may arrange for supplemental site visits as necessary to prepare a responsive proposal. It is the responsibility of the Bidders to thoroughly familiarize themselves with all conditions and matters, which may in anyway affect the Work or cost thereof.

No allowance shall be made on behalf of any contractor or subcontractor for errors due to his/her negligence in not being familiar with existing site and/or project conditions.

00 25 13.1.1 Supplementary Site Visits

Arrangements for supplemental visits to the job site are to be made through:
NAU Facility Services
Planning, Design and Construction
(928) 523-4468
Northern Arizona University
Flagstaff, Arizona 86011

00 26 00 Substitution Procedures

For Competitive Sealed Bid Procurements (Hard Bid and Task Order Procurement):

If Bidder wishes to submit a product for consideration, refer to the Substitution Request Form (located in 00 43 25). Product Substitution Requests must be received 10 days before bid opening. Product Substitution Requests shall be submitted in accordance with 00 21 13.1. All other process of the below section will be followed.

For Qualifications or Qualifications and Price Selections (CMAR, JOC, Design-Build Procurements):

To obtain approval to use unspecified products, Bidders can request substitutions of items felt to be equal to those listed in the specification and must be submitted, in writing for approval, utilizing the Substitution Request Form. If Owner/DP approves any such alternate product, notification shall be made to all prospective bidders a minimum of three business days prior to Bid. All such notifications shall be by Addendum.

Requests shall clearly describe the product for which approval is asked, including data necessary to demonstrate acceptability. The Owner and DP shall consider and either approve or reject proposals submitted. The Bidder's request for approval shall include the following:

a. Complete data substantiating compliance of the proposed substitution with the Contract Documents.
b. Product identification, including manufacturer's name, address and phone

number.

c. Manufacturer's literature showing complete product description, performance and test data, and all reference standards.
d. Samples and colors in the case of articles or products, as appropriate.
e. Name and address of similar projects on which the product was used and date of installation.
f. For construction methods, include a detailed description for proposed method and drawings illustrating same.
g. Itemized comparison of proposed substitution with product or method specified.

Substitution requests shall be made on the Substitution Request Form included with the Bid Forms.

The decision of the Owner or DP regarding the approval of items for which substitution is requested will be final. In the event an approved substitution is later determined by the Owner or Design Professional to be unacceptable for any reason, including the necessity to perform extended redesign or rework of the project in order to accommodate the substitution, or if it becomes apparent to the Design Professional that the substituted item will not perform or function as well as the specified item, the Bidder will be required to furnish the original specified item or request approval to use another substitution. The Bidder will pay all costs, expenses or damages associated with or related to the unacceptability of a substitution and the resultant utilization of any item. The Bidder further understands and agrees that a time extension will not be granted due to delays associated with or related to the unacceptability of a substitution.

If a substitution is approved, no subsequent change in brand or make will be permitted unless satisfactory written evidence is presented to the Design Professional and approved by the Owner that the manufacturer cannot make scheduled delivery of the approved substitute item.

****END OF SECTION****

Section Number	Title	
00 30 00	**Available Information**	
00 31 00	**Available Project Information**	
00 31 13	Preliminary Schedule	
00 31 13.13	Preliminary Project Schedule	
	First Advertisement:	April 29, 2021
	Mandatory Pre-Bid Conference:	May 4, 2021 at 11:00AM Arizona Local Time
	Optional Pre-Bid Site Visit:	May 5, 2021 at 11:00AM Arizona Local Time
	Bid Date:	May 14, 2021 at 11:00AM Arizona Local Time
	Construction Start:	May 28, 2021
	Substantial Completion:	August 15, 2021
	Final Completion:	October 22, 2021
00 31 13.16	Preliminary Construction Schedule	
	NA	
00 31 19	Existing Condition Information	
	The existing tile is failing and falling off the skin of the facility.	
00 31 21	Survey Information	
	NA	
00 31 24	Environmental Assessment Information	
	NA	
00 31 25	Existing Material Information	
	NA	
00 31 26	Existing Hazardous Material Information	

Worksite Hazard Inspection/Hazard Communication (FS-13) Results

Request Info

Requestor Information

Requestor First Name	Requestor Last Name	Requestor Email	Requestor Phone
Joshua	Spear	JOSHUA.SPEAR@NAU.EDU	9288531617

Project Information

Request Type	Project #	Project Name
Contractor	09.303.201	UNIVERSITY UNION EXTERIOR TILE
Start Date	**Date of Request**	
5/28/2021	4/20/2021	

Building Information

Building #	Building Name	Room/Area
030C	UNIVERSITY UNION DINING EXPNSN	The Point, exterior tile falling off we are replacing with metal paneling.

Disturbed Areas

___Ceiling _X_Wall ___Floor ___Mechanical System ___Exterior ___Roof ___Other
N/A

NAU Authorized EH&S Representative

First Name	Last Name	Email Address
Scott	Halle	Scott.Halle@nau.edu

INITIAL INSPECTION IS AT NO COST TO THE REQUESTOR. SAMPLE ANALYSIS AND PROJECT/ABATEMENT MANAGEMENT FEES MAY BE CHARGED, AT THE STANDARD RATE TO THE CLIENT DEPARTMENT OR PROJECT

This inspection does not waive the supervisor/contractor responsibility to provide adequate worker training/ppe

The Requestor is responsible for submitting an inspection request with adequate time prior to commencing work to arrange and complete any necessary hazard abatement activities BEFORE other work begins. Inspection request form is located on the Engineering/Inspections website. Supervisors shall make this form or the information contained within it available for review by all employees present at the work site.

Affected Facility/Area Information

Location/Room Number included in scope of work:

The Point, exterior tile falling off we are replacing with metal paneling.

Describe in detail the nature of the work required:

Remove exterior tile and install metal panel for skin of facility

Describe any demolition of load bearing components:

NA

Report Reviewed By

Certified Inspector	Date
Scott S Halle	04/20/2021 01:33:22 PM

Hazard Communication

Hazard Communication

Hazard Type

_X_Silica/Asbestos/Lead/PCB ___Radiation ___Biological ___Chemical _X_Other

Additional Hazard Inspection(s)

___Chemical ___Biological ___Work Site ___Environmental ___Industrial Hygiene

The purpose of this form is to notify Contractors and Subcontractors and their employees working at Northern Arizona University of known or anticipated workplace hazards. NAU maintains comprehensive material/safety inspections and safety programs for campus buildings. Test results and safety programs are available for review in the NAU offices of Material Safety or Environmental Health and Safety. The following known and assumed hazards have been identified to be present in the work area located in Building(s):

Building Information

Building #	Building Name	Room/Area
030C	UNIVERSITY UNION DINING EXPNSN	The Point, exterior tile falling off we are replacing with metal paneling.

Known / Assumed Hazards

Potential for hazard from airborne silica dust is documented in the inspection summary section of this report. Other potential hazards may include (not limited to) sharp object/cuts, heavy object/awkward work positions, ladder/fall, falling object or flying debris, and hazards related to the work practices, materials, or equipment provided by the vendor. It is the vendors responsibility to adhere to any applicable worker safety or environmental compliance regulations while performing this work. If the scope or location of work changes, additional hazards may arise. Please request inspection of any added materials or locations before commencing new or changed work activities.

NAU is responsible for informing you of the presence of hazards in your project work area on the NAU campus. If you encounter any previously unidentified hazards, stop all work immediately and contact the NAU Project Manager or NAU Safety Official (928-523-6435). By law, Employers must provide adequate training and protection for employees who will be exposed to hazards including those in this notification. The responsible party signing below agrees that it is the responsibility of the Contractor or Subcontractor to be knowledgeable of and comply with all applicable local, state, and federal safety regulations, and with university policies related to the hazards detailed in this form.

Your signature below acknowledges that you have received notice from NAU that hazardous materials or conditions are or may be present in your work area(s), NAU is responsible for informing you of the presence of hazards in your project work area on the NAU campus. If you encounter any previously unidentified hazards, stop all work immediately and contact the NAU Project Manager or NAU Safety Official (928-523-6435). Vendors must acknowledge that you agree to fully assume the responsibility for ensuring the safety of yourself and your employees, which includes ensuring that you comply with all applicable local, state, and federal laws, and with university policies governing hazardous materials or conditions.

Company Acknowledgement

Name of Responsible Party: Signature _____	Title: Date:

Hazardous Building Materials

Ceiling Materials

Material Summary	Asbestos	Lead	PCB	Silica	Special Work Controls

Wall Materials

Material Summary	Asbestos	Lead	PCB	Silica	Special Work Controls
Black Ceramic tile/grout/mortar	No	N/A	N/A	Assumed	See Comments
Concrete	No	N/A	N/A	Assumed	See Comments

Flooring Materials

Material Summary	Asbestos	Lead	PCB	Silica	Special Work Controls

Thermal System Insulation (TSI) Materials

Material Summary	Asbestos	Lead	PCB	Silica	Special Work Controls

Other Materials

Material Summary	Asbestos	Lead	PCB	Silica	Special Work Controls

Comments / Special Requirements

Ceramic and concrete materials are suspect for the presence of crystalline silica, which can pose an inhalation hazard if rendered to airborne dust. If work practices are anticipated to generate significant dust from these materials, OSHA regulations may be triggered and additional worker training or work controls may be required. Please review the general hazard communication section of this report for additional information on this or other hazards.

If any materials not listed above are scheduled for disturbance or are discovered to be in a disturbed state, contact the Material Safety Official at 928-523-6435 for guidance or a supplemental inspection before proceeding with any additional work.

Chemical Hazards (N/A)

Chemical Hazard Type

Will the project create waste containing any of the following (lead paint, fluorescent bulbs, etc)?
(Check the box if applicable)

___Arsenic ___Lead
___Barium ___Mercury
___Cadmium ___Silver
___Chromium ___Selenium
___Other: N/A

Will the project create any hazardous waste? (paint solvents, methylene chloride based stripper, petroleum distillates, etc.)
Does the project include any waste materials that require TCLP?
Does the project scope include areas where laboratory work was done?

Hazard Areas

___Bottled Chemical/Hazardous Waste ___Fumehood
___Specialized Glassware ___Cabinet for Chemical Storage
___Other (please describe):

Decontamination

Decontamination required prior to disturbance:
Area or equipment to be decontaminated:

Occupant should attach an Equipment Release Form to decontaminated equipment.
https://nau.edu/wp-content/uploads/sites/74/2018/06/Equipment-Release-Form.pdf

Additional Personal Protective Equipment Requirements

___Eye Protection ___Gloves ___Lab Coat ___Respirator
___Other (please describe):

Comments/Special Work Practices

Authorized EH&S Representative

Representative Name Email Address

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This inspection does not waive the supervisor/contractor responsibility to provide adequate worker training/ppe

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Biological Hazards (N/A)

Biological Hazard Type

___Human or Animal Pathogens (e.g. salmonella, adenovirus)
___Bloodborne Pathogens/Human Derived Material (e.g. blood, tissue, cell culture)
___Clinical Space (may contain human derived materials, sharps, etc.)
___Select Agents (must be escorted at all times)
___Animals
___Other (please describe):

Hazard Areas

___Countertops/Cabinets ___Biological Safety Cabinet ___Fumehood ___Microbiology Equipment
___Other (please describe):

Decontamination

Decontamination required prior to disturbance:
Area or equipment to be decontaminated:

Occupant should attach an Equipment Release Form to decontaminated equipment.
https://nau.edu/wp-content/uploads/sites/74/2018/06/Equipment-Release-Form.pdf

Additional Personal Protective Equipment Requirements

___Eye Protection ___Gloves ___Lab Coat
___Other (please describe):

Comments/Special Work Practices

Authorized EH&S Representative

Representative Name Email Address

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Work Site Hazards (N/A)

Work Site Hazard Area/Types

___Leading Edge/Roof ___Confined Space

___Trench ___Ladders

___Crush/Pinch Point ___Electricity

___Hazardous Energy/Pressure Vessels

___Dust or Inhalation

___Other (please describe):

Hazard Areas

___Safety Plan Recommended ___Safety Plan Required ___Safety Plan Not Required

Recommended Safety Plan Elements

*Please submit completed Site Safety Plan to the NAU Safety and Training Office

Comments/Special Precautions

Authorized EH&S Representative

Representative Name Email Address

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Environmental (N/A)

Environmental Affected Source/Equipment/Area

___Boiler ___Smoke Source ___Wastewater (Sewage)

___Emergency Generator ___Kiln ___Acid Neutralization Tank

___Stormwater ___Outdoor Odors

___Other

Other (Please Describe)

Conclusions/Recommendations

Authorized EH&S Representative

Representative Name Email Address

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Industrial Hygiene (N/A)

Industrial Hygiene Hazard Type

___Respirator ___Ergonomics ___Electromagnetic Fields ___Xray

___Noise ___Lighting ___Confined Space ___Laser

___Indoor Air Quality ___PPE ___Radiation ___Ventilation

___Laboratory Chemical Air Assessments ___Other

Other (Please Describe)

Conclusions/Recommendations

Authorized EH&S Representative

Representative Name Email Address

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Section Number	Title
00 31 31	Geophysical Data *NA*
00 31 32	Geotechnical Data *NA*
00 31 43	NAU Permit Application The NAU permit application and procedure can be found at https://in.nau.edu/facility-services/dp-contract/.
00 31 46	Other Permits *NA*

****END OF SECTION****

Section Number | Title

00 40 00 PROCUREMENT FORM AND SUPPLEMENTS
00 41 00 Bid Forms
00 41 13 Bid Form

FORM OF BID (FS#1)
UNIVERSITY UNION EXTERIOR TILE REPLACEMENT
NAU PROJECT NO. 09.303.201

The undersigned hereby proposed, and agrees to furnish all labor, material, transportation, supervision and services necessary to complete all work as called for in the plans and specifications, and that the lump sum bid includes all applicable costs of bonds, insurance, permits, and fees, and sales tax, or any applicable taxes. **The Owner's selection will be made on a Bid (pre-tax) price per ABOR policy 3-803 A 7. The contract will be issued for the lump sum amount, inclusive of the tax.**

We acknowledge the following addenda and have included their provisions in this proposal.

Addendum No._____ Dated_____
Addendum No._____ Dated_____
Addendum No._____ Dated_____
Addendum No._____ Dated_____

BASE BID: The undersigned proposes to complete all work as required per the Specifications, for a Lump Sum of:

Bid (pre-tax): _____ Dollars
($_____).
Taxes: _____ Dollars
($_____).
Cumulative Bid: _____ Dollars
($_____).

Additive Alternatives:

Alternate #1*:* (Zinc Coated Paneling) The undersigned proposes to complete all work as required per the Specifications, for a Lump Sum of:

Bid (pre-tax): _____ Dollars
($_____).
Taxes: _____ Dollars
($_____).
Cumulative Bid: _____ Dollars
($_____).

All Additive Alternates are additive to the Base Bid. For each Additive Alternate, Bidders are instructed to provide only the incremental difference in cost of adding that particular work to the project scope of work. Do not provide cumulative costs that include values already included in the Base Bid as NAU will be evaluating bids and considering bid award based on the sum of the Base Bid and any combination of Additive Alternates.

Enclosed herewith is a cashier's check or Bid Bond (NAU form FS#9) made payable to the Owner in the amount of $_____, which is not less than 10% of the amount of the total bid proposal, as a guarantee that the undersigned will furnish required Performance Bond and Labor and Material Bond, and enter into contract, on basis of above proposal.

Undersigned further agrees that said check (or Bid Bond) shall be forfeited as Liquidated Damages (no penalty) if undersigned fails to enter into contract after requested to do so by Owner.

Bids shown above are valid for a period of 60 days after the date of opening bids, and may be withdrawn following that date if no contract has been awarded.

The undersigned understands that the Owner reserves the right to reject any or all bids, or to waive any informality in receipt of the above Proposal. **Owner reserves the right to award by Base Bid alone, by the sum of Base Bid and any combination of Additive Alternate Amounts, or as the sum of the Base Bid and all the Additive Alternate Amounts, whichever is deemed most advantageous to Owner.**

It is hereby understood and mutually agreed by and between the Contractor and the Owner that the date of beginning, rate of progress, and time of completion of the Work as set forth in the contract documents are of the essence of the contract. The amount of **$100.00 per calendar day** will be assessed against the contract for work not completed at the Substantial Completion date. Said amounts shall accrue until such time that the Work covered under this contract is complete, not as a penalty, but as Liquidated Damages.

In addition, it is mutually agreed by and between the Contractor and the Owner, the amount of **$100.00 per calendar day** will be assessed against the contract for work not completed at the Final Completion date. Said amounts shall accrue until such time that the Work covered under this contract is complete, not as a penalty, but as Liquidated Damages.

The Proposer hereby certifies that he/she is the holder of a valid Contractor's License in accordance with Arizona State Law and that such license classification allows the Contractor to perform the type of construction identified by these Bid Documents. The proposer also certifies that he/she holds all of the required certifications and licenses outlined in the bidding documents and shall provide proof of all certifications, licenses and warranties within 5 days of Owner notification to the apparent low bidder with the Intent to Award.

If corporation,

Seal

_____
Company/Corporation

_____
Signature Date

_____ _____
Signature Arizona License Class and Number

Section Number | Title

00 43 00 **Procurement Form Supplements**
00 43 13 Bid Security Form

BID BOND (FS#9)

KNOW ALL MEN BY THESE PRESENTS, that we _____
(Here insert full name and address or legal title of Contractor)
as Principal, hereinafter called the Principal, and _____
(Here insert full name and address or legal title of Surety)
a corporation duly organized under the laws of the State of _____
as Surety, hereinafter called the Surety, are held and firmly bound unto _____
(Here insert full name and address or legal title of Owner)
as Obligee, hereinafter called the Obligee, in the sum of Dollars ($), for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.
WHEREAS, the Principal has submitted a bid for _____
(Here insert full name, address and description of project)

NOW, THEREFORE, if the obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contractor and give such bond or bonds, it the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null. and void, otherwise to remain in full force and effect.

Signed and sealed this _____ day of _____, 20__.

_____
(Principal) (Seal)

_____
(Witness)

_____
(Title)

_____
(Surety company) (Seal)

_____
(Witness)

Section Number Title

00 43 25 Substitution Request Form

MATERIAL/EQUIPMENT SUBSTITUTION REQUEST FORM

TO: _____

PROJECT: #09.303.201 – University Union Exterior Tile Replacement

We hereby submit for your consideration the following product instead of the specified item for the above project:

Section	Page	Paragraph/Line	Specified Item

Proposed Substitution: Product Identification – include manufacturer's name, address, and phone number

_____

_____

Attach complete product descriptions, drawings, photographs, performance and test data, manufacturer literature, samples and colors in the case of articles or products, and other information necessary for evaluation.

Similar projects on which the product was used (include Project, Owner, Owner's Contact information, Location, and date):

1. _____
2. _____
3. _____

A. Will changes be required to building design in order to properly install proposed substitution? Yes ___ No ___ . If Yes, explain: _____

_____

B. Will the undersigned pay for changes to the building design, including engineering and drawing costs, caused by requested substitution? Yes ___ No ___.

C. What differences exist between proposed substitution and specified item?

_____

_____

D. Does substitution affect Drawing dimensions: Yes ___ No ___. If yes, explain. _____

_____

E. What affect does substitution have on other trades? _____

_____

Section Number Title

F. Does Manufacturer's warranty of proposed substitution differ from that specified?
Yes ___ No ___ If yes, explain. _____

G. Will substitution effect progress schedule? Yes ___ No ___. If yes, explain:
_____

H. Will substitution require more license fees or royalties than specified product?
Yes ___ No ___. If Yes, explain _____
_____

I. Will substitution differ in cost from the specified product? Yes ___ No
If yes, explain how much _____
_____

J. Will maintenance and service parts be locally available for substitution?
Yes ___ No ___. If no, explain _____
_____

K. What is the code impact of this substitution request? Specify the section(s) of the applicable code(s) this impacts.

Submitted By:

_____
Signature

_____
Firm

_____
Address

_____

Date _____

Telephone _____

For DP's Use Only:

_____ Accepted ___ Accepted as Noted

_____ Not Accepted

Remarks: _____

_____

DP Signature: _____

Date: _____

For Owner's Use Only:

_____ Accepted ___ Accepted as Noted

_____ Not Accepted

Remarks: _____

_____

Owner Signature: _____

Date: _____

Section Number	Title
00 43 36	Proposed Subcontractors Form

SUBCONTRACTOR LIST   FS #3

PROJECT NAME: UNIVERSITY UNION EXTERIOR TILE

PROJECT NO.: 09.303.201

Proposer is to list **every** subcontractor and supplier proposed to be employed on the above project as required by the bidding documents. **All Sections of the specifications must be included below.** Any work proposed to be done by the Bidder should be listed as a line item with the word "Self" inserted under firm name. Designation of subcontractors is subject to University approval. No change in subcontractor's list will be permitted without the University's prior written consent. **Failure to provide a complete list with all information may be considered non-responsive. Subcontractor List must be enclosed inside bid package per Section 00 43 36. All bidders must sign page 2 of this subcontractor list, even if all work will be self-performed.**

[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]

Section Number Title

[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]
[WORK]	[LICENSE #]	[CLASS]	[CONTACT PERSON]
[FIRM NAME]	[ADDRESS]	[CITY/STATE/ZIP]	[PHONE]

I submit that the preceding is correct and current as of ____.

[BID OPENING DATE]

____

[COMPANY] [AUTHORIZED REPRESENTATIVE] [DATE]

Section Number	Title
00 43 83	Proposed Construction Schedule Form TBD

Section Number | Title

00 45 00 Representations and Certifications
00 45 13 Bidder's Qualifications

CONTRACTOR STATEMENT OF QUALIFICATIONS FS#2

(**FAILURE TO INCLUDE THE STATEMENT OF QUALIFICATIONS WITHIN THE BID PACKET WILL BE CONSIDERED NON-RESPONSIVE**)

FILL IN ALL BLANKS. IF NOT APPLICABLE, INSERT "N.A."

COMPANY NAME: _____

CONTACT: _____ PHONE: _____ FAX: _____

YEARS IN BUSINESS UNDER ABOVE NAME: _____ YEARS IN BUSINESS IN ARIZONA: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

[ ] SOLE PROPRIETORSHIP [ ]PARTNERSHIP [ ] CORPORATION [ ] STATE OF INCORPORATION
[ ] WOMEN-OWNED BUSINESS [ ]MINORITY-OWNED BUSINESS [ ] SMALL BUSINESS (LESS THAN $4M GROSS/YR OR LESS THAN100 FTE) CHECK ANY THAT APPLY TO YOUR BUSINESS

CONTRACTOR LICENSE NO: _____ CLASS: _____ STATE: _____

BONDING COMPANY: _____ AGENT: _____

ANY OTHER BUSINESS NAMES USED: _____ YEARS ____ TO _____

PAST PROJECT SIZE EXPERIENCE:

1. $ 10,000 - $100,000 # OF PROJECTS COMPLETED IN PAST 5 YEARS _____
2. $100,000 - $500,000 # OF PROJECTS COMPLETED IN PAST 5 YEARS _____
3. $500,000 - $2,000,000 # OF PROJECTS COMPLETED IN PAST 5 YEARS _____
4. $2,000,000 + # OF PROJECTS COMPLETED IN PAST 5 YEARS _____

PERCENTAGE OF WORK NORMALLY ACCOMPLISHED WITH YOUR OWN FORCES: _____
PRESENT NUMBER OF PERSONNEL: _____
WILL YOU EXPAND YOUR WORK FORCE FOR THIS PROJECT? _____ HOW MANY? _____
COMPUTER SOFTWARE USED FOR SCHEDULING PURPOSES: _____
COMPUTER SOFTWARE USED FOR DOCUMENT TRACKING PURPOSES: _____

Section Number Title

REFERENCES: (BANK, TRADE, PROFESSIONAL)

1. _____
   [NAME] [ADDRESS] [PHONE NO.]

2. _____
   [NAME] [ADDRESS] [PHONE NO.]

3. _____
   [NAME] [ADDRESS] [PHONE NO.]

BY MY NOTARIZED SIGNATURE BELOW I HEREBY SWEAR THAT THE ANSWERS TO THE FOREGOING QUESTIONS AND ALL STATEMENTS HERE CONTAINED AND ATTACHED ARE TRUE AND CORRECT.

_____

[CONTRACTOR NAME OR AGENT] [DATE]

SUBSCRIBED AND SWORN BEFORE ME THIS _____ DAY OF _____, 20___.

NOTARY PUBLIC: _____

MY COMMISSION EXPIRES: _____

Section Number	Title
00 50 00	**Contracting Forms and Supplements**
00 52 00	**Agreement Forms**
00 52 13	Agreement Form

The form of agreement between the Owner and Contractor shall be the Construction Agreement Between Owner and Contractor, Arizona Board of Regents. A copy of the latest version is available for review at on the website for information purposes only.

The aforementioned forms are hereby made a part of this Document and shall be binding to the same extent as if they were written in full herein.

****END OF SECTION****

Section Number Title

ARIZONA BOARD OF REGENTS **PERFORMANCE BOND FS#4**
PURSUANT TO BOARD OF REGENTS POLICY 3-804E
(Penalty of this bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That,_____
(hereinafter called the Principal), as Principal, and _____
a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____ (hereinafter called the Surety), as Surety, are held and firmly bound unto the Arizona Board of Regents, (hereinafter called the Obligee), in the amount of _____Dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the ___ ___day of _____, 20___, to construct and complete a certain work described as _____ _____which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extension thereof, with or without notice to the Surety and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived; then the above obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Board of Regents Policy Section 3-804E, and all liabilities on this bond shall be determined in accordance with the provisions of the section, to the same extent as if copied at length herein.

The prevailing party in a suit on this bond, including any appeal thereof, shall recover as a part of his judgment such reasonable attorneys' fees as may be fixed by a judge of the Court.

Witness our hands this _____ day of_____, 20___.

_____	_____
PRINCIPAL SEAL	SURETY SEAL
By:_____	BY:_____
	_____
	Bond Number
_____	_____
Agent Name & Telephone	Bonding Company & Telephone
_____	_____
Agent Address	Bonding Company Address

Section Number Title

Arizona Board of Regents **PAYMENT BOND FS#5**
PURSUANT TO BOARD OF REGENTS POLICY 3-804E
(Penalty of this bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That,_____
(hereinafter called the Principal), as Principal, and _____
a corporation organized and existing under the laws of the State of _____,
with its principal office in the City of _____ (hereinafter called the Surety), as Surety, are held and firmly bound unto the Arizona Board of Regents, (hereinafter called the Obligee), in the amount of _____Dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the_____ _____ day of _____, 20___, to construct and complete a certain work described as _____ which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall promptly pay all monies due to all persons supplying labor or materials to him/her or his/her subcontractors in the prosecution of the work provided for in said contract, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Board of Regents Policy Section 3-804E, and all liabilities on this bond shall be determined in accordance with the provisions of the section, to the same extent as if copied at length herein.

The prevailing party in a suit on this bond, including any appeal thereof, shall recover as a part of his judgment such reasonable attorneys' fees as may be fixed by a judge of the Court.
Witness our hands this_____ day of _____, 20___.

_____	_____
PRINCIPAL SEAL	SURETY SEAL
BY:_____	BY:_____
	_____
	Bond Number
_____	_____
Agent Name & Telephone	Bonding Company & Telephone
_____	_____
Agent Address	Bonding Company Address

Section Number | Title

00 62 00 Certificates and Other Forms

00 62 11 Submittal Transmittal Form (FS#27)

CONTRACTORS SUBMITTAL TRANSMITTAL FORM

PROJECT #:	**CONTRACTOR:**
PROJECT NAME:	**DATE:**
TO (OWNER): Northern Arizona University Facility Services Planning, Design, & Construction PO Box 5637 Flagstaff, AZ 86011	**SUBMITTAL NO:** ☐ New Submittal ☐ Resubmittal

Specification Section No.: _____

Schedule Date of Submittal: _____

Submittal Type: ☐ Shop Drawing ☐ Sample ☐ Other: _____

THE FOLLOWING ITEMS ARE HEREBY SUBMITTED:

Number of Copies	Description of Item Submitted (Type, Size, Model Number, Etc.)	Spec and Para. No.	Drawing or Brochure Number	Contains Variation to Contract	
				Yes	No

CONTRACTOR hereby certifies that (i) CONTRACTOR has complied with the requirements of Contract Documents in preparation, review, and submission of designated Submittal and (ii) the Submittal is complete and in accordance with the Contract Documents and requirements of laws and regulations and governing agencies.

_____

CONTRACTOR **SIGNATURE** **PRINT** **DATE**

Arizona Board of Regents _____

OWNER **SIGNATURE** **PRINT** **DATE**

Section Number | Title

00 62 16 | Certificate of Insurance Form (FS#6)

ARIZONA BOARD OF REGENTS
CERTIFICATE OF INSURANCE (FS#6)

PROJECT NAME: University Union Exterior Tile Replacement NAU PROJECT #: 09.303.201

PRODUCER	**COMPANIES AFFORDING COVERAGE** Insurance is to be placed with duly licensed or approved non-admitted insurers in the State of Arizona with an A.M. Best rating of not less than **A- VII**	**CURRENT A.M. BEST RATING**
	A	
	B	
INSURED	C	

Contractor shall furnish Northern Arizona University with certificates of insurance (ACORD form or equivalent approved by the State of Arizona). The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates of endorsements are to be received and approved by Northern Arizona University before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$ 2,000,000
	COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG.	$ 1,000,000
	: OCCURRENCE				PERSONAL & ADV INJURY	$ 1,000,000
					EACH OCCURRENCE	$ 1,000,000
					FIRE DAMAGE (Any one fire)	$ 50,000
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$ 1,000,000
	: ANY AUTO					
	PROFESSIONAL LIABILITY				EACH OCCURRENCE	$ 1,000,000
	ϒ TYPE: _____				AGGREGATE	
	ϒ CLAIMS MADE ϒ OCCURRENCE					
	EXCESS LIABILITY				EACH OCCURRENCE	$
	ϒ UMBRELLA FORM				AGGREGATE	
	ϒ OTHER THAN UMBRELLA FORM					
	WORKERS COMPENSATION AND				STATUTORY LIMITS	
	EMPLOYERS' LIABILITY				EACH ACCIDENT	$ 1,000,000
					DISEASE-POLICY LIMIT	$ 1,000,000
					DISEASE-EA EMPLOYEE	$ 1,000,000
	BUILDERS RISK				FACE AMOUNT OF CONTRACT	$

THIS CERTIFICATE APPLIES TO ANY AND ALL PROJECTS AT NORTHERN ARIZONA UNIVERSITY. DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS:

>THE POLICIES FOR GENERAL LIABILITY AND AUTOMOBILE LIABILITY SHALL BE ENDORSED TO INCLUDE THE FOLLOWING ADDITIONAL INSURED LANGUAGE: "THE STATE OF ARIZONA, ITS DEPARTMENTS, AGENCIES, BOARDS, COMMISSIONS, UNIVERSITIES AND ITS OFFICERS, OFFICIALS, AGENTS, AND EMPLOYEES SHALL BE NAMED AS ADDITIONAL INSUREDS WITH RESPECT TO LIABILITY ARISING OUT OF THE ACTIVITIES PERFORMED BY OR ON BEHALF OF THE CONTRACTOR.
>IT IS AGREED THAT COVERAGES AFFORDED UNDER THE POLICIES CERTIFIED IN THIS CERTIFICATE SHALL BE PRIMARY FOR THE PERSON OR ORGANIZATION SHOWN IN THE SCHEDULE, BUT ONLY WITH RESPECT TO LIABILITY ARISING OUT OF YOUR WORK FOR THAT INSURED BY OR FOR YOU. OTHER INSURANCE AFFORDED TO THAT INSURED WILL APPLY AS EXCESS AND NOT CONTRIBUTE AS PRIMARY TO THE INSURANCE AFFORDED BY THIS ENDORSEMENT.
>IT IS FURTHER AGREED THAT SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER. THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY.
>POLICIES FOR GENERAL LIABILITY, AUTO LIABILITY, AND WORKERS' COMPENSATION SHALL CONTAIN A WAIVER OF SUBROGATION AGAINST THE STATE OF ARIZONA, ITS DEPARTMENTS, AGENCIES, BOARDS, COMMISSIONS, UNIVERSITIES & ITS OFFICERS, OFFICIALS, AGENTS, & EMPLOYEES FOR LOSSES ARISING FROM WORK PERFORMED BY OR ON BEHALF OF THE CONTRACTOR.

CERTIFICATE HOLDER/ADDITIONAL INSURED
NORTHERN ARIZONA UNIVERSITY
THE ARIZONA BOARD OF REGENTS
THE STATE OF ARIZONA
FACILITY SERVICES
BOX 5637
FLAGSTAFF, AZ 86011

AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY

SIGNATURE DATE

Section Number	Title
00 62 23	Construction Waste Diversion Form Owner participates annually in the best international sustainability assessment conducted by the Association for the Advancement of Sustainability in Higher Education (AASHE). Owner has been participating in AASHE's Sustainability Tracking, Assessment, and Rating System (STARS) since 2011 and currently maintains a Gold Ranking. Participation in this program continuously gets NAU great rating's in Sierra Club's "Cool Schools" issue the Princeton Review's "Greenest Schools" issue. This report collects information on, "Construction and Demolition Waste Diversion" which requires detailed tracking of all construction waste on campus. Contractors are required to track waste on certain projects. Confirm with Owner at the beginning of each project on whether or not it is needed. The FS 49 Construction Waste Tracking Log is located online at: https://in.nau.edu/facility-services/forms-index/.
00 62 34	Recycled Content of Materials Form
00 62 76	Application for Payment Form All payments shall be made in accordance with the Agreement, and utilize the FS #11 for Contractors, the FS #60 for Design Builders, and the FS #98 for Design Professionals.
00 63 00	**Clarification and Modification Forms** Many of the NAU forms are located at: https://in.nau.edu/facility-services/forms-index/
00 63 13	Request for Interpretation Form
00 63 19	Clarification Form
00 63 25	Substitution Request Form (During Construction) Any substitutions to the specifications must be approved by Owner and DP using the Substitution Request Form in Section 00 43 25.
00 63 33	Supplemental Instruction Form
00 63 36	Field Order Form
00 63 43	Written Amendment Form
00 63 46	Construction Change Directive Form This form can be located on the NAU Facility Services website.
00 63 57	Construction Change Proposal Request This form can be located on the NAU Facility Services website, as FS #12.
00 63 63	Change Order Form
00 63 66	Contingency Use Authorization Form This form can be located on the NAU Facility Services website.
00 63 69	Allowance Use Authorization Form This form can be located on the NAU Facility Services website.

Section Number | Title

00 65 00 **Closeout Forms**

Closeout Forms and Other Project Closeout Requirements - may include but are not limited to the following:

A. Substantial Completion

1. Fire Marshal Acceptance Alarm/Sprinkler and State Fire Marshal Acceptance Report
2. State Elevator Inspection Report
3. Insurance Carrier Certificate for Boiler Inspection
4. Preliminary Balance Report
5. Preliminary As-Builts
6. Attic Stock
7. Substantial Completion Project Inspection (FS #15)
8. Punchlist Issued (FS#24)
9. Certificate of Substantial Completion (FS#81)
10. Schedule of Required Maintenance (FS#88)

B. Final Completion

1. Final Balance Report
2. Final As-Builts
3. First Season Commissioning Complete
4. Second Season Commissioning Complete
5. Operations and Maintenance Manuals
6. Electronic Copy of All Approved Submittals and Shop Drawings
7. Special Warranties
8. Keys Returned (FS#10)
9. Project Final Inspection (FS#15)
10. Punchlist Complete (FS#24)
11. Project Warranty (FS#80)
12. Certificate of Final Completion (FS#81A)
13. Affidavit Non Use Asbestos Certificate (FS#83)

C. Final Payment

1. Contractor Final Payment Application
2. Final Subcontractor List (FS#82)
3. All Subcontractor Lien Releases (FS#84)
4. Consent of Surety to Final Payment Received (FS#88)
5. General Contractor Lien Release (FS#89)
6. Contractor Affidavit of Payment (FS#99)

Templates of the forms (FS#) can be found at: https://in.nau.edu/facility-services/forms-index/

00 65 14 Punchlist Form (FS#24)
00 65 15 Project Inspection Form (FS#15)
00 65 16 Certificate of Substantial Completion Form (FS#81)
00 65 17 Schedule of Required Maintenance Form (FS#88)

Section Number	Title
00 65 19	Certificate of Final Completion Form (FS#81A)
00 65 19.13	Affidavit of Payment (FS#99)
00 65 19.16	General Contractor Lien Release Form (FS#89)
00 65 19.17	Subcontractor Lien Release Form (FS #84)
00 65 19.19	Consent of Surety to Final Payment Form (FS#87)
00 65 19.19	Final Subcontractor List (FS#82)
00 65 36	Warranty Form (FS#80)

****END OF SECTION****

Section Number | Title

00 70 00 Conditions of the Contract

00 71 00 Contracting Definitions

00 72 00 General Conditions

The General Conditions of the Standard Form Agreement Between Owner and Contractor, Arizona Board of Regents are hereby made part of the Contract Documents, as if they are included in the following pages. A copy is appended to the construction agreement and available for review at https://in.nau.edu/facility-services/dp-contract/ or information purposes only.

The General Conditions are a part of the Contract and shall be binding on the General Contractor and all Subcontractors as if bound into this document.

00 73 00 Supplementary Conditions

00 73 15 Bonds and Certificates

The Bid price shall include the cost of Payment and Performance Bonds. Bonds shall cover the faithful performance, labor and material (100%) of the Contract and payment of all obligations (100%) arising thereunder in the form prescribed in Arizona Board of Regents Policy 3-804E. Bonds shall be executed by Corporate Sureties licensed in Arizona. **Bonds must be submitted on the forms included in Section 00 61 13.**

Performance Bond

Pursuant to Arizona Board of Regents Policy, the Contractor shall file with the Owner, prior to the time of execution of the Contract, a Performance Bond on the Owner approved Form, referenced in, Section 00 61 13.13 in a penal sum equal to one hundred percent (100%) of the Contract. The Performance Bond must be executed on the above noted form. Substitutions will not be allowed. The Surety furnishing this bond shall be satisfactory to the Owner and shall be authorized to do business in the State of Arizona.

Payment Bond

Pursuant to Arizona Board of Regents Policy, the Contractor shall file with the Owner prior to the time of execution of the Contract, a Payment Bond on the Owner approved Form, referenced in Section 00 62 13, in a penal sum equal to one hundred percent (100%) of the Contract. The Payment Bond must be executed on the above noted form. Substitutions will not be allowed. The Surety furnishing this bond shall be satisfactory to the Owner and shall be authorized to do business in the State of Arizona.

Certificates of Compliance with Applicable Laws and Regulations

Lien Releases

Upon completion of this Project, and before final payment is made, the Contractor will furnish to the Owner one hundred percent (100%) Unconditional Lien Releases from all subcontractors, material dealers and other participants doing work under this Contract.

If payment to Subcontractors is outstanding pending final payment by the University to Contractor, or if for any other reason 100% Unconditional Lien Releases cannot be obtained from all subcontractors, the Contractor may provide the University with an indemnity bond.

Section Number	Title

00 73 16 Insurance Requirements

Insurance Requirements are defined by the contract.

00 73 19 Health and Safety Requirements

Beginning July 1, 2016, the use of all tobacco products, including those not approved by the FDA for cessation is prohibited on university property, facilities, grounds, parking structures, privately-owned vehicles and structures owned or leased by the University. This includes, but is not limited to, the use of cigarettes, e-cigarettes, hookah, e-hookah, chew, dip, snuff, cigars, pipes, vaporizers, etc.

00 73 34 Affirmative Action for Disabled Workers

Refer to https://in.nau.edu/facility-services/dp-contract/ for specific requirements within the Construction Agreement.

00 73 36 Equal Employment Opportunity Requirements

Northern Arizona University is an equal opportunity employer and all contracts with the University are subject to the conditions and requirements of Executive Order No. 99-4 as stated below.

EXECUTIVE ORDER No. 99-4

PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS, NON-DISCRIMINATION IN EMPLOYMENT BY GOVERNMENT CONTRACTORS AND SUBCONTRACTORS

PART I:

Non-discrimination in employment by government contractors and subcontractors.

All government contracting agencies shall include in every government contract hereinafter entered into the following provisions:

A. The contractor will not discriminate against any employee or applicant for employment because of race, age, color, religion, sex or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, age, color, religion, sex or national origin. Such action shall include but not be limited to the following: Employment, upgrading, demotion or transfer, recruitment or recruitment advertising, lay-off 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 notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

B. The contractor will in all solicitations or advertisement for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for employment without regard to race, age, color, religion, sex or national origin.

C. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under this Executive Order and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. The contractor will furnish all information and reports required by the contracting agency and will permit access to his books, records and accounts by the contracting agency and the Civil Rights Division for purposes of investigation to ascertain compliance with such rules, regulations and orders.

E. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations or order of the Arizona Civil Rights Division said noncompliance will be considered a material breach of the contract and this contract may be canceled, terminated or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts until said contractor has been found to be in compliance with the provisions of this order and the rules and regulations of the Arizona Civil Rights Divisions, and such sanctions may be imposed and remedies revoked as provided in Part II of this order, and the rules and regulations of the Arizona Civil Right Division.

F. The contractor will include the provisions of paragraphs A through E in every subcontractor purchase order so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect in the subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the State of Arizona to enter into such litigation to protect the interests of the State of Arizona.

G. Each contractor having a contract containing the provisions prescribed in this section shall file and shall cause each of his subcontractors to file compliance reports with the contracting agency or the Civil Rights Division, as may be directed. Compliance reports shall be filed within such ties and shall contain such information as the practices, policies, programs and employment policies, programs and employment statistics of the contractor and each subcontractor and shall be in such form as the Arizona Civil Rights Division may prescribe.

H. Bidders or prospective contractors or subcontractors shall be required to state whether they have participated in any previous contract subject to the provisions of this order or any preceding similar Executive Order and in that event to submit on behalf of themselves and the proposed subcontractors compliance reports prior to, or as an initial part of negotiation of a contract.

I. Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the compliance report shall include such information from such labor unions or agency practices and policies affecting compliance as the contracting agency or Civil Rights Division may prescribe; provided that, to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing supervision apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify the contracting agency as part of its compliance report and shall set forth what efforts he has made to obtain such information.

J. The contracting agency or the Civil Rights Division shall require that the bidder or prospective contractor or subcontractor shall submit as part of his compliance report a statement in writing signed by an authorized officer or agent on behalf of any labor union or any agency referring works or providing or supervising apprenticeship or other training with which the bidder or prospective contractor deals with supporting information to the effect that the signer's practices and policies do not discriminate on the ground of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this order or that it consents and agrees that recruitment employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purpose and provisions of this order. In the event that the union or the agency shall refuse to execute such a statement, the compliance shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the contracting agency or the Civil Rights Division may require.

PART II.

Enforcement

The parties to the contract agree that the Civil Rights Division may investigate the employment practices of the contractor or any subcontractor employed by the contractor or initiate an investigation by an appropriate contracting agency or determine whether or not any of the contractual provisions pertaining to discrimination in this contract have been violated. Such investigations shall be conducted in accordance with the procedures established by the Civil Rights Division, and the investigation agency shall report to the Civil Rights Division any action taken or recommended. The Civil Rights Division may receive and investigate or cause to be investigated complaints by employees or prospective employees of the contractor or subcontractor under this agreement which allege discrimination contrary to the contractual provisions of this agreement. If the investigation is conducted for the Civil Rights Division by an agency other than the Civil Rights Division, that agency shall report to the Civil Rights Division what action has been taken or is recommended with regard to such complaint.

Section Number	Title
00 73 37	Legal Worker Requirements Refer to https://in.nau.edu/facility-services/dp-contract/ for specific requirements within the Construction Agreement.

Section Number | Title

00 73 38 | Sudan, Iran & Israel

Refer to https://in.nau.edu/facility-services/dp-contract/ for specific requirements within the Construction Agreement.

No Boycott of Goods or Services from Israel. If the Goods/Services provided under this Agreement include the acquisition of services, supplies, information technology or construction with a value of at least $100,000 and Supplier is engaged in for-profit activity and has 10 or more full-time employees, then, to the extent required by ARS § 35-393.01, Supplier certifies it is not currently engaged in, and during the term of this Agreement will not engage in, a boycott of goods or services from Israel.

By signing this form, Bidder certifies that it is not currently engaged in and agrees, for the duration of the Contract, to not engage in a Boycott of Israel.

Name of Bidder		
Name of Contact		Title of Contact
Address 1		Address 2
City	State	Zip Code
		-
Telephone Number		E-mail address, if available
( ) -		( ) -
Print Name of Offeror's Authorized Agent		Signature of Offeror's Authorized Agent
Title of Offeror's Authorized Agent		Date

Section Number	Title
00 73 39	Minority Business Enterprise Requirements Refer to https://in.nau.edu/facility-services/dp-contract/ for specific requirements within the Construction Agreement.
00 73 50	Liquidated Damages

It is hereby understood and mutually agreed, by and between Contractor and Owner, that the date of beginning, rate of progress and the time for completion of the work to be done hereunder are essential conditions of this Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced on the date to be specified in the Notice to Proceed, Notice of Award, Contract and/or Agreement.

The Contractor agrees that said work shall be prosecuted regularly, diligently and uninterruptedly at such rate of time he specifies. It is expressly understood and agreed, by and between the Contractor and Owner, that the time for completion of the work will be set by the Substantial and Final completion dates as identified in Notice to Proceed, Notice of Award, Contract and/or Agreement..

Now, if the said Contractor shall neglect, fail, or refuse to complete the Work by the specified date, then the Contractor does hereby agree, as a part consideration for the awarding of the Contract, to pay the Owner a certain sum, as outlined hereafter, per calendar day, until the Project is completed, not as a penalty, but as Liquidated Damages for each breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the work.

For each calendar day that any part of the work remains uncompleted after the expiration of the time specified and/or allowed for completion of the work stipulated in the contract or approved increase by the additional work or materials ordered after the contract is signed, effecting the critical path schedule of the project, the sum per day shall be deducted from any monies due the Contractor, or if no money is due the Contractor, the Owner shall have the right to recover said sum or sums from the Contractor, from the surety or from both.

It shall be understood that the time to complete the Project, beyond the contractual date of completion is in itself prima facie evidence of actual damages incurred, and the amount of these deductions are to cover the Liquidated Damages caused by the loss of use, or limited use, of the building and other additional Owner incurred losses, or expenses, including supervisory and consulting services, due to the failure of the Contractor to complete the work within the time specified.

The said amount is fixed and agreed upon by and between Contractor and Owner because of the impracticality and extreme difficulty of fixing and ascertaining the actual damages Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain.

It is further agreed that time is of the essence of each and every portion of this contract and of the specifications where a definite and certain length of time is fixed for the performance of any act whatsoever; and when under the Contract an additional time is allowed as hereinbefore mentioned for the completion of any Work, the new time limit fixed by such extension shall be of the essence of this Contract, provided that the Contractor shall not be charged with Liquidated Damages or any excess cost when the delay in completion of Work is due:

To unforeseeable cause beyond the control and without fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather. The unusualness of the weather shall be determined by statistics from the local Weather Bureau over a period of the last 10 years. Upon request of the DP, the Contractor shall obtain statistical information from the Weather Bureau to support his claim for extension caused by unusual weather condition.

If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the Owner or the DP, or by any separate Contractor employed by the Owner, or by changes in the Work, or by labor disputes, fire, unusual delay in transportation, unusually severe weather conditions, adverse soil conditions, unavoidable casualties, delays specifically authorized by the Owner, or by causes beyond the Contractor's control, avoidance, or mitigation, and without any fault or negligence of the Contractor or Subcontractor or Supplier at any tier, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner may determine that such event has delayed the critical path of the Work or individual milestone or overall completion of the Work after considering the advice of the DP, if the Contractor complies with the notice and documentation requirements set forth below. The Contractor shall pay any additional fees or costs incurred by the Owner or DP as the result of delays caused by the Contractor for circumstances not excused as provided herein.

Initial notice of any delay in the Work shall be made in writing to the DP and Owner immediately but in no event later than 24 hours after discovery of the event giving rise to the delay. Then, Contractor shall provide additional details of the delay in writing to the DP and the Owner within seven (7) calendar days from the beginning of the delay. Failure to meet these time requirements shall absolutely bar any and all later claims. The detailed notice shall indicate the cause of the delay, the anticipated length of the delay, the probable effect of such delay upon the progress and cost of the Work, and potential mitigation plans. If the cause of the delay is continuing, the Contractor must give written notice every month at the same time it submits the updated progress Narrative Report to the DP. Within fifteen (15) days after the elimination of any such delay, the Contractor shall submit further documentation of the delay and, if applicable, a formal written request covering an extension of time for such delay. The written request for time extension shall state the cause of the delay, the number of days extension requested and provide a fully documented analysis of the Progress Schedule, including a fragment and any other data demonstrating a delay in the critical path of the Work or individual milestone or the overall

project completion. If the Contractor does not comply with the notice and documentation requirements set forth above, the claim for delay is absolutely barred.

Schedule of Liquidated Damages shall be as follows:

Substantial Completion: $100.00
for every day beyond the scheduled date of Substantial Completion through to and including the date indicated on the Official Certificate of Substantial Completion when issued by the DP.

Final Completion: $100.00
for every day beyond the date of Final Completion as established in the Contract Documents and per the Construction Agreement. Work to be completed prior to a determination of Final Completion includes the fulfillment of all Contractual requirements, including the completion of all punch list items and Contract Closeout documents.

00 73 60 Value Engineering Change Proposals (VECP)

General

This clause applies to any cost reduction proposal (hereinafter referred to as a Value Engineering Change Proposal (VECP)) initiated and developed by the Contractor for changing the drawings, designs, specifications, or other requirements of this contract. This clause does not, however, apply to any such proposal unless it is identified as a VECP by the Contractor at the time of its submission to the Owner.

Definition

All VECP's must:
Result in a savings to the Owner by providing a decrease in the cost of the performance of this contract without impairing any required functions and characteristics such as service life, reliability, economy of operation, ease of maintenance, desired appearance, standardized feature, fire protection features, safety features.

Require, in order to be applied to this contract, a change order to this contract.

Proposal Screening

The Contractor will present anticipated proposals to the DP for proposal screening. During this screening, the DP will render an opinion as to the relative merits of the proposal.

The DP will provide as a part of the screening, the minimum technical content requirements to be submitted by the Contractor as a part of the formal VECP.

Concurrence by the Owner and the DP with merits of the proposal during the screening is not to be assumed that the VECP will automatically be accepted.

In the event a VECP is received which has not had the proposal screening, it may be rejected without review.

VECP Content

As a minimum, the following information must be submitted by the Contractor with each VECP.

A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance. A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

A separate, detailed cost estimate for (l) the affected portions of the existing contract requirement and (2) the VECP.

A description and estimate of costs the University may incur in implementing the VECP, such as test and evaluation and operating and support costs.

A prediction of any effects the proposed change would have on collateral costs to the agency.

A statement of the time by which a Change Order accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous University actions, if known.

The Contractor may withdraw, in whole or in part, a VECP that has not been accepted by the Owner within the period specified in the VECP.

Owner Action

The DP shall notify the Contractor of the status of the VECP within 30 days after submitted for review. If additional review time is required, the DP shall notify the Contractor of this within the original 30-day period. The Owner or DP shall not be held liable for any delays in acting upon a VECP.

If a VECP is not accepted, the DP shall notify the Contractor in writing, explaining the reasons for rejection. The notice of rejection shall be submitted within the review period referenced above.

Any VECP may be accepted, in whole or in part by the Owner. The Owner may modify a VECP, with the concurrence of the Contractor, to make it more acceptable. If any modification increases or decreases the savings resulting from the VECP, the Contractor's fair share will be determined on the basis of the VECP as modified. Unless and until a change order applies a VECP to this contract, the Contractor will remain obligated to perform in accordance with the terms of the

existing contract. The Owner may accept in whole or in part any VECP submitted pursuant to this clause by issuing a change order which will identify the VECP on which it is based.

****END OF SECTION****

Section Number | Title

01 10 00 SUMMARY

01 11 00 Summary of Work

01 11 13 Work Covered by Contract Documents

The scope of this project is to replace the failing tile on the exterior of the University Union Building with an extruded metal panel system per plans and specifications.

If using Division 1 for subcontractor bid packages the Contractor shall incorporate applicable language from Contractor's Construction Agreement with Owner.

01 11 16 Work by Owner

NA

01 12 00 Multiple Contract Summary

NA

01 14 00 Work Restrictions

01 14 13 Access to Site

Truck washing stations, truck tire scraping grates and street sweeping may be required. Access to site shall be provided as to keep construction activity, dirt and mud on site.

01 14 16 Coordination with Occupants

Communication with the occupants is to be sent through the Owner. Impact requests shall be requested a minimum of 5 business days prior to the proposed starting time. Requests may not be approved and may be rescheduled to meet occupant needs.

01 14 19 Use of Site

Use of the site is restricted to materials and equipment necessary for completion of the Work. It is the Contractor's responsibility to ensure enclosure of the site from the general public.

01 18 00 Project Utility Sources

01 18 13 Utility Service Connections

The Contractor shall prearrange time with the DP and Owner whenever it becomes necessary to energize new services or to interrupt any service to make connections, alterations or relocations; and shall fully cooperate with the Owner in doing Work so as to cause the least annoyance and interference with the continuous operation of the Owner's business or official duties. Following such a

meeting the Contractor shall submit a work authorization request that will include a detailed description and procedure for each task, schedule for each task, any safety controls being implemented and signoff locations for tasks completed. The work authorization request will be similar to the document identified in 29 CFR 1910.147 App A and must be approved by the Owner (trade supervisor for the intended utility). The work authorization document is considered a submittal subject to the review periods indicated in the contract but in no case less than 5 business days, and must be approved prior to scheduling work.

Any existing utility distribution or internal plumbing, heating, ventilating, air conditioning or electrical disconnections which may affect portions of existing buildings or other construction projects must be coordinated with the DP and Owner to avoid any disruption of operation. While bidding, the Contractor shall assume that all shutdowns shall occur during afterhours and/or weekends unless specifically stated otherwise in the contract documents. In no case, unless previously approved in writing by Owner, shall utilities be left disconnected at the end of a work day or over a weekend. Any interruption of utilities shall be reported immediately to the Owner (Project Manager). Such interruptions, whether negligently, intentionally, or accidentally, shall not relieve the Contractor's responsibility for the interruption or from liability for loss or damage caused by such interruption even though such loss or damage was not foreseeable by Contractor or subcontractor, or from responsibility for repairing and restoring the utility to normal service. Repairs and restoration shall be made before the Contractor leaves the project site.

****END OF SECTION****

Section Number | Title

01 20 00 PRICE AND PAYMENT PROCEDURES

01 21 00 Allowances

The Contractor's price for the Work shall include all of the Contractor's costs associated with such allowance or allowances. If the actual costs to the Contractor of such allowance or allowances is different from the specified sum, increases or decreases in the cost of the allowance and associated Contractor's cost shall be adjusted in accordance with the Construction Agreement.

Use of Allowances must be requested and approved through the Allowance Use Authorization form.

01 22 00 Unit Prices

NA

01 23 00 Alternates

Reference 01 23 00 Alternates in Project Manual

01 26 00 Contract Modification Procedures

01 26 13 Requests for Interpretation

Requests for Interpretation (RFI) will be sent electronically to the Owner (Project Manager) and the DP concurrently. The RFI must indicate the Owner's project number, RFI #, spec section and plan sheet impacted, trades involved, images if applicable, a proposed solution and potential cost or time impact.

01 26 46 Construction Change Directives

Use Owner form FS#16 for all Construction Change Directives (CCD).
No changes in the work shall be undertaken by the Contractor without written direction by the Owner and DP (if a DP is on the project), either as a CCD or a Change Order.

01 26 53 Proposal Requests

Refer to Section 01 26 57

01 26 54 Proposal Worksheet Summaries

Refer to Section 01 26 57

01 26 57 Construction Change Proposal Request

Section Number | Title

The CCPR form is required to be completed by the Contractor with a detailed description and cost breakdown for each individual requested change. Please refer to FS#12 available at: https://in.nau.edu/facility-services/forms-index/. Refer to construction agreement for specific provisions.

01 26 63 Change Orders

No changes in the work shall be undertaken by the Contractor without written direction by the Owner and DP (if a DP on the project), either as a CCD or a Change Order. Any changes made without such written direction are done so at the Contractor's own risk. Change Orders shall be processed as identified in the construction agreement.

Change procedures must follow the requirements outlined in the Construction Agreement between Owner and Contractor. A copy of the latest version of the Construction Agreement between Owner and Contractor is available at https://in.nau.edu/facility-services/dp-contract/. Change orders are on Owner form FS#14.

01 29 00 Payment Procedures

01 29 73 Schedule of Values

Individual construction activities which are indicated by the Schedule of Values shall coincide with activities presented on the Contractor's Construction Schedule. Contractor shall submit proposed schedule of values for review and approval by DP and by Owner, per the Construction Agreement between Owner and Contractor, prior to submission of first pay application.

01 29 76 Progress Payment Procedures

Contractor will submit payments electronically to the Project Manager, DP and Owner (project manager and project assistant) concurrently. Payments will be measured against the Schedule of Values as approved by the DP, Owner and CM (as applicable).

For all Testing and Inspection Services, the Testing and Inspection Log (FS#105) shall be completed and shall accompany each pay app for that billing period.

Payment procedures shall be per the Construction Agreement. The Pay Application form can be found at: https://in.nau.edu/facility-services/dp-contract/.

****END OF SECTION****

Section Number | Title

01 30 00 ADMINISTRATIVE REQUIREMENTS

01 31 00 Project Management and Coordination

01 31 13 Project Coordination

Project coordination and communication procedures will be discussed in detail at the preconstruction meeting. The minutes of this meeting shall serve as reference and documentation of proper coordination and communication channels.

01 31 14 Facility Services Coordination

An emergency contact sheet will be provided to the Contractor with contacts for the Owner's different departments in Facility Services. The Contractor will fill out with their emergency numbers and return to the Owner for distribution.

01 31 16 Multiple Contract Coordination

The Owner reserves the right to award other contracts related to the Project, or to perform certain work itself. Any such other work may or may not be known to the Owner or disclosed to the Contractor prior to execution of the Agreement. The Contractor shall allow the Owner and such other additional contractors to deliver and store the additional contractors' or Owner's materials and equipment and to execute the additional contractors' or Owner's work, and shall properly coordinate the Contractor's Work with the additional contractors' or Owner's work in such manner as the Owner or Design Professional may direct. The Contractor shall also assure at the Contractor's own cost reasonable access of additional contractors to the Contractor's site and the Contractor's work.

01 31 19 Project Meetings

Refer to the required project meetings in the Construction Agreement.

01 31 19.13 Preconstruction Meetings

A preconstruction meeting shall be held for all projects. Notification of the time and date of such conference shall be made to the selected Contractor in the Notice of Intent to Award, or via other coordination methods. The preconstruction meeting agenda (FS#21) is located online at: https://in.nau.edu/facility-services/forms-index/.

01 31 19.14 Inspection Meeting

A meeting will be held between Owner (including Project Manager, Building Official, and applicable Trades Inspectors) and the Contractor to discuss inspection procedures and to establish expectations. This may be a separate meeting from the preconstruction meeting or may be covered in the preconstruction meeting.

Section Number	Title

01 31 19.15 Blue Stake Meeting

Contractor and earthwork/underground foreman will coordinate a Blue Stake Kickoff Meeting prior to the start of Work to review the proposed schedule and blue stake requirements. This is a separate meeting from the preconstruction meeting.

01 31 19.16 Site Mobilization Meetings

01 31 19.23 Progress Meetings

Progress meetings shall occur on a regular basis (weekly) according to a schedule determined at the pre-construction conference or as established in the contract.

01 31 19.33 Pre-Installation Meetings

The Contractor shall schedule a pre-installation meeting before starting any trade work in the field, between the Owner's Trade Inspector(s), the Contractor and subcontractor(s). The contractor performing the work (which may be the Contractor if self-performing or a subcontractor) must be in attendance at this meeting. The pre-installation meeting will review the installation and inspection protocol (quality control, workmanship expectations, means and methods etc.) and review project specifications and drawings with the Contractor and subcontractor(s). The pre-installation meetings shall be specified when applicable for the following work:

- Concrete formwork and placing
- Waterproofing
- Mortar / masonry
- Flashing
- Roofing
- Sealant
- Vapor Barrier
- Painting and Drywall
- Fire Sprinkler
- Fire Alarm
- HVAC
- Plumbing
- Electrical
- Datacomm/ITS
- Site Utilities
- Refer to FS#15 for additional requirements
- Owner may require additional pre-installation meetings depending on the scope of work.

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Acknowledgement of the Pre-Installation Meeting is required on the FS#15 form prior to any inspections being performed.

Contractor shall schedule a subsequent inspection when 10 – 15% of the work reviewed in the pre-installation meeting to verify proper installation practices are implemented.

01 31 26 Electronic Communication Protocols

All communications on the project are to go through the Owner's Project Manager.

01 32 00 Construction Progress Documentation

01 32 13 Scheduling of Work

In general, hours of construction activity shall be limited to 7 a.m. until 7 p.m., Monday through Friday, unless written approval is obtained from Owner (Project Manager). Additionally, the Contractor shall agree to limit any noisy activities during "reading week" and "finals week". Reading Week and Finals Week generally occur during the first weeks of May and December.

Year-round, project work adjacent to or within Residence Halls shall be more strictly limited to the hours of 8:00 a.m. until 6:00 p.m., unless written approval is obtained from the Owner. In addition to these hours, work performed on weekends will not be permitted without prior authorization from Owner.

01 32 16 Construction Progress Schedule

The following requirements shall support and amplify the requirements of the Construction Agreement between Owner and Contractor.

In conjunction with the Contractor's construction schedule, the Contractor shall provide a procurement schedule for all major project components to be purchased and incorporated by the Contractor into the project.

The procurement schedule shall indicate scheduled delivery of major project components, both equipment and materials, in support of the activities included on the Contractor's construction schedule.

Revisions to the Contractor's construction schedule shall be coordinated with revisions to the procurement schedule.

In the event significant delays or lags in schedule, as determined by the Owner, are encountered, the Contractor shall provide to the Owner a revised Contractor's

Section Number | Title

Construction Schedule indicating proposed rescheduling of subsequent activities to achieve project completion by the Contract Completion Time or Amended Completion Time.

Additions to or deletions from the Contract, authorized through Change Orders, shall be reflected in the Contractor's construction schedule.

Owner's Approval of Phasing

The Owner reserves the right to review and approve scheduling or phasing of construction activities.

Contractor shall be aware of the impact of construction activities on Owner's functions and operations and shall advise the Owner when they may be impacted by the schedule. The Contractor shall act to lessen or avert impact to Owner operations through alternative phasing of activities or other measures.

01 32 19 Submittals Schedule

The Contractor is required to make submittals for the DP and Owner review in a prompt and timely manner. A schedule of submittals is to be delivered to the Owner within *5* days of the notice to proceed. Submittals are required for each subsection detailed in the individual sections of Divisions 2 through 48.

01 32 23 Survey and Layout Data

All underground utilities installed or exposed by Contractor shall have survey points taken and indicated on the as-built drawings with utility descriptor, pipe size, material, and any other pertinent data. These need to be presented for review prior to backfilling a section, or as indicated in Division 33.

Points shall be taken at a minimum of every 20 feet plus at any connections, valves, bends, rises/falls and points where other utilities are crossed. In the event that existing utilities are exposed during construction then one point will be taken on the exposed utility at the exposed location or crossing for trench widths of 3 feet or less. Trench widths wider than 3 feet shall have a point taken on the exposed utility where it crosses the newly installed utility and where it enters and exits the trench. Any exposed connections, valves, bends, and rises/falls shall have points taken as well.

Survey data – Control points established for a project are preferred to be at locations easily identifiable from aerial imagery. Examples include corners were asphalt and concrete intersect, distinct corners of pedways and sidewalks, the center of circular utility manhole covers, etc. A few examples are circled in yellow in the image below. A project should contain a minimum of three control points

per Civil Site Utilities As-Built sheet that are visible from aerial imagery and mapped on the As-Built. If that is not possible then points are to be collected for features visible from aerial imagery, using the same technology (GPS or total station survey) and coordinates supplied to NAU. Control points and points visible from aerial imagery will be documented with photographs (see photographic documentation section) and written descriptions and used for GIS georeferencing purposes.

A list of coordinate values will be provided for control points and all other utility points collected as well as a comment/note of what the point is of (ex. 8" waterline bend) as well as include projection and datum information, specifically scale factor, datum, and spheroid/ellipsoid information. Preferably, the data is delivered in the following spatial reference system.

The LDPm System is defined by the following conditions:

Arizona LDP (Meters)
Authority: Custom

Projection: Transverse_Mercator

False_Easting: 21336.0
False_Northing: 0.0
Central_Meridian: -111.616667
Scale_Factor: 1.000333
Latitude_Of_Origin: 35.0
Linear Unit: Meter (1.0)
Where the basis of bearing is Geodetic North based on GPS measurements.
These bearings have been rotated to grid for the City of Flagstaff LDP.
BENCH MARK: NGS Bench Mark designated 'M32' having an elevation of 6913.13 (NAVD88 G03)
(see corresponding map below)

The Lat/Long/elevation control point coordinates (converted to feet) are as follows:

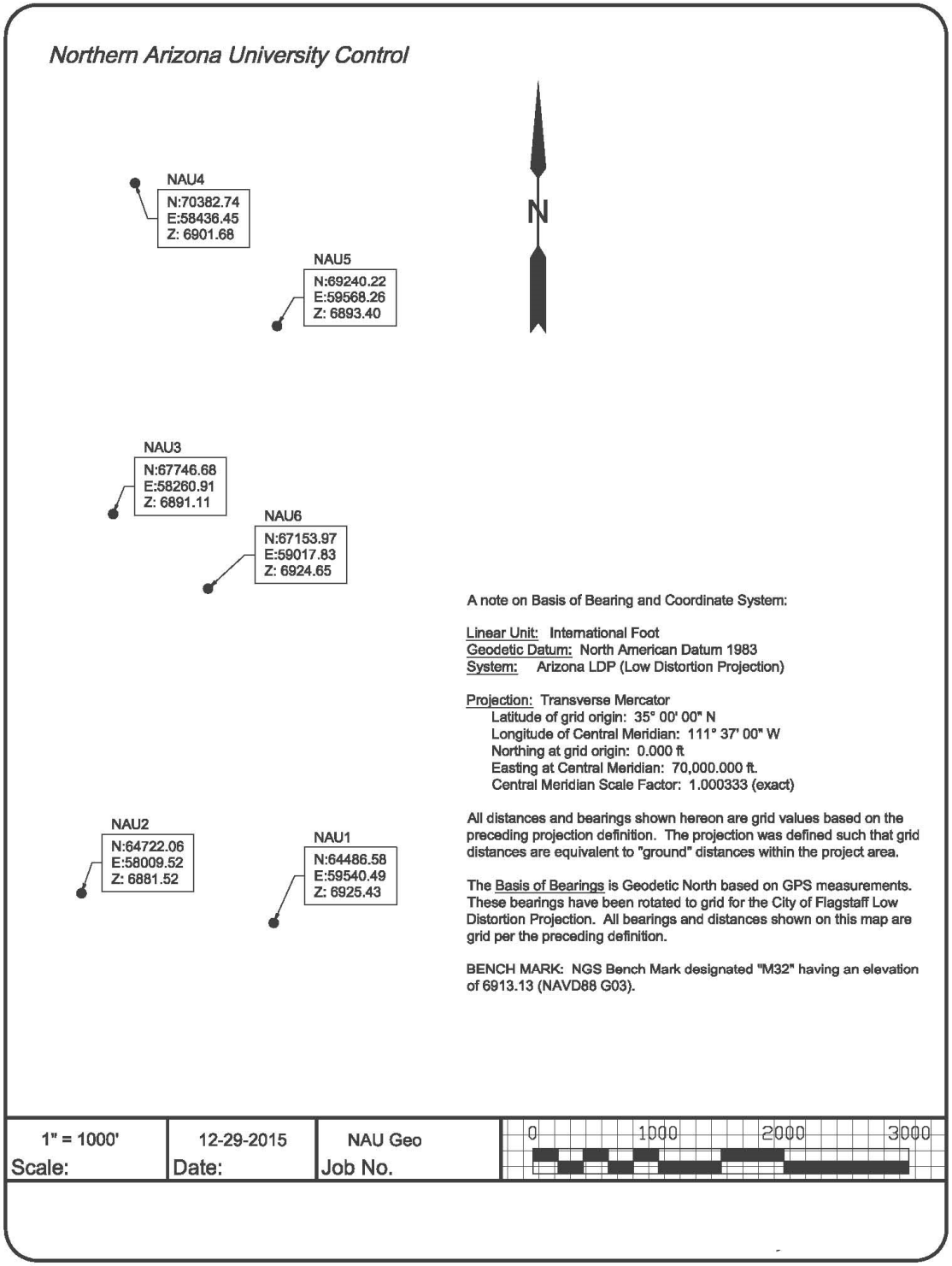
Table

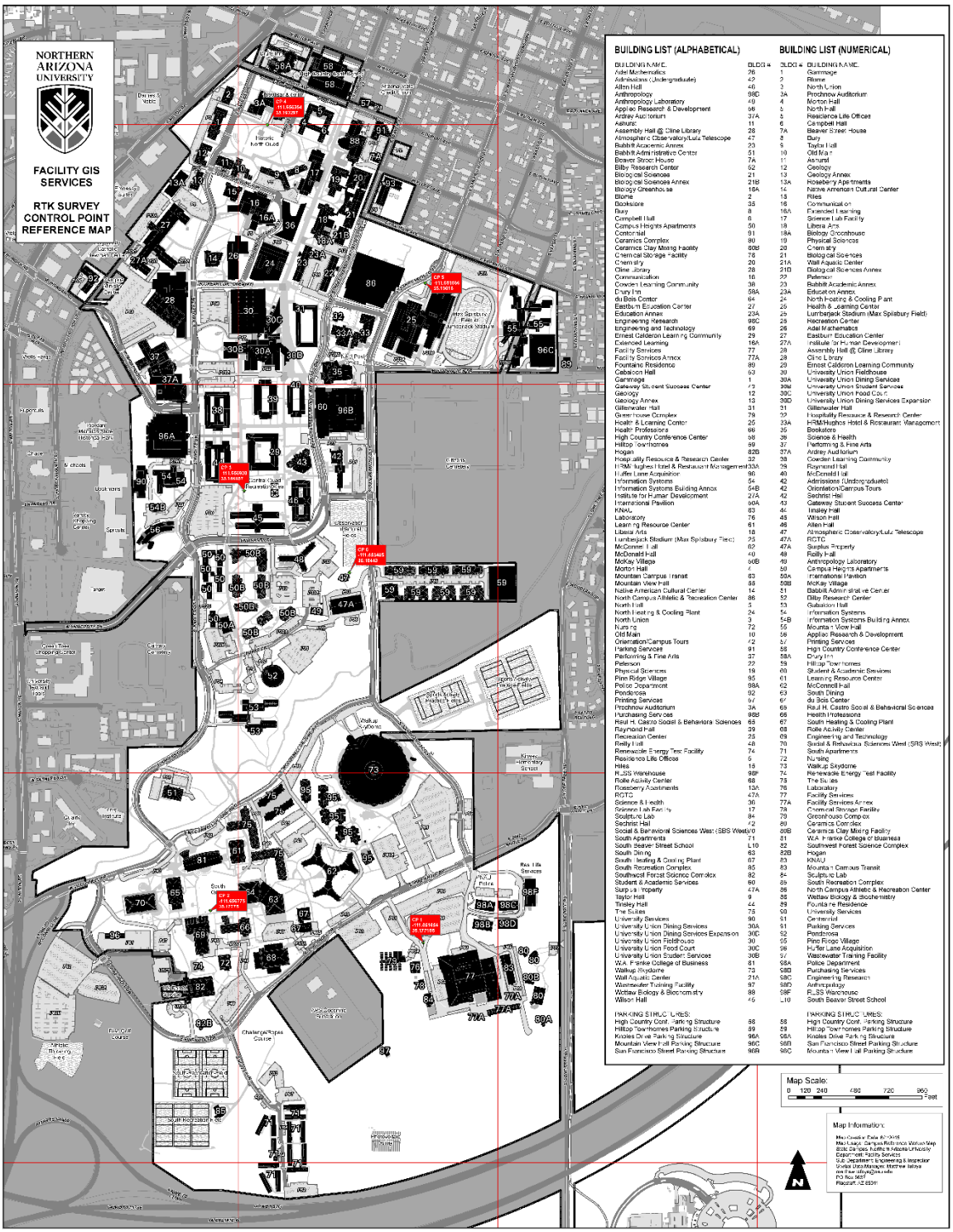
NAUFS_RTK_NAD83_LDPm

FID	Shape *	Avg_per_CP	Latitude	Longitude	Elevation	Northing	Easting	ElevNGSm32
0	Point ZM	CP 1	35.177105	-111.651654	6928.23	64486.453771	59540.474448	6925.43
1	Point ZM	CP 2	35.17775	-111.656775	6884.214333	64721.93337	58009.505861	6881.52
2	Point ZM	CP 3	35.186057	-111.655938	6893.901667	67746.543881	58260.893044	6891.11
3	Point ZM	CP 4	35.193297	-111.655354	6904.430667	70382.600404	58436.429057	6901.68
4	Point ZM	CP 5	35.19016	-111.651566	6896.149667	69240.080237	59568.241507	6893.4
5	Point ZM	CP 6	35.18443	-111.653405	6927.483333	67153.8331	59017.811872	6924.65

0 (0 out of 6 Selected)

NAUFS_RTK_NAD83_LDPm


Northern Arizona University Control
NAU4
N:70382.74
E:58436.45
Z: 6901.68
NAU5
N:69240.22
E:59568.26
Z: 6893.40
N
NAU3
N:67746.68
E:58260.91
Z: 6891.11
NAU6
N:67153.97
E:59017.83
Z: 6924.65
NAU2
N:64722.06
E:58009.52
Z: 6881.52
NAU1
N:64486.58
E:59540.49
Z: 6925.43
A note on Basis of Bearing and Coordinate System:
Linear Unit: International Foot
Geodetic Datum: North American Datum 1983
System: Arizona LDP (Low Distortion Projection)
Projection: Transverse Mercator
Latitude of grid origin: 35° 00' 00" N
Longitude of Central Meridian: 111° 37' 00" W
Northing at grid origin: 0.000 ft
Easting at Central Meridian: 70,000.000 ft.
Central Meridian Scale Factor: 1.000333 (exact)
All distances and bearings shown hereon are grid values based on the preceding projection definition. The projection was defined such that grid distances are equivalent to "ground" distances within the project area.
The Basis of Bearings is Geodetic North based on GPS measurements. These bearings have been rotated to grid for the City of Flagstaff Low Distortion Projection. All bearings and distances shown on this map are grid per the preceding definition.
BENCH MARK: NGS Bench Mark designated "M32" having an elevation of 6913.13 (NAVD88 G03).
1" = 1000'
Scale:
12-29-2015
Date:
NAU Geo
Job No.
0
1000
2000
3000


NORTHERN ARIZONA UNIVERSITY
FACILITY GIS SERVICES
RTK SURVEY CONTROL POINT REFERENCE MAP
BUILDING LIST (ALPHABETICAL)
BUILDING LIST (NUMERICAL)
Map Scale:
0 120 240 480 720 960 Feet
Map Information:

Projection:

NAD_1983_StatePlane_Arizona_Central_FIPS_0202_Feet
Projection: Transverse_Mercator
False_Easting: 699998.600000
False_Northing: 0.000000
Central_Meridian: -111.916667
Scale_Factor: 0.999900
Latitude_Of_Origin: 31.000000
Linear Unit: Foot_US (0.304801)

Geographic Coordinate System:

GCS_North_American_1983
Angular Unit: Degree (0.017453292519943299)
Prime Meridian: Greenwich (0.000000000000000000)
Datum: D_North_American_1983
Spheroid: GRS_1980
Semimajor Axis: 6378137.000000000000000000
Semiminor Axis: 6356752.314140356100000000
Inverse Flattening: 298.257222101000020000

Drawings

Projects will have a minimum of three control points per Civil Site Utilities As-Built sheet that are visible on aerial imagery. Other utility GPS/survey data is to be included in the As-Built drawings including information from comments/notes.

Suggested layers to be included are:

1. Electric on layer ELEC (red).
2. Telephone on layer TELE (orange).
3. Gas on layer GAS (yellow).
4. Water on layer H2O (blue).
5. Storm/sewer on layer STRM (green).
6. Fire lines and hydrant locations on layer FIRE (blue).
7. Reclaimed water (purple).
8. Survey lines/ Easement (pink)
9. Steam

Section Number | Title

10. Hot Water
11. Chilled Water

Other helpful features include:

Buildings on layer BLDG (green) – not to be used for GIS georeferencing.
Sidewalks on layer WALK (white).
Miscellaneous structures on layer MSTR (blue).
Curb and gutter on layer C&G (cyan).
Vegetation (including plants, trees, shrubs and *all* landscaping) on layer VEG (green).
Parking on layer PARK (yellow).

Alternatives to this need approval from Utility Services.

01 32 26 Construction Progress Reporting

The Contractor shall maintain a written daily log in accordance with the Construction Agreement.

01 32 33 Photographic Documentation

Photos are required on projects as determined by Owner, submitted electronically with pay application, and representative of the work for which the pay application is for. Photographs shall be a minimum of 5 megapixels. A description of photos required will be discussed at the preconstruction meeting. The photo's file name shall be labeled with first the location of the photo, direction of view and then description. Exterior locations must provide the location with GPS coordinates.

01 32 43 Procurement Tracking

Included in the Contractor's critical path schedule, the Contractor shall provide procurement durations for all major project components (equipment and material) to be purchased (regardless if purchased by Owner or Contractor).

Expediting reports/schedule corrections shall be provided by the Contractor to the Owner in the event that scheduled deliveries, of a significant nature, do not arrive as planned and the Contractor shall make all reasonable effort to expedite deliveries in accordance with the original schedule.

Time submitted by the Contractor on the basis of delayed material or equipment deliveries, shall be accompanied by documentation from the vendor/supplier indicating the date order was placed, usual time required for delivery and the date of scheduled delivery.

Section Number	Title
01 33 00	**Submittal Procedures**
	Provide complete submittals. Diagrams shall show installed component model numbers; block diagrams do not constitute an acceptable schematic. There shall be a separate submittal for each of the first-4 digits of the CSI divisions, as needed. For example, a separate submittal is needed for Division 26 05 as opposed to a submittal for Division 26 09.
01 33 13	Certificates
	NA
01 33 16	Design Data
01 33 19	Field Test Reporting
	Copies of Field Test Reports will be turned over monthly along with the Pay Application.
01 33 23	Shop Drawings, Product Data, and Samples
	The Submittal Procedure shall be per the requirements of the Construction Agreement.
01 33 29	Sustainable Design Reporting
01 33 29.06	Reused Product Form
	NA
01 35 00	**Special Procedures**
01 35 13	Special Project Procedures
	NA
01 35 13.26	Special Project Procedures for Clean Rooms
	NA
01 35 13.43	Special Project Procedures for Contaminated Sites
	NA
01 35 23	Owner Safety Requirements
	The Contractor's responsibility for project safety is according to the Construction Agreement, which includes submitting a written safety plan to Owner and DP. This safety plan shall include the name and contact information of the contractor/vendor safety officer, emergency contact information, information on

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hazards likely to be encountered on the work site, work site PPE requirements, and any safety training requirements, training logs or proof of certification, and Job Hazard Analyses (JHA's) for the planned activities. Blank JHA forms may be downloaded from https://in.nau.edu/facility-services/contractor-safety-plans/. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with Contractor's Work.

The Contractor shall designate an employee as Safety Officer at the Project Site whose duties shall include prevention of accidents and monitoring/enforcement of the Contractor's safety program.

The Contractor's Safety Officer shall attend the preconstruction meeting.

The Contractor's Safety Officer will be responsible for continued monitoring of the job site to maintain safe working conditions in strict compliance with State of Arizona Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926). Specific attention is called to Housekeeping (Section 1926.25, ADOSH, 29 CFR Part 1926).

The Contractor and all subcontractors shall clear away all debris which poses an unsafe condition as required in Section 1926.25 on a daily basis.

Failure of the Contractor to promptly correct unsafe conditions, subsequent to written notification by the Owner, shall constitute violation of the standards indicated herein. The Owner reserves the right, in the event of such violation, to correct unsafe conditions through the most expedient means available. Any costs incurred by the Owner for such corrective work shall be reimbursed by the Contractor, via deductive Change Order.

01 35 26 Governmental Safety Requirements

All employees of the Contractor or subcontractors shall have adequate safety training for their respective facets of the work as specifically required by document #2254, Training Requirements and OSHA Standards and Training Guidelines (USDA, OSHA 1985).

Section Number	Title
01 35 29	Health, Safety, and Emergency Response Procedures NAU's Emergency Response Call Sheet can be found at: https://in.nau.edu/facility-services/dp-contract/
01 35 29.13	Health, Safety, and Emergency Response Procedures for Contaminated Sites *This information can be obtained from the Owner's Office of Environmental Health & Safety.*
01 35 43	Environmental Procedures The Owner shall have first right of refusal on all materials and equipment which are removed as part of the Project construction process to include materials both above and below the existing ground surface. Contractor shall notify the Owner prior to disposing of such materials and equipment. Owner will notify the Contractor promptly if possession is to be taken by the Owner. Materials not claimed by the Owner within three working days of notification of impending disposal shall be removed from the Project site by the Contractor and disposed of appropriately. <u>Hazardous Materials Procedures</u> The Contractor shall inform Owner (Office of Environmental Health & Safety (EH&S) and the Project Manager) of any hazardous chemicals they will be using on campus. The Contractor shall comply with the requirements specified in OSHA's Hazard Communication program (29 CFR 1910.1200). The Contractor shall assume responsibility for the safe and legal disposal of all chemicals used on the job site. If any hazardous waste is generated on site as a result of a project, please contact Owner (EH&S) for determination of whether the waste must be disposed of in accordance with EPA regulations. <u>Lead Abatement</u> This information can be obtained from the Owner (EH&S). <u>Asbestos Abatement</u> NAU has completed asbestos surveys for the majority of buildings currently present on the Flagstaff Campus and remote campuses. Survey results are housed in the NAU Environmental Health and Safety office and are available for review or notification purposes. To maintain compliance with all applicable state and Federal EPA and OSHA regulations, Owner's policy requires that a site-specific asbestos inspection be

completed to determine the need for abatement before any work involving the disturbance of pre-existing building components is conducted. This inspection may be requested by Owner via the online Worksite Hazard Inspection (FS13) Request Form. This form must be signed by Contractor prior to commencing work. Any other required asbestos information and guidance may be requested directly by contacting the Environmental Health and Safety office at https://in.nau.edu/environmental-health-and-safety/contact-form/ Asbestos inspections may involve additional sampling of previously untested materials, and may facilitate the need for NESHAP notified abatement work, so an appropriate amount of lead time must be allotted in the project schedule.

All asbestos-containing materials (ACM) which are scheduled for disturbance are to be removed, containerized, and disposed of in accordance with all applicable Federal, State, and Local regulations. This work must be performed by NAU or by a licensed asbestos abatement contractor before any other work which may impact the materials in question. Work must be scheduled and performed in a manner which minimizes the chance of contamination of non-asbestos materials. The asbestos removal work must comply with the NESHAP (40 CFR 61, subpart M), AHERA (40 CFR 763, subpart E), and OSHA Asbestos construction standard (29 CFR 1926.1101) and general industry standard (29 CFR 1910.1001), whichever may apply.

Abatement activities are the responsibility of Owner and may not be subcontracted as part of the larger construction project without prior authorization from the Owner's Environmental Health and Safety Office. In cases where abatement is performed by the Contractor, or by a subcontractor retained by the Contractor, the Contractor or abatement subcontractor must meet the minimum requirements for qualifications and insurance for abatement contractors under the Arizona State purchasing system. When abatement is necessary, the Owner's Project Manager will work in cooperation with Owner's EH&S to develop specifications, collect bids, and contract/complete any necessary abatement independently from the larger construction contract and, unless otherwise authorized by Owner (EH&S), abatement shall be completed prior to commencement of any other construction activities at the work site.

Oversight for abatement services shall be conducted by Owner or by an approved third-party oversight contractor. No additional demolition or renovation activities may proceed in the selected abatement area until the work has been cleared by the oversight contractor and/or Owner. The oversight contractor or Owner will have the authority to stop work immediately if abatement or demolition procedures are found to be inadequate to control the release of asbestos fibers, or if asbestos is being disturbed in an uncontrolled or unsafe manner.

Owner will issue a written or verbal authorization to proceed with non-asbestos demolition/renovation activities following achievement of acceptable clearance of the asbestos abatement. Prior to authorization to proceed, the oversight contractor or Owner (Asbestos Program Manager) must complete a visual inspection and/or analytical sampling of the area to document completeness of the work. If contamination is found following abatement, the abatement contractor will be required to perform additional cleaning, at no additional cost to Owner, until acceptable levels are achieved. No other non-asbestos work may commence until all necessary abatement has been completed and authorization to proceed has been furnished by the Owner (Material Safety office).

It is the responsibility of the construction or demolition contractor to furnish an accurate work schedule to the Owner in order to allow for timely abatement and good coordination between other trades/subcontractors. The construction/demolition contractor may be held accountable for additional fees incurred by the Owner due to improper scheduling or communication on the part of the Contractor.

Following completion of all abatement activities, the abatement/oversight contractor shall provide copies of closeout documents including the date, location, and scope of work; negative exposure assessment; and air sampling data, daily logs, and waste shipment records. Copies of all closeout documents shall be furnished to both the Owner's Project Manager and Owner's Material Safety office.

To satisfy its obligations under OSHA, Owner will issue a written notification of the presence of asbestos and other hazards in the work area and building which work is being conducted in; and specific abatement requirements which may be required for the project. The Contractor is responsible for the health and safety of its own employees and for meeting OSHA communication of hazard, training, and PPE requirements. Worker compliance with all applicable regulations will be enforced by the Contractor.

The Contractor shall comply with:

The National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR 61, subpart M, enforced by the Arizona Department of Environmental Quality, regulating the removal and disposal of asbestos-containing materials.

The abatement contractor will be required to notify the State of Arizona Department of Environmental Quality NESHAP office 10 business days before

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removal of threshold amounts of friable asbestos or RACM as specified in 40 CFR 61.145. The Contractor shall send a copy of this notice to the Owner's Asbestos Program Manager. A NESHAP notification is also required 10 days prior to commencement of demolition of any building on Owner campus even if no asbestos abatement is required. Filing of the Demolition NESHAP notification is the responsibility of the demolition or construction contractor.

During and following completion of the renovation, all newly installed building materials shall be analyzed for asbestos and a report containing the analytical results shall be furnished to the Owner's Material Safety Office to maintain complete records of NAU buildings in the future. Testing shall conform to the guidelines set forth in the EPA AHERA regulation. This testing shall be conducted by an AHERA certified building inspector and if requested, shall be conducted by the renovation/construction contractor. This is an inspection sign off item in the Owner's FS #15 form and final sign off will not be furnished without completion of the inspection and review of the resulting report by the Owner's Material Safety office.

Blasting Policy

Blasting is not a preferred process on campus. Any use of explosives must be approved in writing by NAU Fire Marshal and must conform to The City of Flagstaff policies and procedures. The City of Flagstaff maintains jurisdiction for all blasting.

Prior to any blasting, the Contractor shall submit to Owner appropriate employee certification for use of explosives.

No explosives will be stored on the campus overnight or on weekends. No quantity of explosives will be brought to the campus beyond that which will be used on the day blasting operations are to be performed.

No blasting shall take place earlier than 8 a.m. or later than 5 p.m.

01 35 43.13 Environmental Procedures for Hazardous Materials
NA

01 35 43.16 Environmental Procedures for Toxic Materials
NA

Section Number	Title
01 35 46	Indoor Air Quality Procedures *NA*
01 35 53	Security Procedures Contractor is responsible for securing access to all construction areas to prevent damage or theft. This may include but is not limited to securing site fencing, temporary construction and building entrances. Work within tunnels must be in accordance with 01 41 19 Rules. Refer to Construction Agreement for any additional security requirements.
01 35 63	Sustainability Certification Project Requirements *NA*
01 35 66	Sustainability Certification Project Procedures Owner's Project Manager is to be listed as the NAU administrator for the UGBC LEED website login.
01 35 91	Historic Treatment Procedures *NA*

****END OF SECTION****

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01 40 00 QUALITY REQUIREMENTS

01 41 00 Regulatory Requirements

Any work performed on or within the boundaries of the Northern Arizona University campus shall be subject to special inspections, periodic inspections, Code compliance inspections, and pre-occupancy and/or final inspections by the following agencies as applicable:

- State Fire Marshal's Office
- Arizona Corporation Commission
- State Boiler Inspector
- State Risk Management Division
- City of Flagstaff, including Dark Sky ordinance
- Coconino County
- State Elevator Inspector
- NAU Facility Services
- National Emissions Standards for Hazardous Air Pollutants (NESHAP)
- Arizona Department of Environmental Quality

It is the responsibility of the Contractor to provide a complete copy of the construction plans, specifications and other pertinent documents as necessary for review and approval by the necessary agencies.

No construction shall commence until the Contractor receives from NAU Fire Marshal and NAU Building Official the approved stamped copy of the construction plans, permit, and other documents provided.

01 41 13 Codes and Standards

All design and construction work shall be done in such a manner that the completion of the project is in compliance with the following codes and standards the Owner has adopted as Code. When reference is made to "this Code" it shall mean all the codes listed below. In the event there is a conflict between any of these codes and standards, the most restrictive code shall apply.

- International Building Code 2018 (IBC)
- International Existing Building Code 2018 (IEBC)
- International Plumbing Code 2018 (IPC)
- International Mechanical Code 2018 (IMC)
- National Electrical Code 2017 (NEC) (NFPA 70)
- International Fuel Gas Code 2018 (IFGC)
- International Fire Code 2018 (IFC)
- National Fire Alarm Code 2016 (NFPA 72)

- Installation of Sprinkler Systems 2016 (NFPA 13)
- NAU Fire Code (Most recent edition unless otherwise required)
- Arizona State Fire Code
- 2010 ADA Standards for Accessible Design as approved by the Department of Justice on July 26, 2010 (published in the Federal Register on September 15, 2010) and any more recent related Federal and State requirements with their related standards as they may apply.
- ICC/ANSI, A117.1 – 2017, Accessible and Usable Buildings and Facilities.
    - FYI: Please be advised that where there is a conflict between any applicable accessibility requirements the most restrictive shall apply (e.g., 2018 IBC, 2010 ADA, 2017 ICC/ANSI A117.1, other NAU, State & Federal requirements, etc.).
- 2007 American Society of Mechanical Engineers (ASME) A17.1, Safety Codes for Elevators and Escalators (unless otherwise required)
    - AZ Elevator Act (Title 23, Chapter 2, Article 12)
    - Latest ADOSH Arizona Elevator Rules
- AZ Executive Order 2008-29 (FYI: Reaffirms Executive Order 2005-05. Requires all new state-funded buildings to meet the Silver LEED standard, at a minimum.)
- American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) 55 2017
- ASHRAE 62.1 2019
- ASHRAE 90.1 - 2016
- ASHRAE 189.1 - 2017
- ASHRAE 202 (Most recent edition unless otherwise required by Owner)
- Arizona Revised Statutes (ARS)
- Occupational Safety and Health Administration Regulations
- NAU Material Safety Policies (e.g., Program Manuals such as Asbestos, Lead, PCB, etc.) (Most recent edition unless otherwise required) http://nau.edu/Research/Compliance/Environmental-Health-and-Safety/
- IAQ Guidelines for Occupied Buildings Under Construction (Most recent edition unless otherwise required)
- ACGIH Industrial Ventilation Manual of Recommended Practices (Most recent edition unless otherwise required)
- ANSI/AIHA Z9.5 Laboratory Ventilation (Most recent edition unless otherwise required)
- NAU Design Guidelines and Technical Standards (Most recent edition unless otherwise required)

Compliance shall conform to the requirements of the latest editions of all State regulations and the various codes which have been adopted by the University at

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the time of selection of the Design Professional (or at time of bid if the University does not designate a Design Professional), unless otherwise required by Federal or State regulation (such as ADA code compliance which is required at time of bid).

Contractor will be held to have examined and to have become familiar with these regulations in all ways they apply to the project.

If a conflict is found between any Code requirement and information given in written or graphic specifications, Contractor will abide by the more stringent of the two. Such conflict shall be reported in writing to the DP and to Owner (NAU Fire Marshal, Building Official, and PM).

The issuance of approved plans, specifications, and computations shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of the above-listed codes, the NAU Fire Prevention Manual or the NAU Design Guidelines and Technical Standards.

The issuance of approved plans, specifications, and other data shall not prevent Owner from thereafter requiring the correction of errors in said plans, specifications and other data, nor shall issuance of such approved plans, specifications, or other data preclude the prevention of building operations being carried on thereunder when in violation of the above-listed codes.

01 41 16 Laws

By signing a contract with Owner or as a subcontractor to a general contractor that has a contract with Owner, the Contractor agrees to follow Owner's Blue Stake procedure under ARS 40-360.22.

It is the responsibility of the Contractor to make all utility staking requests. To request utility staking for any project the Contractor must submit an E-Stake request through the Arizona811 Center (http://www.arizona811.com/e-stake/) and email Owner, per Blue Stake request form and process**.** All requests are given a log number. It is the Contractor's responsibility to note that number for future reference.

For the complete Blue Stake Procedure, Contractor shall refer to https://in.nau.edu/facility-services/dp-contract/.

DO NOT DIG UNTIL BLUE STAKING HAS BEEN CLEARED! ALL KNOWN UTILITIES MUST BE POTHOLED!

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If the excavation phase is completed more than a month prior to substantial completion, Contractor shall remove the blue stake marks outside of the fenced area in a manner that does not damage finished surfaces. All projects will remove blue stake marks at substantial completion in a manner that does not damage finished surfaces. Note that the longer that the paint is on the ground the harder it is to remove.

01 41 19 Rules

The tunnels on campus are generally considered a non-permit required confined space. However, conditions may change without Owner knowledge. Prior to entry, contractors must supply their own atmospheric tester/monitor, complete an NAU Confined Space Entry Checklist, and submit this checklist to their safety officer and the Owner's project manager. If through utilization of the checklist the area is to be considered a confined space, then the contractor is responsible for their confined space safety program. This must be submitted to the Owner's project manager for documentation. Owner's confined space program is located here: https://in.nau.edu/wp-content/uploads/sites/226/2020/03/Confined-Space-Entry-Program.pdf.

No one may enter the tunnel system alone. Anyone entering the tunnel system must make contact with Owner (PM and appropriate plant operator) to provide the section of tunnel being accessed, time of entry, purpose of work and approximate time frame. Contact must be made with the appropriate Owner (plant operator) when leaving the tunnels as well.

The entry checklist can be found at: https://in.nau.edu/wp-content/uploads/sites/226/2020/03/NAUentrychecklist.pdf

01 41 23 Fees

If a Contractor requires a re-inspection because the Contractor is unprepared for the initial inspection, a fee will be assessed. The fee will be charged at the inspector's chargeout rate per hour spent, and no less than $200. This will be at the Contractor's expense.

01 41 26 Permit Requirements

NAU permit requirements and applications can be found at: https://in.nau.edu/facility-services/dp-contract/

01 43 00 Quality Assurance

Section Number	Title
01 43 23	Installer Qualifications NA
01 43 26	Testing and Inspecting Agency Qualifications This section is to include project specific information which will be provided by the DP for the purposes of NAU's ARQ inspection selections.
01 43 29	Code-Required Special Inspector Qualifications This section is to include project-specific information which will be provided by the DP for the purposes of NAU's ARQ inspection selections.
01 45 00	**Quality Control**
01 45 23	Testing and Inspecting Services Please refer to https://in.nau.edu/facility-services/dp-contract/ for the complete detail of inspection procedures. Re-inspection of uncompleted work shall be at the Contractor's expense. See 01 41 23. All Work must be inspected and accepted by Owner. Any work required to be inspected which is covered prior to inspection, must be uncovered by Contractor at Contractor's expense. Reinforcing steel or structural framework of any part of any building or structure shall not be covered or concealed without first obtaining approval of the DP or Structural Engineer. Foundation Inspection: To be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Concrete Slab or Under-Floor Inspection: To be made after all in-slab or under-floor building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the sub-floor. Frame and Rough-In Mechanical, Plumbing and Electrical Inspection: To be made after the roof, all framing, fire blocking and bracing are in place and all pipes, chimneys and vents are complete and the rough electrical, plumbing, and heating, pipes and ducts, and fire sprinkler piping are approved.

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Lath and/or Gypsum Board Inspection: To be made after all lathing and gypsum board, interior and exterior, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

Substantial Completion Inspection: Prior to issuance of the Substantial Completion Certificate, all required in progress inspections listed in form FS#15 shall be passed. The Contractor must schedule a walkthrough with each trade inspector individually to sign off on the substantial completion lines of the FS#15 and provide a punch list.

Final Completion Inspection: Prior to Final Payment the Contractor must schedule an additional walk with each trade inspector ensure that all punch work is completed and inspected, and all required inspections listed in form FS#15 shall be passed.

01 45 26 Plant Inspection Procedures
Materials must be inspected by Owner (Landscape Architect) prior to install.

01 45 33 Code-Required Special Inspections and Procedures
NA

****END OF SECTION****

Section Number | Title

01 50 00 TEMPORARY FACILITIES AND CONTROLS

01 51 00 Temporary Utilities

Temporary construction utility connections are to be approved by Owner (Utility Services department) and shall be metered.

01 51 13 Temporary Electricity

NA

01 51 16 Temporary Fire Protection

NA

01 51 23 Temporary Heating, Cooling, and Ventilating

NA

01 51 26 Temporary Lighting

NA

01 51 29 Temporary Natural-Gas

Temporary natural gas is not allowed. Propane may be used for temporary heating.

01 51 33 Temporary Telecommunications

Temporary telephone service is available through Owner. Contractor is responsible for all connection, maintenance, and service fees.

01 51 36 Temporary Water

Temporary water connections must have a back-flow prevention device with meter, obtained from Owner (Plumbing department) and installed by the Contractor.

01 52 00 Construction Facilities

The Contractor shall provide a staging plan/site logistic plan at the preconstruction meeting. The staging plan shall clearly identify the following items:

- Construction Trailer
- Material Staging
- Wash down areas (concrete, mud, etc.)
- Dumpsters
- Traffic Control including signals and barricades
- Signage
- Site Fencing including gate locations and height of the fence
- Site Access for contractors, material delivery and waste haul off

Section Number | Title

- Sanitary Facilities
- Temporary Utilities
- Temporary Parking
- SWPPP measures
- ADA accessible routes
- Pedestrian/bikes routes
- Vehicle routes
- Emergency Access

Any other provision, direction or accommodation agreed to and approved by Owner, the Contractor and DP, shall be clearly noted and conveyed on the staging/site demolition plan.

01 52 13 Field Offices and Sheds

Location of field office must be approved by Owner. All utilities to the field office must be metered. Area must be restored to its original condition when field office is removed, including demolition of utilities back to the source.

01 52 19 Sanitary Facilities

Contractors shall not use Owner's sanitary facilities. Contractors are responsible for providing and maintaining adequate temporary sanitation facilities and indicate location(s) on the site logistics plan.

01 55 00 Vehicular Access and Parking

01 55 13 Temporary Access Roads

Optimum truck routes and access roads, including fire department access, to the Project site shall be identified at the pre-construction conference and noted in the site logistics plan.

01 55 19 Temporary Parking Areas

All persons driving or parking on the NAU campus are subject to NAU parking regulations. Owner's parking policies are available at https://in.nau.edu/university-transit-services/ .

All vehicles parking within campus boundaries must display permits. Vehicles without permits will be ticketed by the NAU Police Department or Parking Services. Vehicles parked within the fenced staging / storage area identified on the Construction Documents do require parking permits. The Contractor will be required to make a written request to the Owner (Project Manager) at the preconstruction meeting for parking permits for all vehicles to be parked within the campus boundaries. NAU Parking Services will attempt to meet requests for

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specific parking areas; however, due to availability, alternative parking areas may be assigned. Storage / Staging areas will be requested in writing to the Owner (Project Manager) prior to bidding. They are not guaranteed to be approved where requested, but Owner will attempt to make the best accommodations possible.

01 55 26 Traffic Control

All traffic control shall be coordinated with the Owner's Project Manager, and shall be approved by NAU Parking Services, NAU Shuttle Services, NAU Police Department, NAU Fire Marshal, NAU Office of Environmental Health & Safety and City of Flagstaff Fire Department.

All proposed traffic control plans or modifications shall be submitted to the Owner's Project Manager five (5) working days prior to the proposed implementation date of the change and receive approval, as stated above.

01 55 29 Staging Areas

The Contractor shall submit a site logistics plan at the preconstruction meeting. Storage / Staging Areas must be maintained and returned to the condition they were in prior to occupation by the Contractor. The Contractor shall patch, repair or replace any and all damaged areas upon completion of the work. The area must receive final inspection and approval by the Owner prior to final payment.

01 56 00 Temporary Barriers and Enclosures

01 56 16 Temporary Dust Barriers

Dust control is the Contractor's responsibility at no additional cost to the Owner. The Contractor shall address complaints regarding dust control within four (4) hours. Air, water, surface, and subgrade conditions shall be protected from pollution by the Contractor. Such protection requirements as detailed in all State and Federal regulations shall apply. Arizona State DEQ, OSHA, and NAU Office of Environmental Health & Safety may inspect for compliance without notice.

01 56 19 Temporary Noise Barriers

NA

01 56 26 Temporary Fencing

Project Site Fencing

Contractor shall erect and maintain in good condition a six-foot high chain link fence of standard construction surrounding the Project site and enclosing the area of work and materials staging. Location of the fence shall be approved by the

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Owner prior to erection. Written approval is also required from the Director or Assistant Director for University Transit Services (Parking) prior to Contractor pounding or boring holes into the asphalt for erection of Project site fencing, where site fencing is located in a parking lot. Fence gates shall remain locked when unattended to discourage access by unauthorized persons.

This applies to large construction projects and small projects with multiple locations.

Staging Area Fencing

A commercial grade chain-link fence around the entire perimeter of the staging area will be required.

The fence may be ground-set or tee-supported, but must remain stable in high or gust wind conditions and scaling by pedestrians. The Contractor shall coordinate all fence pole locations that are to be pounded into the ground with Owner's Landscape and Outdoor Services and Blue Stake to avoid shallow utilities and irrigation. Written approval is also required from the Director or Assistant Director for University Transit Services (Parking) prior to Contractor pounding or boring holes into the asphalt for erection of staging area fencing located on a parking lot The Contractor is responsible for all repairs required to return the area to original condition after fencing is removed, including, but not limited to, sod, asphalt and concrete repair.

Post holes in asphalt will be repaired using Fastpatch DPR Pourable Asphalt Repair. Using a hot or cold patch for the post holes is not allowed.

An 8' wide, two section chain-link access gate shall be required in the fence and the Facility Services' Project Manager and Construction Manager (as applicable) shall be given a key(s) to the gate lock by the Contractor for emergency access.

Fencing shall be placed immediately after or during site preparation and remain in place for the entire duration of construction.

The staging plan shall note that the Contractor is to maintain the fence in a neat and orderly appearance.

01 56 39 Temporary Tree and Plant Protection

Existing trees and plants designated to remain shall be fenced off outside the drip line (this includes all memorial trees). "Snow" or "Cyclone" fencing shall be green; orange is prohibited. No construction activity shall occur within fenced area. Contractor shall provide site maintenance and control of erosion, weeds, snow,

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debris, etc. Irrigation is not a standard part of the blue stake procedure. The Contractor is responsible for coordinating with Owner (Landscape and Outdoor Services) to determine location prior to bid. The Contractor shall be responsible for relocating/repairing any irrigation equipment.

Owner is a Tree Campus USA designated school, and specific guidelines relating to this designation for Contractor to follow are located at: https://in.nau.edu/green-nau/tree-campus-usa/

01 58 00 Project Identification

01 58 13 Temporary Project Signage

Free-standing or hanging signs for Contractors, Sub-contractors or suppliers are not allowed on University property. Site safety signage is allowed but must be approved by the NAU Project Manager.

01 58 16 Temporary Interior Signage

****END OF SECTION****

Section Number	Title
01 60 00	**PRODUCT REQUIREMENTS**
01 61 00	**Common Product Requirements**
01 61 13	Software Licensing Requirements
01 66 00	**Product Storage and Handling Requirements** Refer to Agreement for information regarding on-site and off-site storage.

****END OF SECTION****

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01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

01 73 00 Execution

01 73 29 Cutting and Patching

Cutting and patching of asphalt and concrete may necessitate removal of embedded utility survey markers. The Contractor is required to field verify marker locations prior to bidding and include replacement of markers where necessary. Refer to Division 33 for installation standards. Verification of marker location requires sign-off on the FS#15 prior to substantial completion.

01 74 00 Cleaning and Waste Management

01 74 13 Progress Cleaning

The Contractor shall maintain all work and staging areas in a clean and orderly condition to enhance the safety and appearance of the jobsite. Accumulations of refuse will not be permitted except as specifically approved in writing by the Owner.

Contractor is responsible for removal of Blue Stake markings and returning the site to its original condition.

01 74 16 Site Maintenance

01 74 19 Construction Waste Management and Disposal

The Contractor will identify waste diversion opportunities and track waste and recycling figures for each of their respective projects. Waste and waste diversion totals should be tracked on a monthly basis and entered into the project-specific spreadsheet FS#49.

The Contractor will provide proper and adequate trash containers at no additional cost to the Owner. These containers will be emptied at regular intervals so that trash will not be allowed to overflow and/or collect around the dump area.

The placing of trash or debris in any Owner trash container by the Contractor or any subcontractor is expressly forbidden. Contractor shall be responsible for costs incurred by the Owner for the removal of trash placed in Owner trash containers.

01 74 23 Final Cleaning

Provide final cleaning of the work area prior to Owner occupancy. Final cleaning shall mean cleaning each surface or unit of work to conditions expected in a new building and high-level maintenance program. Comply with manufacturer's

instructions for cleaning operations. Cleaning shall include but not be limited to all of the following as applicable:

- Clean transparent/reflective surfaces to a polished, streak free condition including all mirrors, windows and door glass. Remove all paint, putty, labels or other vision obscuring materials. Replace any broken or damaged surfaces.
- Remove marks, stains, fingerprints, other soil and dirt from painted, decorated or stained work.
- Clean polish and/or wax woodwork as preferred by Owner.
- Clean light fixtures and lamps so as to function at full efficiency. Remove dirt, dust, fingerprints, excess lubrication, drywall, paint etc. and all non-permanent labels.
- Wipe clean all mechanical and electrical equipment; remove excess lubrication and other substances.
- Clean exposed interior and exterior surface finishes to a condition free of dirt, dust, stains, films or other noticeable distracting substance.
- Clean exterior and interior metal surfaces, including doors and windows, of oil, stains, dust, dirt, paint and the like.
- Clean and polish all hard floors, remove dirt, material or water stains, scratches etc.; clean and vacuum all carpeted areas.
- Clean plumbing fixtures to polished, sanitary condition free of stains including those resulting from water exposure.
- Except as otherwise indicated or requested by Owner, remove all temporary protection devices and facilities which were installed during the course of the work.

Make building ready for occupancy in all respects. Protect cleaned areas until final inspection and acceptance.

All existing improvements inside or outside the property which have been disturbed, damaged or destroyed by the Work under the Contract shall be restored to the condition in which they originally were, including all storage and staging areas. If concrete work was undertaken as part of the project, all debris or excess materials shall be removed from site and the area left in a clean and tidy state. Final inspection of storage / staging areas used during construction is required prior to final payment.

If the Contractor fails to clean up during, or at the completion of the Work, or fails to enforce such clean up by subcontractors, the Owner, subsequent to advising the Contractor in writing, may after five (5) working days proceed to perform clean-up of areas which pose a threat to life/safety or are excessively unsightly. The cost of cleaning provided by the Owner under this condition shall be borne by the Contractor, via deductive Change Order.

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01 75 00 Starting and Adjusting

01 75 13 Checkout Procedures
NA

01 75 16 Startup Procedures

Signoff from the Owner (Utility Services department) on the FS #15 is required before any utility is energized. Refer to Division 33 for individual utility requirements.

The Preliminary Balance Report shall have been submitted by the Contractor to the Owner prior to, and as a requirement of, Substantial Completion.

The Final Balance Report shall have been submitted by the Contractor to the Owner prior to, and as a requirement of, Final Completion.

Systems start-up, commissioning, and balancing shall be 100% complete prior to, and as a requirement of, Final Completion.

Any additional information to be provided by the Design Professional.

01 77 00 Closeout Procedures

01 77 13 Preliminary Closeout Reviews
The Contractor shall request the Owner to schedule a closeout meeting to be scheduled 30 days prior to substantial completion.

01 77 16 Final Closeout Review
The Contractor will schedule a meeting with the Owner and DP when the all the document packages are ready for the individual substantial completion, final completion and final payment phases.

01 77 19 Closeout Requirements
For all closeout requirements, please refer to the Construction Agreement located at https://in.nau.edu/facility-services/dp-contract/
All contracts are listed under "Contracts". Please refer to the appropriate contract's closeout requirements specific to the project you are contracted for.

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01 78 00 Closeout Submittals

01 78 23 Operation and Maintenance Data

01 78 23.13 Operation Data

Upon completion of the installation of all work specified in Construction Documents, and prior to Final Completion, Contractor shall furnish to the DP for review; one (1) complete bound copy and one (1) electronic copy of operating and maintenance instructions and parts lists for all material and equipment, including electrical and control items, being supplied. Upon receipt of review, the Contractor shall submit three (3) complete bound corrected copies and one (1) electronic corrected copy of the operating and maintenance instructions and parts list for all material and equipment in divisions 2-48. **Operation and maintenance manuals for <u>all</u> specified equipment and systems shall be provided as part of the contractor's base bid.**

Assemble Operation and Maintenance (O&M) Manuals in hard-back 3-ring loose leaf binders. Manuals will be organized by division will all warranties in a separate section at the back of the manual. Suitably label and index all material contained therein for ready reference.

Operating instructions shall include complete operating sequence, control diagrams, description of method for operating machinery, machine serial numbers, factory order numbers, parts lists, instruction books, suppliers' phone numbers and addresses and individual equipment guarantee. Parts lists shall be complete in every respect, showing all parts and part numbers for ready reference.

O&M materials related to any of the following building components (as applicable for each project) are to be provided by the Contractor to the project manager to then be submitted to the Office of Regulatory Compliance:

- boilers
- emergency generators
- acid neutralization tanks
- grease interceptors
- sand/oil separators
- cooling towers
- chillers (documenting refrigerant type used)
- pre/post construction stormwater controls/NOI's
- emergency showers
- bulk chemical storage locations

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- fume hoods/bio-safety cabinets
- location of sanitary sewer drains

01 78 23.16 Maintenance Data

Close-out submittals shall include a completed "Maintenance Check List" (FS#88) indicating all maintenance and frequency required for warranty purposes.

01 78 29 Final Site Survey

The contractor is to keep a copy of as-builts onsite for review during the project. At the completion of underground utilities and final site work, the Contractor shall provide an as-built drawing of all work completed. The contractor is responsible for locating all new and/or replaced utilities until substantial completion is reached and the as-builts have been submitted to, reviewed, and accepted by NAU. Natural Gas is turned over when it is energized so as-builts must be available for that system prior to being energized. The final site work drawing shall be provided after all site work is complete. The as-built drawings shall consist of the following:

- Design Professional is to put as-built drawings in CAD format.
- All buried and concealed items must be located by survey as indicated above or other NAU GIS accepted format. This includes, but is not limited to tie-in locations, pipe alignments, change in direction, valves, manholes, utility crossings, and depth of utility.
- The site survey shall also include site as built grades which have been surveyed and verified by a licensed surveyor.
- The as-builts must be certified by a licensed surveyor who is currently registered in the State of Arizona certifying the drawing and GPS coordinates are accurate. Refer to Division 01 32 23.

01 78 36 Warranties

The Contractor's warranty shall commence on the date of Substantial Completion and remain in effect for two years. Prior to Final Completion the Contractor shall schedule a 1 year and 2-year warranty walkthrough with the Owner.

All other warranties shall commence at Substantial Completion unless otherwise specified by manufacturer. These warranties are to remain in effect per the Construction Documents, including as specified throughout these Design Guidelines and Technical Standards.

The Contractor shall provide 24-hour response to all critical building systems, i.e., loss of heating, cooling and control systems. If applicable, the Contractor shall provide at Substantial Completion, service agreements between service companies and the Owner for all critical areas. The service agreement shall

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include 24-hour phone numbers and contact persons' names the Owner may use in case of emergency. The emergency service agreement shall remain in effect for the two-year warranty period. The Contractor shall provide a contact person's name and phone number for Contractor's bonding company for use if the Owner experiences problems during the warranty.

All other, noncritical warranty items will be corrected within five (5) working days; unless the Contractor notifies the Owner in writing that a delay will be experienced due to shipping of materials. A shipping date must be provided to advise the Owner of the approximate date of warranty repair. All warranty work must commence as soon as reasonably possible and be diligently prosecuted to completion.

01 78 39 Project Record Documents

For all project record documentation procedures, please reference the Construction Agreement located at https://in.nau.edu/facility-services/dp-contract/

Refer to Owner's form FS #76 at https://in.nau.edu/facility-services/dp-contract/ for example of As-Builts required.

01 78 43 Spare Parts

NA

01 78 46 Extra Stock Materials

Refer to Owner's form FS #76 at: https://in.nau.edu/facility-services/forms-index/.

01 78 53 Sustainable Design Closeout Documentation

NA

01 79 00 Demonstration and Training

As directed by Owner, the Contractor may be required to develop, coordinate, and provide startup, operation and maintenance training on installed systems and equipment. Project-specific needs will be outlined during project implementation. The contractor is responsible for clarifying the scope of the training required with Owner. Generally, the Commissioning Agent and Design Professional shall conduct systems overview, design intent, and design criteria training as part of the contractor developed training. The contractor and vendors shall perform all other portions of trainings. Vendor trainings shall be from a trained and qualified factory representative. Prior to scheduling the trainings, the contractor shall develop the training lesson plan and submit to the university for approval that includes:

1. Proposed dates, start times and finish times, and locations
2. Outline of the information to be presented.
3. Names and qualifications of the presenters.
4. List of texts and other materials required to support training.

Appropriate contractor or vendor shall instruct the Owner's designated representative(s) on the safe and proper operation, maintenance, diagnosis, and repair of each piece of specific equipment. Submitted operation and maintenance information shall be used during training. Sessions shall include as a minimum:

1. Conceptual overview of how the equipment works.
2. Names, addresses, numbers etc. of sources for information, tools, spare parts, etc. for the equipment.
3. Details of the warranty or guarantee.
4. Intended sequences of operation in all modes of operation.
5. Sources of utility support.
6. Routine operator tasks involving monitoring and operation covering all modes of operation and mode switching as applicable.
7. Relevant health and safety practices/concerns.

Along with the in person training, the Contractor shall supply written instructions and manufacturers equipment maintenance guidelines that will be used as handouts for trainings and have the Systems Operations and Maintenance Manuals available at the training session.

The training shall be video recorded by the contractor or designated representative with at least 720P format, on a tripod, and moved at times to clearly see components that are being presented on. The recording shall be provided to Owner in either MP4 or MKV file format.

The components include, but are not limited to:

Irrigation system and programing
Door closer tune-up
6 pin cylinder set-up
Automatic door openers
ADA push buttons.
Folding partition walls.
Fire sprinkler system.
Fire Alarm system and Dialer
Fire alarm annunciator panel

Section Number | Title

Mag Lock at doors
Air Handler Units
VFD's
VAV Boxes
Chilled Beams
Makeup air units
Heat exchangers and pumps
Exhaust Fan
Fan Coil Units
Expansion tank
Glycol make-up
Terminal heating and cooling equipment
Air curtain
Radiant floor systems
Snow melt systems
Building management systems
Sequence of operation
Block programming
Graphic system operation and modification
Switchboard, MCC and panelboards
Generator
UPS
Transformers
Lighting Control Systems
Security System
A/V systems
Data/Com Connectivity
Elevator operation and maintenance

Refer to Owner's form FS #76 at: https://in.nau.edu/facility-services/dp-contract/.

****END OF SECTION****

Section Number	Title

01 80 00 PERFORMANCE REQUIREMENTS

Intentionally left blank.

01 81 00 Facility Performance Requirements

01 81 13 Sustainable Design Requirements

The Owner's Project Manager will be designated as an alternate project administrator for all sustainable design programs.

****END OF SECTION****

Section Number	Title
01 90 00	**LIFE CYCLE ACTIVITIES**
	Intentionally left blank.
01 91 00	**Commissioning**
01 91 13	General Commissioning Requirements
	Commissioning Agent is typically hired directly by Owner. Commissioning Agent shall adhere to ASHRAE Standards and Guidelines.
01 92 00	**Facility Operation**
01 92 13	Facility Operation Procedures
	NA
01 93 00	**Facility Maintenance**
01 93 13	Facility Maintenance Procedures
	NA

****END OF SECTION****

SECTION 01 10 00

SUMMARY

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Specification and drawing conventions.

1.02 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 scheduled on Drawings.
   3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION 01 10 00

SECTION 01 23 00

ALTERNATES

PART 1 – GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.02 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.03 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate. Include costs of related coordination, modification, or adjustment.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

1. Execute accepted alternates under the same conditions as other work of the Contract.

C. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION

1.01 SCHEDULE OF ADDITIVE ALTERNATES

A. **Alternate No. 1:** Preformed Metal Panel Material

1. **Base Bid:** Morin Concealed Fastener W–12 Panel in 20ga.Galvalume with Fluropon Classic II PVDF coating in Weatherized Zinc
2. **Additive Alternate:** Morin Concealed Fastener W–12 Panel in 20ga. in VMZINC Anthra Zinc

END OF SECTION 01 23 00

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

1.02 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.03 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Substitution Request Form: Use CSI Form 13.1A.
   2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
      a. Statement indicating why specified product or fabrication, or installation cannot be provided, if applicable.
      b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
      c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
      d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
      e. Samples, where applicable or requested.
      f. Certificates and qualification data, where applicable or requested.
      g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
      h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
      i. Research reports evidencing compliance with building code in effect for Project, from ICC–ES.
      j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
      k. Cost information, including a proposal of change, if any, in the Contract Sum.
      l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
      m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
   a. Forms of Acceptance: Written notice.

1.04 QUALITY ASSURANCE

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

PART 2 – PRODUCTS

2.01 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
   1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
   a. Requested substitution is consistent with the Construction Documents and will produce indicated results.
   b. Requested substitution will not adversely affect Contractor's construction schedule.
   c. Requested substitution has received necessary approvals of authorities having jurisdiction.
   d. Requested substitution is compatible with other portions of the Work.
   e. Requested substitution has been coordinated with other portions of the Work.
   f. Requested substitution provides specified warranty.
   g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after commencement of the Work.
   1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
   a. Requested substitution offers a substantial advantage in cost, time, energy conservation, or other considerations.
   b. Requested substitution is consistent with the Construction Documents and will produce indicated results.
   c. Requested substitution has received necessary approvals of authorities having jurisdiction.
   d. Requested substitution is compatible with other portions of the Work.
   e. Requested substitution has been coordinated with other portions of the Work.
   f. Requested substitution provides specified warranty.
   g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 – EXECUTION – Not Used

END OF SECTION 01 25 00

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.02 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.03 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1.04 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
      a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
   1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   3. Resubmittal Review: Allow 15 days for review of each resubmittal.

C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
   1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.

2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS–061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS–061000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. Name of Contractor.
   e. Name of firm or entity that prepared submittal.
   f. Names of subcontractor, manufacturer, and supplier.
   g. Category and type of submittal.
   h. Submittal purpose and description.
   i. Specification Section number and title.
   j. Specification paragraph number or drawing designation and generic name for each of multiple items.
   k. Drawing number and detail references, as appropriate.
   l. Location(s) where product is to be installed, as appropriate.
   m. Related physical samples submitted directly.
   n. Indication of full or partial submittal.
   o. Transmittal number, numbered consecutively.
   p. Submittal and transmittal distribution record.
   q. Other necessary identification.
   r. Remarks.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
   a. Project name.
   b. Number and title of appropriate Specification Section.
   c. Manufacturer name.
   d. Product name.

D. Options: Identify options requiring selection by Architect.

E. Deviations: Identify deviations from the Contract Documents on submittals.

F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

G. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

H. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 – PRODUCTS

2.01 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:
   1. Submit electronic submittals via email as PDF electronic files.
      a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
   2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
      a. Provide a digital signature with digital certificate on electronically–submitted certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a. Manufacturer's catalog cuts.
      b. Manufacturer's product specifications.
      c. Standard color charts.
      d. Statement of compliance with specified referenced standards.
      e. Testing by recognized testing agency.
      f. Application of testing agency labels and seals.
      g. Notation of coordination requirements.
      h. Availability and delivery time information.
   4. For equipment, include the following in addition to the above, as applicable:
      a. Wiring diagrams showing factory–installed wiring.
      b. Printed performance curves.
      c. Operational range diagrams.
      d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
   5. Submit Product Data before or concurrent with Samples.
   6. Submit Product Data in the following format:
      a. PDF electronic file.

C. Shop Drawings: Prepare Project–specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
   1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
      a. Identification of products.
      b. Schedules.
      c. Compliance with specified standards.
      d. Notation of coordination requirements.
      e. Notation of dimensions established by field measurement.
      f. Relationship and attachment to adjoining construction clearly indicated.
      g. Seal and signature of professional engineer if specified.
   2. Sheet Size: Except for templates, patterns, and similar full–size drawings, submit Shop Drawings on sheets at least 8–1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
   3. Submit Shop Drawings in the following format:
      a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
   1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
   2. Identification: Attach label on unexposed side of Samples that includes the following:
      a. Generic description of Sample.
      b. Product name and name of manufacturer.
      c. Sample source.
      d. Number and title of applicable Specification Section.
   3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
   4. Disposition: Maintain sets of approved Samples at Project site, available for quality–control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
      a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
      b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
   5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
      a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
   6. Samples for Verification: Submit full–size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
      a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.
         1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

F. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

G. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

H. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

I. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

J. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

K. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

L. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

M. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.

N. Schedule of Tests and Inspections: Comply with requirements specified in Section 01 40 00 "Quality Requirements."

O. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

PART 3 – EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 01 77 00 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01 33 00

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   1. Specified tests, inspections, and related actions do not limit Contractor's other quality–assurance and –control procedures that facilitate compliance with the Contract Document requirements.
   2. Requirements for Contractor to provide quality–assurance and –control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
   3. Specific test and inspection requirements are not specified in this Section.

1.02 DEFINITIONS

A. Quality–Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality–Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Mockups: Full–size physical assemblies that are constructed on–site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
   1. Laboratory Mockups: Full–size physical assemblies constructed at testing facility to verify performance characteristics.

D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality–Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

G. Field Quality–Control Testing: Tests and inspections that are performed on–site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub–subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
   1. Use of trade–specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.03 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.04 INFORMATIONAL SUBMITTALS

A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
   1. Seismic–force–resisting system, designated seismic system, or component listed in the designated seismic system quality–assurance plan prepared by Architect.
   2. Main wind–force–resisting system or a wind–resisting component listed in the wind–force–resisting system quality–assurance plan prepared by Architect.

B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.05 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
   1. Date of issue.
   2. Project title and number.
   3. Name, address, and telephone number of testing agency.
   4. Dates and locations of samples and tests or inspections.
   5. Names of individuals making tests and inspections.
   6. Description of the Work and test and inspection method.
   7. Identification of product and Specification Section.
   8. Complete test or inspection data.
   9. Test and inspection results and an interpretation of test results.
   10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
   11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.

12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
5. Other required items indicated in individual Specification Sections.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.06 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in–service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in–service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in–service performance.

E. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

F. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

G. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
a. Allow seven days for initial review and each re–review of each mockup.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed unless otherwise indicated.

1.07 QUALITY CONTROL

A. Owner Responsibilities: Where quality–control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
   1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality–control activities required to verify that the Work complies with requirements, whether specified or not.
   1. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality–control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
   1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
   2. Determine the location from which test samples will be taken and in which in–situ tests are conducted.
   3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
   4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality–control service through Contractor.
   5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
   6. Do not perform any duties of Contractor.

1.08 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION 01 40 00

SECTION 01 42 00

REFERENCES

PART 1 – GENERAL

1.01 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Contract Documents.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.02 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
   1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.03 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.
   1. IAPMO – International Association of Plumbing and Mechanical Officials; www.iapmo.org.
   2. ICC – International Code Council; www.iccsafe.org.
   3. ICC–ES – ICC Evaluation Service, LLC; www.icc–es.org.

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.
   1. CPSC – Consumer Product Safety Commission; www.cpsc.gov.
   2. DOC – Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
   3. DOE – Department of Energy; www.energy.gov.
   4. EPA – Environmental Protection Agency; www.epa.gov.
   5. OSHA – Occupational Safety & Health Administration; www.osha.gov.

D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.
   1. CFR – Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION 01 42 00

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

1.02 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in–service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis–of–Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis–of–design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in–service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.03 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
      a. Form of Approval: As specified in Section 01 33 00 "Submittal Procedures."
      b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis–of–Design Product Specification Submittal: Comply with requirements in Section 01 33 00 "Submittal Procedures." Show compliance with requirements.

1.04 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:
   1. Schedule delivery to minimize long–term storage at Project site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
   3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:
   1. Store products to allow for inspection and measurement of quantity or counting of units.
   2. Store materials in a manner that will not endanger Project structure.
   3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
   4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
   5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather–protection requirements for storage.
   6. Protect stored products from damage and liquids from freezing.

1.06 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
   1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
   2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
   1. Manufacturer's Standard Form: Modified to include Project–specific information and properly executed.
   2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
   3. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 – PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
   1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
   2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
   3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
   4. Where products are accompanied by the term "as selected," Architect will make selection.
   5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:
   1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   3. Products:
      a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
      b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
   4. Manufacturers:
      a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
      b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
   5. Basis–of–Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
   1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 25 00 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.02 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
   1. Evidence that the proposed product does not require revisions to the Contract Documents, that itis consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
   2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
   3. Evidence that proposed product provides specified warranty.
   4. List of similar installations for completed projects with project names and addresses and namesand addresses of architects and owners, if requested.
   5. Samples, if requested.

PART 3 – EXECUTION – Not Used

END OF SECTION 01 60 00

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:
1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

1.02 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off–site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.

C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Existing items of construction that are not to be permanently removed and thatare not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.03 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1.04 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Predemolition Photographs or Video: Submit before Work begins.

1.05 WARRANTY

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

PART 2 – PRODUCTS

2.01 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

D. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

3.02 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

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

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
   2. Disconnect, demolish, and remove fire–suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
      a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
      b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
      c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
      d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
      e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
      f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
      g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

3.03 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris–removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Comply with requirements for access and protection specified in Section 01 50 00 "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.04 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to

damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame– cutting operations. Maintain portable fire–suppression devices during flame–cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly.

B. Removed and Salvaged Items:
1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

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

3.05 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA–approved landfill.
1. Do not allow demolished materials to accumulate on–site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.06 CLEANING

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

END OF SECTION 02 41 19

SECTION 05 52 13

PIPE AND TUBE GUARDS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Stainless Steel tube guards.

1.02 ACTION SUBMITTALS

A. Product Data: For the following:
   1. Tubes complying with ASTM A312, Type 316
   2. Plates complying with ASTM A666, Type 316
   3. Grout, anchoring and cement products.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

PART 2 – PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Structural Performance: Guards, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditionsindicated:
   1. Guards:
      a. Single load of 6000 pounds (26.70 kN/m) applied in any direction at 1'–6.

B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

2.02 MATERIALS

A. Stainless Steel Tubing: ASTM A312, Type 316

B. Stainless Steel Plates, Shapes, and Bars: ASTM A666, Type 316

2.03 FASTENERS

A. Post–installed Anchors: Chemical anchors fabricated from stainless steel with capability to sustain, without failure, a load equal to four times the load imposed when installed in concrete, as determined by test data per ASTM E 488.

2.04 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Nonshrink, Nonmetallic Grout: Factory–packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.05 FABRICATION

A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

B. Form work true to line and level with accurate angles and surfaces.

C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove flux immediately.
   4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

D. Form changes in direction by bending.

E. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

F. Fabricate joints in a watertight manner.

2.06 FINISHES

A. Stainless Steel:
   1. Grind and polish surfaces to produce uniform, directional textured polished No. 4 finish free of cross scratches. Run grain with long dimension of each piece.
   2. Comply with ASTM A 123/A 123M for hot–dip galvanized railings.
   3. Comply with ASTM A 153/A 153M for hot–dip galvanized hardware.

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

A. Set guards accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
   1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
   2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
   3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).

3.02 ATTACHING GUARDS

A. Attach guard to slab with base plates at spacing required to support structural loads.

B. Use anchorage devices and fasteners where necessary for securing guard and for properly transferring loads to in–place construction.

3.03 ADJUSTING AND CLEANING

A. Rinse surfaces, Remove embedded foreign matter and leave surfaces chemically clean.

END OF SECTION 05 52 13

SECTION 07 27 26

FLUID–APPLIED MEMBRANE AIR BARRIERS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes liquid applied air and water–resistive barrier system.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.03 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Product test reports.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Mock–up: Apply Air Barrier to verify details under submittals and to demonstrate tie–ins with adjoining construction, other termination conditions and methods of installation. Include sill, jamb, head and parapet.

1.05 WARRANTY

A. Provide manufacturers 20 year material warranty.

PART 2 – PRODUCTS

1.1 MANUFACTURERS

A. Basis of Design: GE Silicones

1.2 MATERIALS

A. Fluid–Applied Air Barrier: GE Elemax 2600.

B. Liquid Flashing (Detail Sealant/Adhesive): GE Elemax 5000 Liquid Flashing, GE SCS2000 SilPruf, GE SCS2700 SilPruf LM, GE SCS9000 SilPruf NB or GE SWS.

C. Reinforcing Fabric: RF100; width as dictated by project conditions.

D. Sheet Flashing: GE Elemax SS Flashing; width as dictated by project conditions.

E. Silicone Transition Membrane: GE UST2200 UltraSpan; width as dictated by project conditions.

F. Pre–Cured Silicone Molded Corners: GE USM UltraSpan inside and outside corners.

1.3 PERFORMANCE REQUIREMENTS

A. UV Exposure: No limit.

B. Application Temperature: 0 to 158 degrees F (minus 18 to 70 degrees C).

C. Performance Properties:

Property	Value[1]	Test Method
Required Dry Film Thickness	17 mils (430 µ) dry	Apply 19 mils (480 µ) wet
Air Permeance – tested at 1.57 psf (75 Pa)	0.00004 cfm/ft² (0.0002 L/s·m²)	ASTM E2178
	0.00008 cfm/ft² (0.0004 L/s·m²)	CAN/ULC–741
Assembly Air Leakage – tested at 1.57 psf (75 Pa)	0.0002 cfm/ft² (0.0009 L/s·m²)	ASTM E2357
	0.0004 cfm/ft² (0.0019 L/s·m²) Class A1	CAN/ULC–742
Water Resistance	Pass	AATCC 127
Water Penetration	No water penetration observed after 15 min. @ 62.5 psf (2993 Pa)	ASTM E331
Water Penetration	No water penetration after structural, racking, restrained environmental conditioning: Tested for 15 minutes at 2.86 psf (137 Pa)	ASTM E331
Resistance to Wind–Driven Rain	Pass: No visual leaks or moisture weight gain observed after 24 hrs @ 26 psf (1245 Pa)	ASTM D6904
Water Vapor Permeance	10.5 perms @ 17 mils (430 µ) DFT	ASTM E96 Procedure BW (Inverted Water Method)
Water Vapor Permeance	10.2 perms @ 17 mils (430 µ) DFT	ASTM E96 Procedure B (Water Method)
UV & Weathering Resistance	7.9 perms @ 17 mils (430 µ) DFT	ASTM E96 Procedure A (Desiccant Method)
	No degradation after 5000 hours	ASTM G154
Self Sealability around Nails	Pass @ 17 mils (430 µ) DFT	ASTM D1970
Crack Bridging Ability (1/16 inch or 1.5 mm)	Pass	ASTM C1305
Mildew Resistance	0 – No Growth	ASTM D5590
Service Temperature Range	Minus 40 F to plus 300 degrees F (minus 40 to plus 149 degrees C)	
Pull off Strength (concrete)	126 psi (0.87 MPa)	ASTM D4541
Pull off Strength (fiberglass mat faced gypsum sheathing)	44 psi (0.30 MPa)[2]	ASTM D4541
Tensile Strength	204 psi (1.40 MPa)	ASTM D412[3]
Elongation	542 percent	ASTM D412[3]
Multi–Story Wall Assembly Burn Test	Passed in assembly tested and acceptable for use in various wall assemblies per engineering analysis	NFPA 285

Property	Value[1]	Test Method
Surface Burning	Flame Spread: 10 Smoke Developed: 185 NFPA Class A, UBC Class 1	ASTM E84

Sequential Testing– Weathering		
UV Light Exposure		ICC–ES AC212
Accelerated Aging		ICC–ES AC212
Hydrostatic Pressure Test	No water penetration after UV exposure and accelerated aging: Tested for 5 hours with 21.7 in (55 cm) of hydrostatic head	AATCC 127
Freeze–Thaw	No cracking, checking, crazing, erosion, delamination or other deleterious effects.	ICC–ES AC212 ASTM E2485 Method B
Water Resistance	No deleterious effects after 14 day exposure	ASTM D2247
Tensile Bond	Minimum 15 psi (105 kPa)	ASTM C297

(1) Average value. Actual value may vary.

(2) Full strength of silicone not realized due to failure of fiberglass mat / sheathing substrate prior to coating failure.

(3) Samples were prepared per ASTM D2370 and tested in accordance to ASTM D412.

PART 3 – EXECUTION

3.1 PREPARATION

A. Condition of Surfaces:
   1. Clean, dry and free of contaminants that could interfere with proper bonding of materials.
   2. Masonry joints: Struck flush. Fill cracks greater than crack bridging ability of material, routed and filled where necessary, with trowel application of liquid flashing prior to application of liquid membrane.
   3. Sheathing joints: Treated per manufacturer's installation details.

B. Remove loose mortar and other contaminations by wire brush or similar abrasion to provide stable clean surface for application.'

C. Remove grease, oil, bitumen, form release agents, paints, curing compounds, other contaminents, and film forming coatings from concrete.

D. Mask adjoining surfaces not to be covered by air barrier.

E. Spot treat over and under fasteners with liquid flashing or air barrier material.

3.2 INSTALLATION

A. Perform installation in accordance with manufacturer's instructions.

B. Transition and Detailing Treatment:
   1. Install appropriate materials to treat sheathing joints, expansion joints, rough openings, transitions, terminations, penetrations, and other similar surface irregularities.
   2. Perform detailing before or after air barrier membrane application.

C. Treat sheathing joints less than 1/2 inch (13 mm) in width using any of following methods:
   1. Liquid flashing.

2. 4 inch (100 mm) reinforcing fabric embedded in air barrier material and centered on joint.

D. Inside and Outside Corners: Extend liquid flashing or reinforcement minimum 3 inches (75 mm) onto each angle change using any of following methods:
1. Liquid flashing.
2. Minimum 6 inch (150 mm) reinforcing fabric embedded in air barrier material and centered on joint.
3. Minimum 6 inch (150 mm) sheet flashing centered on corner.
4. Silicone transition membrane set in liquid flashing and centered on corner.

E. Rough Openings. Extend liquid flashing or reinforcement minimum 3 inches (75 mm) onto vertical wall and into rough opening using any of following methods:
1. Liquid flashing.
2. Minimum 6 inch (150 mm) reinforcing fabric embedded in air barrier material and Centered on joint.
3. Minimum 6 inch (150 mm) sheet flashing centered on corner.
4. Minimum 6 inch (150 mm) silicone transition membrane set in liquid flashing and centered on corner.
5. Pre–cured silicone molded outside corners in combination with any of above methods.

F. Pipe and Duct Penetrations: Treat using any of following methods:
1. Liquid flashing.
2. Reinforcing fabric embedded in air barrier material and centered on joint. Ensure that reinforving fabric extends minimum 2 inches (50 mm) onto wall.

G. Static Joints less than 1/2 inch (13 mm) in width and Expansion Joints:
1. Treat using minimum 6 inch (150 mm) silicone transition membrane set in liquid flashing or air barrier material and centered on joint.
2. Ensure that transition membrane extends minimum 1 inch (25 mm) onto wall.

H. Transitions: Treat using any of following methods:
1. Liquid flashing.
2. Reinforcing fabric embedded in air barrier material and centered on joint.
3. Sheet flashing centered on corner.
4. Silicone transition membrane set in liquid flashing.

I. Through Wall Flashing. Install sheet flashing.

J. Air Barrier:
1. Apply by spray, power roller, roller, or brush at to minimum dry film thickness recommended by manufacturer.
2. Touch up damaged areas using same procedures as initial application, at any time after application; coating may be wet or cured.

3.3 PROTECTION

A. Protect air barrier from damage during application and for remainder of construction.

B. If damage occurs, repair per manufacturer's instructions.

3.4 CLEANING

A. Clean air barrier materials from surfaces that will be exposed in completed work using cleaning agents and procedures recommended by manufacturer.

B. Remove masking materials after installation.

END OF SECTION 07 27 26

SECTION 07 42 13.13

FORMED METAL WALL PANELS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Concealed–fastener, lap–seam metal wall panels.

1.02 ACTION SUBMITTALS

A. Product Data: Submit manufacturer current technical literature for each type of product.

B. Shop Drawings: Include profile, location, layout and dimensions of panel, locations and types of fasteners, shape and attachment method of all trim, locations and types of sealants, installation sequence, other details as required for a weathertight installation.

C. Delegated Design: Design metal wall panel assembly, submit comprehensive engineering analysis by qualified professional engineer using performance requirements and design criteria indicated. Reference Wind Load Analysis.

D. Samples: Provide nominal 3x5 inch of color or finish indicated. Provide panel profile 10” minimum in width.

1.03 INFORMATIONAL SUBMITTALS

A. Warranties: Samples of special warranties.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.06 WARRANTY

A. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory–applied finishes within specified warranty period.
   1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 – PRODUCTS

2.01 CONCEALED–FASTENER, LAP–SEAM METAL WALL PANELS

A. General: Provide factory–formed metal panels designed to be field assembled by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners in side laps. Include accessories required for weathertight installation.

B. Creased–Rib–Profile, Concealed–Fastener Metal Wall Panel: Formed with raised, center–creased, trapezoidal major ribs.
   1. Basis–of–Design Product: Subject to compliance with requirements, provide W–12 by Morin, a Kingspan Group company, or comparable product by one of the following:

2. Metallic–Coated Steel Sheet: Zinc–coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation, or aluminum–zinc alloy–coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 (Class AZM150) coating designation; structural quality. Prepainted by the coil–coating process to comply with ASTM A 755/A 755M.
   a. Nominal Thickness: 20ga (0.91mm).
   b. Exterior Finish: 1.0 mil Mica fluoropolymer.
   c. Color: Weathered Zinc
3. Panel Coverage: 12 inches (305 mm).
4. Panel Height: 1.5 inches (38 mm).

C. Creased–Rib–Profile, Concealed–Fastener Metal Wall Panel: Formed with raised, center–creased, trapezoidal major ribs.
1. Basis–of–Design Product **(ADD ALT 001):** Subject to compliance with requirements, provide W–12 by Morin, a Kingspan Group company, or comparable product by one of the following:
2. VMZINC sheet complying with DIN EN988
   a. Nominal Thickness: 20ga (0.91mm).
   b. Exterior Finish: Pre–Weathered
   c. Color: Anthra Zinc
3. Panel Coverage: 12 inches (305 mm).
4. Panel Height: 1.5 inches (38 mm).

2.02 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold–formed, metallic–coated steel sheet, ASTM A 653/A 653M, G90 (Z275 hot–dip galvanized) coating designation or ASTM A 792/A 792M, Class AZ50 (Class AZM150) aluminum–zinc–alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
1. Closures: Provide closures at eaves and rakes, fabricated of same metal as metal panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed–cell, expanded, cellular, rubber or crosslinked, polyolefin–foam or closed–cell laminated polyethylene; minimum 1–inch– (25–mm–) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

D. Panel Fasteners: Self–tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory–applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.

2.03 FINISHES

A. Panels and Accessories:
1. Mica Fluoropolymer: AAMA 621. Two–coat fluoropolymer finish with suspended mica flakes containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
2. Concealed Finish: White or light–colored acrylic or polyester backer finish.

PART 3 – EXECUTION

3.01 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

3.02 METAL PANEL INSTALLATION

A. Lap–Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
   1. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.

B. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

C. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.

3.03 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

END OF SECTION 07 42 13.13

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Formed wall sheet metal fabrications.

1.02 ACTION SUBMITTALS

A. Shop Drawings: For sheet metal flashing and trim.
   1. Include plans, elevations, sections, and attachment details.
   2. Distinguish between shop– and field–assembled work.
   3. Include identification of finish for each item.
   4. Include pattern of seams and details of termination points, expansion joints and expansion–joint covers, direction of expansion, roof–penetration flashing, and connections to adjoining work.

1.03 QUALITY ASSURANCE

A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in–service performance.

1.04 WARRANTY

A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory–applied finishes within specified warranty period.
   1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 – PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. SPRI Wind Design Standard: Manufacture and install copings tested according to SPRI ES–1 and capable of resisting the following design pressure:
   1. Design Pressure: As indicated on Drawings.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
   1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.02 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.

B. Metallic–Coated Steel Sheet: Provide zinc–coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 (Z275) coating designation or aluminum–zinc alloy–coated steel sheet according to ASTM A 792/A 792M, Class AZ50 (Class AZM150) coating designation, Grade 40 (Grade 275); prepainted by coil–coating process to comply with ASTM A 755/A 755M where matching adjacent metal panels.
   1. Concealed Flashing: Manufacturer's standard clear acrylic coating on both sides.
   2. Exposed Flashing: Coil–coated finish matching adjacent metal panel.
      a. Color: Match color of adjacent metal panel.

2.03 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.

B. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

2.04 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
   1. Obtain field measurements for accurate fit before shop fabrication.
   2. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
   3. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
   1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
   2. Use lapped expansion joints only where indicated on Drawings.

C. Sealant Joints: Where movable, nonexpansion–type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.

D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

E. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.

F. Seams: Fabricate nonmoving seams with flat–lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use.

2.05 WALL SHEET METAL FABRICATIONS

A. Parapet Copings: Fabricate in minimum 96–inch– (2400–mm–) long, but not exceeding 12–foot– (3.6–m–) long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
   1. Joint Style: Butted with expansion space and 6–inch– (150–mm–) wide, concealed backup plate.
   2. Fabricate from the Following Materials:
      a. Match formed metal panel material

B. Flashings in Frame Construction: Fabricate head, sill, and similar flashings to extend 4 inches (100 mm) beyond wall openings. Form head and sill flashing with 2–inch– (50–mm–) high, end dams. Fabricate from the following materials:
   1. Match formed metal panel material

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
   1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
   2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
   3. Space cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
   4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
   5. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure–treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.
   1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
   2. Use lapped expansion joints only where indicated on Drawings.

D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull–out resistance.

E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

F. Seal joints as required for watertight construction. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 "Joint Sealants."

3.02 WALL FLASHING INSTALLATION

A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall–opening components such as windows, doors, and louvers.

B. Parapet Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.

C. Flashings in Frame Construction: Install continuous head, sill, and similar flashings to extend 4 inches (100 mm) beyond wall openings.

3.03 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean off excess sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION 07 62 00

SECTION 07 92 00

JOINT SEALANTS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:
1. Silicone joint sealants.
2. Urethane joint sealants.
3. Latex joint sealants.
4. Solvent–release–curing joint sealants.
5. Acoustical joint sealants.

1.02 ACTION SUBMITTALS

A. Product Data: For each joint–sealant product indicated.

B. Samples: For each kind and color of joint sealant required.

1.03 INFORMATIONAL SUBMITTALS

A. Product test reports.

1.04 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

1.05 WARRANTY

A. Special Manufacturer's Warranty: Manufacturer's standard form in which joint–sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 – PRODUCTS

2.01 MATERIALS, GENERAL

A. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

B. Liquid–Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid–applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

C. Stain–Test–Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

D. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.02 SILICONE JOINT SEALANTS

A. Neutral–Curing Silicone Joint Sealant (SJS–1): ASTM C 920.
   1. Type: Single component (S) or multicomponent (M).
   2. Grade: Nonsag (NS).
   3. Class: 50.
   4. Uses Related to Exposure: Nontraffic (NT).

B. Mildew–Resistant Silicone Joint Sealant (SJS–2): ASTM C 920.
   1. Type: Single component (S).
   2. Grade: Nonsag (NS).
   3. Class: 25.
   4. Uses Related to Exposure: Nontraffic (NT).

2.03 URETHANE JOINT SEALANTS

A. Urethane Joint Sealant (UJS–1): ASTM C 920.
   1. Type: Multicomponent (M).
   2. Grade: Pourable (P).
   3. Class: 50.
   4. Uses Related to Exposure: Traffic (T).

B. Urethane Joint Sealant (UJS–2): ASTM C 920.
   1. Type: Single component (S) or multicomponent (M).
   2. Grade: Nonsag (NS).
   3. Class: 50.
   4. Uses Related to Exposure: Nontraffic (NT).

C. Urethane Joint Sealant (UJS–3): ASTM C 920.
   1. Type: Multicomponent (M).
   2. Grade: Nonsag (NS).
   3. Class: 50.
   4. Uses Related to Exposure: Traffic (T).

2.04 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

2.05 SOLVENT–RELEASE–CURING JOINT SEALANTS

A. Acrylic–Based Joint Sealant: ASTM C 1311.

B. Butyl–Rubber–Based Joint Sealant: ASTM C 1311.

2.06 ACOUSTICAL JOINT SEALANTS

A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

2.07 JOINT SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed–cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

B. Bond–Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.08 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint–sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint–sealant–substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 – EXECUTION

3.01 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint–sealant manufacturer's written instructions.
   1. Remove laitance and form–release agents from concrete.
   2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates where recommended by joint–sealant manufacturer or as indicated by preconstruction joint–sealant–substrate tests or prior experience. Apply primer to comply with joint– sealant manufacturer's written instructions. Confine primers to areas of joint–sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.02 INSTALLATION

A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross–sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
   1. Do not leave gaps between ends of sealant backings.
   2. Do not stretch, twist, puncture, or tear sealant backings.
   3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

C. Install bond–breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
   1. Place sealants so they directly contact and fully wet joint substrates.
   2. Completely fill recesses in each joint configuration.
   3. Produce uniform, cross–sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
   1. Remove excess sealant from surfaces adjacent to joints.
   2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
   3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

F. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.

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

3.03 JOINT–SEALANT SCHEDULE

A. Joint–Sealant Application: Exterior joints in horizontal traffic surfaces.
   1. Joint Locations: Isolation and contraction joints in cast–in–place concrete slabs.
   2. Urethane Joint Sealant: UJS–1 multicomponent, pourable, traffic grade, Class 50.

B. Joint–Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Construction joints in cast–in–place concrete.
      b. Perimeter joints between materials listed above and frames of doors, windows, and louvers.
      c. Other joints as indicated.
   2. Urethane Joint Sealant: UJS–2.

C. Joint–Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Joints in exterior insulation and finish systems.
      b. Joints between metal panels.
      c. Joints between different materials listed above.
      d. Perimeter joints between materials listed above and frames of doors, windows, and louvers.
      e. Other joints as indicated.

2. Silicone Joint Sealant: SJS–1**.**

D. Joint–Sealant Application: Interior joints in horizontal traffic surfaces.
1. Joint Locations:
   a. Isolation joints in cast–in–place concrete slabs.
   b. Other joints as indicated.
2. Urethane Joint Sealant: UJS–3.

E. Joint–Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
   a. Control and expansion joints on exposed interior surfaces of exterior walls.
   b. Perimeter joints of exterior openings where indicated.
   c. Vertical joints on exposed surfaces of interior unit masonry and concrete walls and partitions.
   d. Perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.
   e. Other joints as indicated.
2. Joint Sealant: Latex.

F. Joint–Sealant Application: Mildew–resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Sealant Location:
   a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
   b. Tile control and expansion joints in bathrooms.
   c. Other joints as indicated.
2. Joint Sealant: SJS–2.

G. Joint–Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Location:
   a. Acoustical joints where indicated.
   b. Other joints as indicated.
2. Joint Sealant: Acoustical.

H. Joint–Sealant Application: Concealed bedding joints.
1. Joint Location: Thresholds, and sills of strorefront framing and windows.
2. Joint Sealant: Butyl–rubber–based or acrylic–based joint sealant.

END OF SECTION 07 92 00

SECTION 08 44 23

STRUCTURAL–SEALANT–GLAZED CURTAIN WALLS
(STRUCTURAL SEALANT ONLY)

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Field–glazed, two–sided structural–sealant–glazed curtain–wall assemblies.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed finish required.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Structural–Sealant Glazing: Comply with ASTM C 1401 for design and installation of curtain–wall assemblies.

1.04 WARRANTY

A. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory–applied finishes within specified warranty period.
   1. Warranty Period: Five years from date of Substantial Completion.

PART 2 – PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with performance requirements specified, as determined by testing of structural–sealant–glazed curtain walls representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Wind Loads: As indicated on Drawings.

C. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:
   1. Fixed Framing and Glass Area:
      a. Maximum air leakage of 0.06 cfm/sq. ft. (0.30 L/s per sq. m) at a static–air–pressure differential of 6.24 lbf/sq. ft. (300 Pa).

D. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:
   1. No evidence of water penetration through fixed glazing and framing areas when tested according to a minimum static–air–pressure differential of 20 percent of positive wind–load design pressure, but not less than 15 lbf/sq. ft. (720 Pa).

E. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:
   1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

I. Structural–Sealant Joints:
   1. Designed to carry gravity loads of glazing.
   2. Designed to produce tensile or shear stress of less than 20 psi (138 kPa).

J. Structural Sealant: Capable of withstanding tensile and shear stresses imposed by structural–sealant– glazed curtain walls without failing adhesively or cohesively. When tested for preconstruction adhesion and compatibility, cohesive failure of sealant shall occur before adhesive failure.
   1. Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.
   2. Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate because sealant–to–substrate bond strength exceeds sealant's internal strength.

2.02 GLAZING

A. Structural Glazing Sealants: ASTM C 1184, chemically curing silicone formulation that is compatible with system components with which it comes in contact, specifically formulated and tested for use as structural sealant and approved by structural–sealant manufacturer for use in curtain–wall assembly indicated.
   1. Color: Black.

B. Weatherseal Sealants: ASTM C 920 for Type S; Grade NS; Class 25; Uses NT, G, A, and O; chemically curing silicone formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural–sealant, weatherseal–sealant, and structural– sealant–glazed curtain–wall manufacturers for this use.
   1. Color: Match structural sealant.

C. Glazing Gaskets: Manufacturer's standard sealed–corner pressure–glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.

2.03 SOURCE QUALITY CONTROL

A. Structural Sealant: Perform quality–control procedures complying with ASTM C 1401 recommendations including, but not limited to, assembly material qualification procedures, sealant testing, and assembly fabrication reviews and checks.

PART 3 – EXECUTION

3.01 INSTALLATION

A. General:
   1. Seal joints watertight unless otherwise indicated.

B. Metal Protection:
   1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with primer, applying sealant or tape, or installing nonconductive spacers as recommended by manufacturer for this purpose.

C. Install weatherseal sealant according to Section 07 92 00 "Joint Sealants" and according to sealant manufacturer's written instructions, to produce weatherproof joints. Install joint filler behind sealant as recommended by sealant manufacturer.

END OF SECTION 08 44 23

ATTACHMENTS

Structural Calculation – Determination of Wind Loads for Component Design at New Steel Skin.

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Determination of Wind Loads for Component Design at New Steel Skin:

Building Code: 2018 IBC with NAU Technical Standards

Site Coordinates: Latitude = 35.189 degrees

Longitude = -111.655 degrees

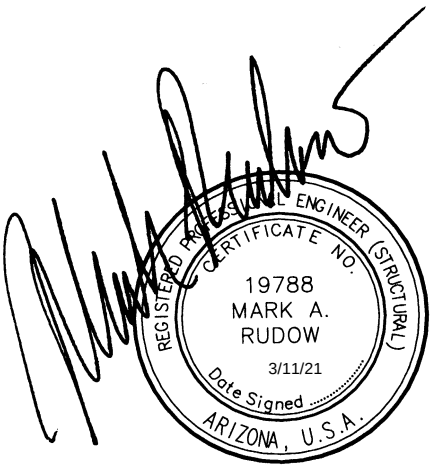
Site Elevation = 6918 feet

See the following sheets 2 through 4 for ATC wind and seismic coefficients based on site location.
By inspection, wind will control the design of the skin system.

See the following sheets 5 and 6 for determination of wind and seismic loading in accordance with 2018 IBC and ASCE 7-16 requirements.

Summary of Calculations:

For skin component design use the following service level (ASD) wind design pressures:
Maximum positive design pressure = 16.0 psf
Maximum negative (suction) design pressure = -21.3 psf



EXPIRES 3/31/22

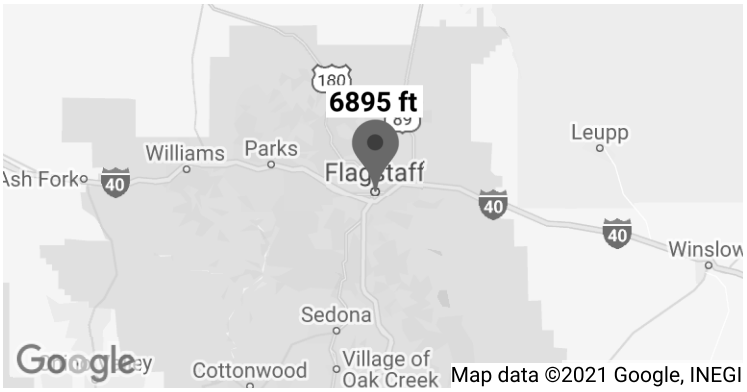
Search Information

Coordinates: 35.189, -111.655

Elevation: 6895 ft

Timestamp: 2021-03-11T16:24:06.247Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	72 mph
MRI 25-Year	78 mph
MRI 50-Year	83 mph
MRI 100-Year	87 mph
Risk Category I	95 mph
Risk Category II	101 mph
Risk Category III	108 mph
Risk Category IV	112 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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Search Information

Coordinates: 35.189, -111.655

Elevation: 6895 ft

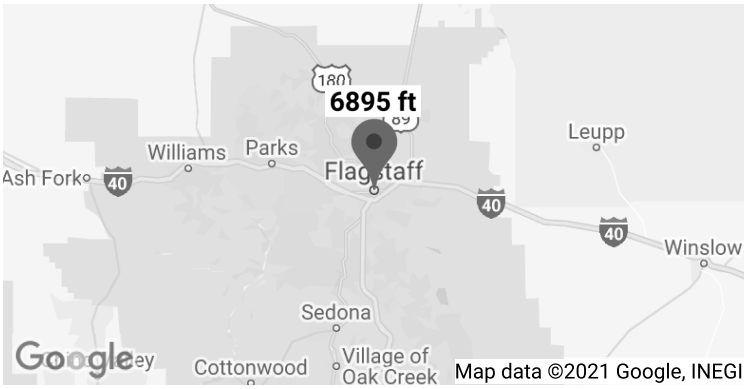
Timestamp: 2021-03-11T16:25:44.320Z

Hazard Type: Seismic

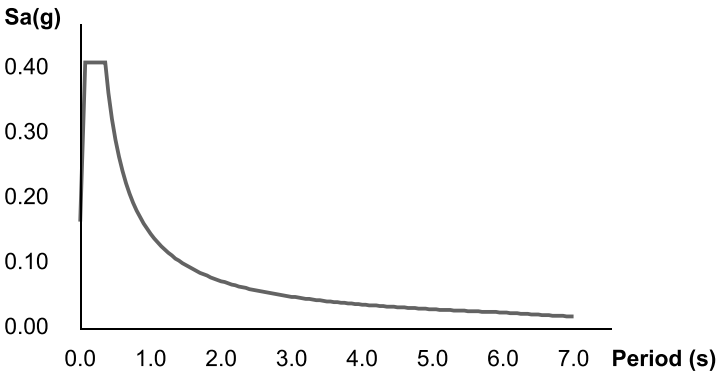
Reference Document: ASCE7-16

Risk Category: III

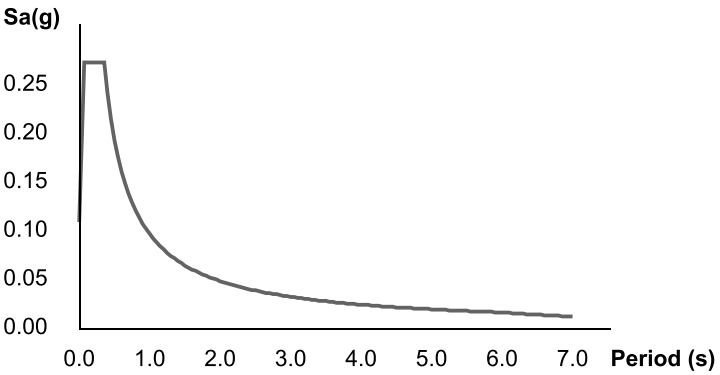
Site Class: C



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.314	MCE_R ground motion (period=0.2s)
S_1	0.097	MCE_R ground motion (period=1.0s)
S_{MS}	0.409	Site-modified spectral acceleration value
S_{M1}	0.145	Site-modified spectral acceleration value
S_{DS}	0.273	Numeric seismic design value at 0.2s SA
S_{D1}	0.097	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.3	Site amplification factor at 0.2s
F_v	1.5	Site amplification factor at 1.0s
CR_S	0.913	Coefficient of risk (0.2s)

CR_1	0.922	Coefficient of risk (1.0s)
PGA	0.142	MCE_G peak ground acceleration
F_{PGA}	1.258	Site amplification factor at PGA
PGA_M	0.179	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.314	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.345	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.097	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.105	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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Wind Loads - ASCE 7-16, Chapter 26

Vult =	108	psf	Exposure	C	Enclosed Structure
Risk Category =	III		Roof Angle θ =	0	degrees
Mean Roof Ht (h) =	28.67	feet	Kz =	0.97	
Kd =	0.85		Kzt =	1.0	
Elev =	6918	ft	Ke =	1	(conservative)
G =	0.85		Gcpi =	+/-0.18	

MWFRS ASCE 7-16, Chapter 28, Part 1

qz = .00256*Kz*Kzt*Kd*V_{ULT}^2*0.6 = 14.77 psf (ASD)

θ = 0 degrees (< 5 degrees)

GCpf per Figure 28.3-1: GCpf = 0.4 at Z1 = -0.29 at Z4
0.61 at Z1E = -0.43 at Z4E

Wind Pressures (ASD):

p = 10.19 psf @ Z1/Z4

p = 15.36 psf @ Z1E/Z4E

Corner Zone Width: Mean Roof Ht = 28.67 feet → a = 11.47 feet
Min Building Width = 91.67 feet → a = 9.17 feet
Use a = 9.17 feet

p_{avg} = 12.26 psf

Components and Cladding: ASCE 7-16, Chapter 30, Part 1

Walls: GCp per Figure 30.3-1:

For A = 10 ft^2:

GCp =	1.00	@ Z4 & Z5	<----------	- Reduce by 10% since θ < 10 degrees
	-1.10	@ Z4	<----------	
	-1.40	@ Z5	<----------	
p =	15.95	@ Z4 & Z5	<----------	Worst Case for all component design
	-17.28	@ Z4		
	-21.27	@ Z5	<----------	Worst Case for all component design

Seismic Loads: ASCE 7-16

Lattitude =	35.189	Ss =	0.314	SDS =	0.273
Longitude =	-111.655	S1 =	0.097	SD1 =	0.097
Risk Category =	III	I_E =	1.25		
Soil Site Class =	C				
Seismic Des Cat =	B				

Response Mod. Coeff R =	3	Steel Not Detailed for Seismic	
Rho =	1.00	(SDC=B)	
CS = SDS/(R/I_E) =	0.1138		
V_{EQ} =	0.1138	x W_{DL}	(ULT)
	0.0796	x W_{DL}	(ASD)