

DIVISION 1 - GENERAL REQUIREMENTS

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01010	Summary of Work DP to complete this section
01020	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 Section 28.3 of the Construction Agreement Between Owner and Contractor.
01021	Cash Allowances N/A
01025	Measurement and Payment Payments will be measured against the Schedule of Values as approved by the DP, Owner and CM (as applicable). Payment procedures will be per the Construction Agreement Between Owner and Contractor, Section 29: Payments on account of the Contract Price will be made monthly as Work progresses. Payment Applications, covering labor, material, equipment, supplies, and other items completed, delivered or suitably stored on site during a period ending on the last calendar day of each month, shall be submitted to the DP and the Owner by the Contractor on the NAU Form FS#11: Contractor Pay Application, within five (5) days after the end of the period. Payment Applications shall be notarized, shall be supported by such data substantiating the Contractor's right to payment as the Owner or the DP may require, and reflect retainage, if any, as is provided. All payments shall be subject to any offset or retainage provisions of the Contract. Each payment made to the Contractor shall be on account of the total amount payable to the Contractor, and title to all Work covered by a paid partial payment shall thereupon pass to the Owner. Nothing in this section shall be construed as relieving the Contractor from the sole responsibility for care and protection of materials and Work upon which payments have been made, for restoration of any damaged Work, or as a waiver of the right of the Owner to require fulfillment of all terms of Contract Documents. The DP, within seven (7) days after receipt of the Payment Application (FS#11), will either issue a Certificate for Payment to the Owner for such amount as is properly due or issue written notice of the reasons for withholding such a certificate. The issuance of a Certificate for Payment will constitute a representation by the DP to the Owner, based on DP's observations at the site and the data comprising the Application for Payment, that the Work is in accordance with the Contract Documents, subject to: 1) an evaluation of the Work for conformance with the Contract Documents ; 2) the results of any subsequent tests required by or performed under the Contract Documents; 3) minor deviations from the Contract Documents correctable prior to completion; and 4) any specific qualifications stated in his certificate; and, that the Contractor is entitled to payment in the amount certified. However, by issuing a Certificate of Payment, the DP shall not thereby be deemed to represent that the DP has made any examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract Price.

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Payment may be withheld in whole, or in part, to protect the Owner on account of:

- A. Unsatisfactory job progress as determined by the Owner.
- B. Defective Work or materials not remedied.
- C. Disputed Work or materials.
- D. Claims or other encumbrances filed or reasonable evidence indicating probable filing of claims or other encumbrances by Subcontractors or Suppliers, or others.
- E. Failure of the Contractor to make payment to Subcontractors or Suppliers within seven (7) days after receipt of each progress payment.
- F. A reasonable doubt, as determined by the Owner, that the Work can be completed for the unpaid balance of the Contract Price or within the Contract Time.
- G. The Contractor's failure to perform any of its contractual obligations under the Contractor Documents, or any other agreement with the Owner.
- H. Deficiencies or claims asserted by Owner against Contractor arising from any other project.

Within fourteen (14) days following the receipt of the Contractor Pay Application (FS#11), the Owner shall pay to the Contractor 90% of the value of the Work in place and materials suitably stored at the site. The remaining 10% shall be retained by the Owner until the Contract is 50% completed at which time the retainage shall be reduced to 5%; provided that: (a) the Contractor is making satisfactory progress on the Contract; and (b) in the Owner's sole judgment, there is no specific cause or claim requiring a greater amount than 5% to be retained. Thereafter, the Owner shall pay the Contractor 95% of the value of the Work, unless and until it determines satisfactory progress is not being made, at which time the 10% retainage may be reinstated. Such 10% reinstatement would be 10% of the total contract value of Work in place and materials stored. The Owner's sole judgment concerning the satisfactory progress of the Work shall be final.

Within sixty (60) days after the issuance of the Certificate of Final Completion by the DP and receipt of all other documents required by the Contract, all retained amounts shall be paid to Contractor as part of Final Payment:

- A. The Final Payment shall not become due until the Contractor delivers to the Owner/DP full and final unconditional releases from Subcontractors and major Suppliers acknowledging payment in full. Any claim filed thereafter shall be the responsibility of the Contractor.
- B. If any claim remains unsatisfied after all payments are made, the Contractor shall immediately upon demand refund to the Owner all monies that the latter may be compelled to pay in discharging such claim including all costs, interest and attorneys' fees.
- C. All required closeout documentation not previously submitted as a condition of Substantial Completion or Final Completion must be submitted with final payment application. The final payment application will be rejected if required closeout documents are not received.

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If any payment on account of the Contract Price is not made within thirty (30) days and without just cause, interest shall thereafter accrue on the unpaid principal balance at the minimum rate allowed by state law (A.R.S. § 44-1201) on the due date.

Change Order Procedures

No changes in the work shall be undertaken by the Contractor without written direction by the Owner or DP. Any changes made without such written direction are done so at the Contractor's own risk. Change Orders shall be processed through the chain of communication agreed upon at the Pre-construction meeting.

Change procedures must follow the requirements outlined in the Construction Agreement Between Owner and Contractor, (currently under revision) Section 28. A copy of the latest version of the Construction Agreement between Owner and Contractor, revised 06/04/10, is available at <https://www4.nau.edu/cas/Admin/Contracts.htm> for informational purposes only.

After the Contract is signed, modifications in the Contract Price, the Contract Time or scope of the Work may only be made by written Change Order.

01030 Alternates/Alternatives

This section is to include project specific information which will be provided by the DP.

01040 Coordination

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

01060 Regulatory Requirements

Governing Agencies, State and Campus

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 (Fire alarm, sprinkler systems, underground fire lines and automatic extinguishing systems)
- Arizona Corporation Commission (Gas line installation)
- State Risk Management Division
- City of Flagstaff (for utilities installations that cross campus boundaries)
- State Elevator Inspector (Elevator installations)
- State Boiler Inspector (Boiler installations)
- NAU Capital Assets and Services, Planning and Development
- NAU Capital Assets and Services, Operations / Maintenance Inspectors
- NAU Capital Assets and Services, Lead Building Inspector
- NAU Office of Regulatory Compliance
- NESHAP

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It is the responsibility of the General Contractor to provide a complete copy of the construction plans, specifications and other pertinent documents as necessary for review and approval by the NAU Fire Life Safety Division (FLS) and NAU Lead Building Inspector.
No construction shall commence until the General Contractor receives from NAU-FLS and NAU Lead Building Inspector the approved stamped copy of the construction plans and other documents provided.

Contractor shall notify the Owner and Design Professional in writing at least two (2) full business days prior to the time at which the Owner or Design Professional must be present to perform an inspection. Failure to provide such notice shall make the Contractor solely responsible for all consequences, including costs, of non-inspection and any required access to the Work. The following chart indicates inspection period resulting from Contractor request:

<u>Contractor Inspection Request</u>	<u>Owner/Design Professional Inspection Period</u>
Monday	Thursday
Tuesday	Friday
Wednesday	Monday
Thursday	Tuesday
Friday	Wednesday

No Work shall be covered until inspected.

01065 Building Code Requirements

General

All design and construction work shall be done in such a manner that the completion of project is in compliance with the following codes. When reference is made to "this code" it shall mean all the codes listed below.

- International Building Code 2009 (IBC),
- International Plumbing Code 2009 (IPC),
- International Mechanical Code 2009 (IMC),
- National Electrical Code 2011 (NEC) (NFPA 70),
- International Fuel Gas Code 2009,
- International Fire Code 2009 (IFC),
- National Fire Alarm Code 2010 (NFPA 72),
- Installation of Sprinkler Systems 2010 (NFPA 13),
- Northern Arizona University Fire Code and Fire Life Safety Equipment Installation Guidelines,
- 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.
- 2007 ASME A17.1, Safety Codes for Elevators and Escalators
- Occupational Safety and Health Administration Regulations
- Arizona Revised Statutes, including:
 - 34-451 (energy conservation standards)
 - 34-452 (solar design standards and energy life cycle costing)
- Arizona Governor's Executive Order No. 91.3 (water conservation in state buildings)
- ASHRAE Design Codes 189.1 (Most recent edition unless otherwise required)

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- IAQ Guidelines for Occupied Buildings Under Construction (SMACNA) (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)

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 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.

The aforementioned document will be hereby made part of the Contract Document between NAU and DP and between NAU and Contractor, and shall be binding to the same extent as if they were written in full herein.

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, to NAU FLS Division and NAU Lead Building Inspector.

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 and the NAU Technical Standards.

The issuance of approved plans, specifications, and other data shall not prevent Capital Assets and Services 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 there under when in violation of the above-listed codes.

Inspections

Per Section 23 and 24 of the Construction Agreement Between Owner and Contractor:

All Work done and all materials are subject to inspection by the Owner (Capital Assets Project Manager, Capital Assets Inspectors, Regulatory Compliance, Etc.) and/or the DP to determine if they conform to the Contract Documents. The DP and Owner shall at all times have access to the Work, including materials being fabricated or stored off site. The Contractor shall furnish at the Contractor's cost any facilities necessary for sufficient and safe access to the Work.

Inspections, tests, measurements, or other acts of the Owner and/or the DP are for the sole purpose of assisting the Owner and/or the DP in determining that the Work, materials, rate of progress, and quantities comply with the Contract Documents and/or Contractor's requests for payment. These acts or functions shall not relieve the Contractor from performing the Work in full compliance with contract requirements nor relieve the Contractor from any of the quality, compliance and responsibility for the Work assigned to it by the Contract Documents. No inspection by the Owner and/or the DP shall constitute or imply acceptance or waiver of rights.

Nonconforming Work or materials may be rejected and Contractor shall correct such rejected Work without additional compensation, even if the Work or materials have been previously inspected or

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accepted by the Owner and/or the DP or even if the Owner and/or the DP failed to observe the unsuitable Work or materials.

Any Work required to be inspected by the DP and/or the Owner prior to being covered, which is covered up without prior inspection or without prior consent of the DP and/or the Owner, must be uncovered and recovered by the Contractor, if requested by the DP or the Owner, at no cost to Owner, notwithstanding the provisions of the following subsection.

Contractor shall notify the Owner and Design Professional in writing at least two (2) full business days prior to the time at which the Owner or Design Professional must be present to perform an inspection. Failure to provide such notice shall make the Contractor solely responsible for all consequences, including costs, of non-inspection and any required access to the Work. The following chart indicates inspection period resulting from Contractor request:

<u>Contractor Inspection Request</u>	<u>Owner/Design Professional Inspection Period</u>
Monday	Thursday
Tuesday	Friday
Wednesday	Monday
Thursday	Tuesday
Friday	Wednesday

If any portion of the Work is covered over contrary to the request of the DP or Owner or as required by the Contract or the applicable building standards, it must be uncovered for observation at the Contractor's expense if requested by the DP or Owner in writing.

If any portion of the Work, other than those portions required to be inspected by the DP and/or the Owner prior to being covered, has been covered over, the DP or Owner may request that it be uncovered for observation. If such portion is found to be in accordance with the requirements of the Contract Documents, the cost of uncovering it shall be charged to the Owner as a Change Order. If such portion is found not to be in accordance with the requirements of the Contract Documents, the Contractor shall bear such costs.

The Contractor shall promptly remove from the site and replace any material or correct any Work found by the DP or Owner to be defective or failing to conform to the requirements of the Contract, whether or not fabricated, installed or completed, and whether discovered before or after Substantial Completion. The Contractor shall bear all costs of correcting such Work or material, including the cost of necessary additional professional services and the cost of repairing or replacing all work of separate contractors or subcontractors damaged by such removal or correction. The DP shall notify the Contractor and Owner immediately in writing upon its knowledge that additional professional services will be necessary and of the extent and estimated costs of the additional services. The Owner, with the recommendation of the DP, may consent to accept such Work or material with an appropriate adjustment in Contract Price.

If the Contractor does not promptly replace or correct such Work or material, the Owner may replace or correct the Work or material, and charge or deduct the cost of removal and replacement from any monies due to the Contractor, or recover such costs from the Contractor.

If, within two (2) years after the date of Substantial Completion, any of the Work is found to be defective or not in accordance with the requirements of the Contract, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so. If the Contractor does not promptly replace or correct such Work or material, the Owner may replace or correct the Work or material, and charge or

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deduct the cost of removal and replacement from any monies due to the Contractor, or recover such costs from the Contractor. Nothing contained in this section shall be construed to establish a period of limitation with respect to any obligation of the Contractor under the Contract or the law. The obligation of the Contractor under this section shall be in addition to and not in limitation of any obligations imposed by special guaranties or warranties required by the Contract, given by the Contractor, or otherwise recognized or prescribed by law.

If, during the running of a guarantee or warranty period, the Contractor must perform repair work to any portion of the Work, the running of the warranty or guarantee period is tolled from the time the defect or deficiency is discovered through the time when the Contractor successfully completes all repairs and retesting and start-up activities.

A survey of the site will be required to verify that the structure is located in accordance with the approved plans. The inspector shall verify compliance with this requirement on the inspection record card prior to commencement of the work.

If the Contractor fails to correct defective Work as required, or fails to carry out the Work in accordance with the Contract Documents, the Owner by written notice, may order the Contractor to stop the Work or any portion of the Work, until the cause for the order has been eliminated to the satisfaction of the Owner.

The DP may stop Work without written notice for 24 hours whenever in its professional opinion such action is necessary or advisable to ensure conformity with the Contract Documents. The Contractor shall not be entitled to an adjustment in the Contract Price or Contract Time under this subsection. The right of the Owner or the DP to stop the Work shall not give rise to a duty on the part of the Owner or DP to exercise this right for the benefit of the Contractor or others.

Reinspection of uncompleted work to be at the contractors expense via deduct Change Order.

Inspection Record Card

An Inspection Record (FS#15) will be issued at the preconstruction conference.

Work shall not be commenced until the Contractor or Contractor's agent has posted and made available an Inspection Record (FS#15) so as to allow the Owner or designee to conveniently make the required entries thereon regarding inspection of the work. This card shall be preserved and made available by the Contractor or Contractor's agent until final approval has been granted.

Inspection Requests

It shall be the duty of the General Contractor to notify Capital Assets and Services that work is ready for inspection. Such a request may be in writing or by telephone. Contractor shall notify the Owner and Design Professional in writing at least two (2) full business days prior to the time at which the Owner or Design Professional must be present to perform an inspection. Failure to provide such notice shall make the Contractor solely responsible for all consequences, including costs, of non-inspection and any required access to the Work. The following chart indicates inspection period resulting from Contractor request:

<u>Contractor Inspection Request</u>	<u>Owner/Design Professional Inspection Period</u>
Monday	Thursday
Tuesday	Friday

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Wednesday
Thursday
Friday

Monday
Tuesday
Wednesday

Should the University be unable to respond within the 2-business day time period, or wishes to waive the requirement for individual inspections, the Contractor may, after notifying the Project Manager and obtaining approval, proceed with the work involved. This does not relieve the Contractor from the requirement to adhere to all codes.

For the purpose of maintaining complete Inspection Records and to facilitate construction phasing, it may be necessary to divide the construction into distinct areas to be inspected separately.

Inspection Requirements

Work shall not be done beyond the point indicated in each successive inspection without first obtaining approval and sign-off by the appropriate Capital Assets and Services Inspector. The Inspector shall make the requested inspections and shall indicate that the portion of the construction is satisfactory or notify Contractor wherein the same fails to comply with the codes. Any portions which do not comply shall be corrected and such portion shall not be covered or concealed until authorized.

Reinspection of uncompleted work shall be at the contractors expense, via deduct Change Order.

There shall be a Substantial Completion inspection and approval of all buildings and structures when completed and ready for occupancy. The Contractor shall reimburse the Owner, via deductive Change Order, and all reinspection costs, including trip charges, beyond the second inspection for Substantial Completion.

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.

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 inspections listed in form FS#15 shall be passed, and form FS#15 shall be signed off as approved by appropriate inspectors.

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Final Completion Inspection: prior to Final Payment the Contractor shall ensure that all work is completed and inspected, and all required inspections listed in form FS#15 shall be passed.

Insert Project Specific Inspection Log here (FS#15 modified)

*** * * END OF SECTION * * ***

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01066 **Architectural Requirements for Disabled People**

It is the intent and purpose of the Owner that all construction projects conform to requirement standards for disabled people as set forth in the Accessibility Guidelines 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. 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 the time of bid.

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

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

01090 **Reference Standards**

Quality and acceptability of the final constructed project shall be defined by applicable construction industry standards. The following standards shall have the same force and effect and are made part of the Contract Documents by reference, as if copies were bound directly into the contract documents:

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturer's Association
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABPA	Acoustical and Board Products Association
ACI	American Concrete Institute
ACIL	American Council of Independent Laboratories
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGA	American Gas Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects or American Insurance Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
APA	American Plywood Association
ARI	Air Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing Materials
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPB	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association

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BHMA	Builder's Hardware Manufacturer's Association
BIA	Brick Institute of America
CDA	Copper Development Association
CRSI	Concrete Reinforcing Steel Institute
DHI	Door Hardware Institute
EIA	Electronics Industries Association
FAA	Federal Aviation Association
FCC	Federal Communications Commission
FGMA	Flat Glass Marketing Association
FM	Factory Mutual Engineering and Research
HMA	Hardwood Manufacturer's Association
NBS	National Bureau of Standards (US Department of Commerce)
NCMA	National Concrete Masonry Association
NECA	National Electrical Contractor's Association
NEII	National Elevator Industry, Inc.
NEMA	National Electrical Manufacturer's Association
N.F.P.A.	National Forest Products Association
NHLA	National Hardwood Lumber Association
NPA	National Particleboard Association
NSF	National Sanitation Association
NTMA	National Terrazzo and Mosaic Association
NWWDA	National Wood Window and Door Association
PCI	Prestressed Concrete Association
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
RFCI	Resilient Floor Covering Institute
SAMA	Scientific Apparatus Makers Association
SDI	Steel Deck Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
TIMA	Thermal Insulation Manufacturer's Association
UL	Underwriter's Laboratories Inc.
WIC	Woodwork Institute of California
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association
W.W.P.A.	Woven Wire Products Assoc.

*** * * END OF SECTION * * ***

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01100	SPECIAL PROJECT PROCEDURES

This section to include project-specific information, as applicable, provided by the DP.

01120	Alteration Project Procedures
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Hazardous Materials Procedures

Asbestos Abatement

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 Asbestos Program office and are available for review or notification purposes.

To maintain compliance with all applicable state and Federal EPA and OSHA regulations, NAU 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 and any other required asbestos information and guidance may be requested directly by calling the Asbestos Program office at (928)523-6435, or by completing the online asbestos inspection request (<http://www.orc.nau.edu/Asbestos.html>). 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) in the work area 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 oversight must be conducted NAU, or by an approved third party oversight contractor. No additional demolition or renovation activities may proceed in the selected abatement area until appropriate clearance of the work by the oversight contractor and/or NAU. The oversight contractor or NAU 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.

NAU 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 NAU 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 until acceptable levels are achieved, at no additional cost to the University

If required in the project specifications or contract, the construction/demolition contractor may be required to subcontract abatement services. In this case the abatement scope and specifications must be provided, or approved by the NAU Asbestos Program office. Closeout documents shall be provided to both the NAU Project manager, and NAU Asbestos Program office to maintain proper regulatory records of the abatement and disposal of asbestos in the work area.

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	<p>It is the responsibility of the construction or demolition contractor to furnish an accurate work schedule to the University in order to allow for timely abatement and good coordination between vendors. The construction/demolition contractor may be held accountable for additional fees incurred by the university due to improper scheduling or communication on the part of the contractor.</p>
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	<p>In cases which abatement is performed by the renovation/construction contractor, or by a subcontractor retained by the construction contractor, the construction contractor or abatement subcontractor must meet the minimum qualifications and insurance for abatement contractors under the Arizona state purchasing system.</p>
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	<p>Following completion of all abatement activities, the 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 Project Manager and Asbestos Program office.</p>
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	<p>To satisfy its obligations under OSHA, NAU will issue a written notification of the presence of asbestos 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.</p>
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	<p>The contractor shall comply with the provisions of the following regulations:</p>
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	<p style="padding-left: 40px;">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.</p>
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	<p style="padding-left: 40px;">The contractor will be required to notify the State of Arizona Department of Environmental Quality NESHAP office 10 business days before 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 NAU Asbestos Program Manager. A NESHAP notification is also required 10 days prior to commencement of demolition of any building on NAU campus even if no asbestos abatement is required.</p>
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	<p style="padding-left: 40px;">When applicable, or requested by NAU, the contractor shall follow the guidelines and procedures of the Asbestos Hazard Emergency Response Act (AHERA). 40 CFR 763.subpart E, regulating identification and management of asbestos in schools.</p>
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	<p style="padding-left: 40px;">The Contractor shall inform NAU Office of Regulatory Compliance 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.</p>
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	<p>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 Asbestos Program 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.</p>
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Section Number	Title
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	<u>Blasting Policy</u>
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Prior to any use of explosives on the University campus, the appropriate Project Manager with the Capital Assets and Services, Planning and Development Office shall be given 48 hours notice. It is the responsibility of the Project Manager to notify Campus Police and NAU Office of Regulatory Compliance. The Contractor shall submit to the Capital Assets and Services, Planning and Development Office, prior to any blasting, appropriate employee certification for use of explosives.

No explosives will be stored on the campus overnight or 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.

All blasting procedures shall conform to the requirements of the City of Flagstaff blasting policy. Copies of this documents are on file at the Capital Assets and Services, Planning and Development Office and available for review.

01130	Salvaged Materials
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The Owner shall have first right of refusal on all materials and equipment which are salvaged 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 shall be removed from the Project site by the Contractor and disposed of appropriately.

*** * * END OF SECTION * * ***

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Section Number	Title
01200	PROJECT MEETINGS
01210	Preconstruction Conferences A preconstruction conference shall be held for all projects. Notification of the time and date of such conference shall be made to the selected Contractor in the Letter of Intent To Award.
01220	Progress Meetings Progress meetings shall occur on a regular basis (weekly) according to a schedule determined at the pre-construction conference.
01230	Safety Meetings The Contractor shall be held responsible for conducting regular safety meetings.
01240	Preinstallation Meetings The following preinstallation meetings, to be scheduled the same day of the weekly construction meeting, shall be specified when applicable: Concrete formwork and placing Waterproofing Mortar / masonry Flashing Roofing Sealant Vapor Barrier Sprinkler Ductwork Painting

*** * * END OF SECTION * * ***

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01300	SUBMITTALS
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The contractor is required to make submittals for the DP and Project Manager review in a prompt and timely manner. Required submittals are detailed in the individual sections of Divisions 2 through 16.

Submittals shall be per the requirements of Section 8 of the Construction Agreement between Owner and Contractor. Note: 20 day review period per Section 8.8.

01310	Progress Schedules
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The following requirements shall support and amplify the requirements of the Construction Agreement Between Owner and Contractor:

The Contractor shall submit an original or updated schedule which shows the project and/or individual Milestone(s) completing earlier than required by the adjusted contractual completion date(s), the differences between the forecasted early completion and the required completion shall be considered Project-owned float available for use by both the Owner and the Contractor.

No time extensions shall be granted nor delay damages paid unless the delay is clearly demonstrated by the updated Construction Schedule current as of the month the change was issued or the delay occurred and which delay cannot be mitigated, offset, or eliminated through such actions as revising the intended sequence of work or other reasonable means.

The contractor shall submit, for review and approval, to the Owner within 20 days after Notice to Proceed has been issued and prior to the first application for Progress Payment, Contractor's Construction Schedule in computer-generated graphic format. Alternate schedule forms, such as hand-generated bar charts may be accepted at the Project Manager's discretion.

The Schedule shall illustrate the planned, logical progression of construction activities which will result in completion of the project by the Contract Completion Time and shall be reviewed and approved by the Owner prior to initial Progress Payment.

Items of work illustrated in the Contractor's Construction Schedule shall coincide with the Schedule of Values (AIA-A201, Article 9.2.1) to be used in determination of Progress Payment amounts.

Monthly updates of the Contractor's Construction Schedule showing actual amounts of work completed shall be provided by the Contractor with each application for Progress Payment. Contractor and Project Manager will review the updated schedule for accurate reflection of work progress. The Contractor shall also furnish the DP with a Narrative Report corresponding with each monthly update which shall include a description of current and anticipated problem areas, delaying factors and their impact, fragmentary networks (fragnet) of delays, and an explanation of corrective action taken or proposed. If the Project is behind schedule in any month, the Contractor's Narrative Report shall indicate precisely what measures it will take in the next thirty days to put the Work back on 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 Construction Schedule indicating proposed rescheduling of subsequent activities to achieve project completion by the Contract Completion Time or Amended Completion Time.

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Additions to or deletions from the Contract, authorized through Change Orders, **shall be reflected** in the Contractor's Construction Schedule if such changes affect the critical path of project completion.

Owner's Approval of Phasing

The Owner reserves the right to review and approve scheduling or phasing of construction activities which have an impact on University functions or operations. Construction activities of special concerns are:

- Activities which generate an excessive amount of noise, dust or other pollutants.
- Activities which require road detours or closures.
- Activities which will take place in occupied buildings.
- Activities which require or may cause interruption of utility services.
- Activities which require or may cause interruption of building access.
- Activities which could have a life/safety impact.
- Activities which have an impact on scheduling of instructional classes, use of offices, or other University functions.
- Activities which will generate any noise during reading week or finals week.

Contractor shall be aware of the impact of such construction activities and shall advise the Owner when they are indicated by the schedule. The Contractor shall act to lessen or avert impact to University operations through alternative phasing of activities or other measures.

01315	Procurement Schedule and Expediting Reports
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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.

Expediting Reports 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 Procurement Schedule.

Reports shall indicate the Contractor's efforts in this regard.

Claims for extension of Contract Completion. 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.

01320	Progress Reports
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On all projects of one million dollars or more the Contractor shall maintain a written daily log of the jobsite in a format approved by the Project Manager. Copies of such logs shall be provided to the DP, Project Manager and/or Construction Manager (as applicable) at a minimum of weekly. The daily log

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	<p>shall include, but not be limited to, the following and per the Construction Agreement Between Owner and Contractor, Section 21:</p> <ul style="list-style-type: none">A. Weather conditions showing the high and low temperatures during work hours, the amount of precipitation received on the job site, and any other weather conditions which adversely affect Work at the site;B. Soil conditions which adversely affect Work at the site;C. The hours of operation by Contractor and individual Subcontractor personnel;D. The number of Contractor and Subcontractor personnel present and working at the site, by subcontract and trade, and updated schedule activity number.E. The equipment active or idle at the site;F. A description of the Work being performed at the site, by updated schedule activity number.G. Any delays, disruptions or unusual or special occurrences at the site;H. Materials received at job site; andI. A list of all visitors at the site. <p>This log shall cover all personnel working as employees of the Contractor or subcontractors and shall be segregated by craft or trade. Office staff, Project Managers, Superintendents, Foremen and other supervisory or support personnel, and visitors to the site shall be included in this log.</p>
01340	Shop Drawings, Product Data and Samples <p>See Section 8 and Section 9 of the Construction Agreement between Owner and Contractor.</p>
01370	Schedule of Values <p>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, per Section 20.1 of the Construction Agreement between Owner and Contractor, prior to submission of first pay application.</p>
01380	Construction Photographs <p>Projects over One Million Dollars shall require monthly photos, submitted with pay application, and representative of the work for which the Pay Application is for. Photographs shall be 8"x10", 5 (five) different views, as selected by the Owner.</p>
01385	As-Built Drawings <p>As-builts shall be required to be updated monthly as a condition of progress payments. Close-out requirements for as-built drawings are detailed in Section 01720.</p>

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Per Section 8.1 of the Construction Agreement between Owner and Contractor: The Contractor shall maintain at the site, for the use of the Owner and of the DP, one copy of all Drawings, Specifications, bulletins, addenda, Change Orders, field orders, approved Shop Drawings, approved Submittals, supplementary instructions, requests for information, catalog data, manufacturers' operating and maintenance instructions, certificates, warranties, guarantees and other contract related documents and their Modifications, if any, in good order and marked daily by the Contractor to record all approved changes made during construction. These shall be turned over to the DP by the Contractor at the time of during Project Closeout for the purpose of assembling and correlating the material for use by the Owner.

Per Section 10 of the Construction Agreement between Owner and Contractor:

Prior to Substantial Completion, the Contractor shall complete and turn over to the DP a preliminary copy of the As-Built Drawings (Preliminary As-Built Drawings). The Preliminary As-Built Drawings shall consist of a set of drawings which indicate all field changes that were made to adapt to field conditions, changes resulting from contract Change Orders and all buried and concealed installation of piping, conduit and utility services. All buried and concealed items both inside and outside the facility shall be accurately located on the Preliminary As-Built Drawings as to depth and in relationship to not less than two permanent features such as interior or exterior wall faces. The Preliminary As-Built Drawings shall be clean and all changes, corrections and dimensions shall be given in a neat and legible manner in a contrasting color.

For any changes or corrections in the Work which are made subsequent to Substantial Completion, revisions shall be submitted to the DP prior to Final Payment (Final As-Built Drawings).

01390	Submittal Log
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The DP shall generate a submittal log and provide a copy to the Project Manager for review. The submittal log will be provided to the General Contractor within 10 working days after the Notice to Proceed. The DP shall update the submittal log daily and distribute the current log at each weekly meeting. The log shall become a part of the meeting minutes.

**** END OF SECTION ****

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01400	QUALITY CONTROL This section to be provided by DP.
01410	Testing Laboratory Services This section to be provided by DP.
01440	Contractor's Quality Control This section to be provided by DP.

**** END OF SECTION ****

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Section Number	Title
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01500	CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS
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General

This section applies to fencing required around the general confines of the site required to protect campus pedestrian and vehicular traffic from construction activities and to secure the general site area for the contractor. This section also includes consideration of any interruption to normal campus traffic flow (pedestrian or vehicular) that construction activity may temporarily or permanently alter.

Design Standard

NAU will supply to the DP soil bearing and percolation testing information of the staging/construction area (if appropriate) for incorporation on the staging/site demolition plan;

The staging plan shall clearly identify:

All construction and construction staging ramifications of existing pedestrian and vehicular routes, including fire department access routes;

All required traffic signals, temporary walkways, alternative routes of travel, and emergency provisions;

The length, width, elevation(s) and bearing (if appropriate) of the fencing;

Any necessary retention or storm water control measures needed to protect the area for CONTRACTOR material storage, traffic or assembly; and

All site/staging area ingress points, lighting; construction power, water, phone, sanitary facilities, and all proposed construction office trailers and parking areas.

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

01505	Mobilization
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The Contractor shall submit a staging plan within 5 working days after the Notice of Intent to Award, and prior to project start-up.

01506	Utility Staking
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It is the responsibility of the Contractor to make all utility staking requests. To request utility staking for any project the Contractor must call both Bluestake Central at **1-800-STAKE-IT** and **CAPITAL ASSETS AND SERVICES at 523-4227**. All requests are given a log number. It is the Contractor's responsibility to note that number for future reference.

For the complete Bluestake Procedure, Contractor shall refer to <https://www4.nau.edu/cas/Utils/Documents/BlueStakeProcedureAnd%20Campus%20Grid%20Maps.pdf>

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Any call received by 5:00 pm on a given day will generate the Blue Stake request starting the following day at 8:00 am. NAU Blue Stake will clear 48 hours after that time.

Requested On	Clear On
Monday	Thursday
Tuesday	Friday
Wednesday	Monday
Thursday	Tuesday
Friday	Wednesday

*If a Legal Holiday occurs an additional day must be added.

At the time of the request the Contractor shall relay details of the proposed dig including estimated excavation depth and type of work to be accomplished.

Contractors shall mark on the ground, in non-permanent white paint, the limits of the area for which staking has been requested, or submit a site plan clearly identifying the boundary area.

Types of utilities or systems shall be marked with the appropriate colors, with non-permanent paint, as follows:

Utility	Color	No Facility Found
Electric	Red	N/E (or N/APS)
Gas/Oil, Steam, Tunnels, HTHW	Yellow	N/G, N/S
Communications/CATV	Orange	N/TV, N/TEL, N/FO
Water	Blue	N/W
Reclaim Water	Purple	N/RC
Sewer	Green	N/S
Survey Markings (temp)	Pink	
Proposed Excavation	White	

If the locator or trade finds no underground facility within the identified limits of excavation, they will inform the Contractor by telephone or by indicating "NO" as identified above.

After receiving verification of completion of staking the Contractor shall inspect stakes and make acknowledgement of the staking by calling 523-4227. Upon acknowledging the staking **the Contractor becomes responsible for preservation of the stakes or markings. Site restaking will be charged to the contractor for each trade at the NAU rate and credited to NAU via Construction Change Order.**

To avoid re-staking requests the Contractor shall note stake locations on as-builts, take record photos, or take appropriate steps to protect against vandalism or unintentional destruction of said stakes.

Contractor shall be responsible for repair to all utility lines which have been damaged as a result of Contractor's operations and which have been properly staked by the Owner in accordance with this procedure.

Contractor shall notify the Owner by calling 523-4227 of any subsurface utility lines which have not been staked and which may be discovered during the course of operations.

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DO NOT DIG UNTIL STAKING HAS BEEN DONE!

01510 **Temporary Utilities**

Utility Shutdowns

Per Section 22.12 of the Construction Agreement between Owner and Contractor, the Contractor shall prearrange time with the DP whenever it becomes necessary 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. Any existing plumbing, heating, ventilating, air conditioning or electrical disconnections which may affect portions of this construction or building or any other building must be coordinated with the DP to avoid any disruption of operation within the building or construction or other building or utilities. In no case, unless previously approved in writing by the DP, shall utilities be left disconnected at the end of a work day or over a weekend. Any interruption of utilities, 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 workmen responsible for the repair and restoration leave the job.

Temporary Telephone

Temporary telephone service is available through either NAU Telecomm or Qwest. Contractor is responsible for all connection, maintenance, and service fees.

01530 **Barriers and Enclosures**

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 Owner prior to erection. Fence gates shall remain locked when unattended to discourage access by unauthorized persons.

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 is responsible for all repairs required to return to area to original condition after fencing is removed, including, but not limited to, sod, asphalt and concrete repair:

An 8' wide, two section chain-link access gate shall be required in the fence, and the Capital Assets and 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.

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	<u>Temporary Partitions and Enclosures</u>
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Provide temporary partitions and / or enclosures as required for safety, security, thermal and dust protection for new and existing spaces / buildings. Owner approval of partitions and enclosures is required.

	<u>Tree and Plant Protection</u>
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Existing trees and plants designated to remain shall be fenced off outside the drip line. No construction activity shall occur within fenced area. Provide site maintenance and control of erosion, weeds, snow, debris, etc.

	<u>Roofing Protection</u>
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Protect all existing and new roofs from construction traffic, storage, and debris.

01540	Security
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The Contractor shall be responsible for the security of Contractor's own materials and tools.

University storage facilities are very limited and not available for the Contractor's use.

The Contractor shall be responsible for building security when Contractor's activities involve access to or work adjacent to buildings. Construction site and buildings must be locked every night at the end of the work day.

For all work requiring access to occupied student rooms in residence halls, Contractor will provide 1 (one) uniformed professional Security Guard for a maximum of four (4) rooms being accessed. Rooms will be open for work in such a manner that Security Guard has unobstructed visual contact with all four rooms concurrently. Security Guard will remain with workers in visual contact with said rooms at all times rooms are unlocked for worker access. Upon completion of work in each room, Contractor and Security Guard will assure that each room has been locked. Contractor to have guard provide a log, including: areas accessed, date, time, employee names and company, at the end of each work day.

01550	Access Roads and Parking Areas
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Optimum truck routes and access road, including fire department access, to the Project site shall be identified at the pre-construction conference.

All vehicles parking within campus boundaries must display permits. Vehicles without permits will be ticketed by the NAU Police Department. Vehicles parked within the fenced staging / storage area, identified on the Construction Documents, do not require parking permits. The General Contractor will be required to purchase parking permits for all vehicles to be parked within the campus boundaries. NAU Parking Services will attempt to meet requests for specific parking areas, however, due to availability; alternative parking areas may be assigned. Storage / Staging areas will be charged at a cost of \$25/space/week (or the current rate, check with Parking Services, prior to bidding) and must be purchased through NAU Parking Services, located in the Centennial Building (Building #91).

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Storage / Staging Areas must be maintained in the condition they were in prior to occupation by the Contractor. Patch, repair or replace any and all damaged areas upon completion of the work. The area must receive final inspection and approval by the Project Manager prior to final payment.

All persons driving or parking on the NAU campus are subject to NAU parking regulations. Brochures detailing these regulations are available from Parking Services.

01560 **Temporary Controls**

Construction Activity Time Limitations

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

Project work adjacent to or within Residence Halls shall be more strictly limited to the hours of 9:00 a.m. until 6:00 p.m.

Construction 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.

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 University trash container by the General Contractor or any Subcontractor is expressly forbidden. Contractor shall be responsible for costs incurred by the Owner for the removal of trash placed in University trash containers.

If the General 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 ten (10) 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 General Contractor, via deduct Change Order.

Dust Control

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.

Pollution Control

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 Regulatory Compliance may inspect for compliance without notice.

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01565** **Title
Safety**

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. This person shall be the Contractor's Superintendent unless otherwise designated in writing by the Contractor and shall be acceptable to the Owner.

The Contractor's Safety Officer shall attend the Preconstruction Conference and shall be designated as such to the Owner.

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

All workmen employed by the General 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).

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.

01570 **Traffic Control**

All traffic control shall be coordinated with the Capital Assets and Services Project Manager, and shall be approved by: NAU Parking Services, NAU Police Department, NAU Office of Regulatory Compliance and City of Flagstaff Fire Department.

All proposed traffic control plans or modifications shall be submitted to the Capital Assets and Services Project Manager five (5) working days prior to the change and receive approval, as stated above.

01580 **Project Identification and Signs**

Free-standing or hanging signs for General Contractors, Sub-contractors or suppliers are not allowed on University property.

Construction signage will be limited to Arizona Board of Regents approved projects (projects in excess of \$1 million). On projects qualifying for signage, such signage will be limited to one sign identifying the project and the participants including the general contracting firm, and will be provided and installed by the University.

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Room Numbering

The office of Space Planning in Capital Assets and Services will be responsible for the numbering of all spaces created by new construction, building renewal projects, upgrades, or minor renovations. Renumbering of existing spaces must first be approved by the office of Space Planning. Renovation projects will maintain the same number sequence that currently exists within the building.

Numbering Sequence:

All spaces shall be numbered, and consist of three primary digits. The first digit will identify the floor level. The first floor is always level 1, regardless if it is below, at, or above ground level. Spaces in basements, regardless of use will be numbered beginning with 0. The second and third digits will be used to identify rooms on a floor level, i.e. 101, 102, etc.

An alpha character denoting direction, after the room number, will be used to identify wings, or buildings with a cluster, 101N, 101S, etc.

From the main floor access (elevator or lobby) the numbers will be assigned sequentially in a clockwise method from left to right. The lobby entrance, or area nearest the elevator (point of entry) will be 100. Corridors will be identified by same number as the lobby entrance, with a suffix indicating the direction in which it runs, i.e. 100W (west), 100E (east). Even numbers will be on the right hand side of the corridor and odd numbers on the left side. Both sides of a corridor are addressed as a unit, and not each side individually.

If bathrooms and mechanical spaces are located in similar areas on repeating floors, they will share common room numbers, 103, 203, 303, etc.

Rooms within rooms will be designated by a suffix A, B, C or 301A, 301B, 301C and be numbered in a clockwise fashion from left to right. Addition rooms will be numbered as 301A1, 301A2, etc. in a clockwise fashion from left to right. Rooms opening into the corridor will not be assigned an alpha character suffix.

A mechanical room located on the roof of the building will be designated by the next floor number, not as a "penthouse".

Mezzanines will be assigned an alpha character as follows: Mezzanine off the second floor room 201: 2M201.

Building Service rooms will be numbered with an suffix appropriate to the use: M (Mechanical), E (Electrical), S (Building Services), R (Restroom).

***** END OF SECTION *****

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01600	MATERIAL AND EQUIPMENT
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01650	Starting of Systems / Commissioning/Testing, Adjusting, and Balancing of Systems
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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.

Additional information to be provided by Design Professional.

****END OF SECTION*****

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Section Number	Title
01700	CONTRACT CLOSEOUT

Prior to final payment and release of the monies held as retainage the Contractor shall provide to the Owner all required forms and certificates (See Section 00050), specialty items, Guarantees, Warranties, As-Built drawings, Record Construction Documentation, keys (tagged), Test and Balance Report, Maintenance and Operation Manuals, preventive maintenance schedules and extra stock materials. This shall include unconditional lien releases from all subcontractors or if lien releases are not obtainable, an indemnity bond. The Contractor shall request from the Owner or the Owner's representative a complete list of such above mentioned forms one month prior to Substantial Completion.

01710	Final Cleaning
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Provide final cleaning of the Work prior to Owner occupancy. Final cleaning shall mean cleaning each surface or unit of work to conditions expected in a first-class building and maintenance program. Comply with manufacturer's instructions for cleaning operations. Cleaning shall include but not be limited to all of the following as applicable:

- o 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.
- o Remove marks, stains, fingerprints, other soil and dirt from painted, decorated or stained work.
- o Clean polish and/or wax woodwork as preferred by Owner.
- o 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.
- o Wipe clean all mechanical and electrical equipment, remove excess lubrication and other substances.
- o Clean exposed interior and exterior surface finishes to condition free of dirt, dust, stains, films or other noticeable distracting substance.
- o Clean exterior and interior metal surfaces, including doors and windows, of oil, stains, dust, dirt, paint and the like.
- o Clean and polish all hard floors, remove dirt, material or water stains, scratches etc.; clean and vacuum all carpeted areas.
- o Clean plumbing fixtures to polished, sanitary condition free of stains including those resulting from water exposure.
- o 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. Final inspection of storage / staging areas used during construction is required prior to final payment.

Further information under this section to be provided by the DP.

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Project Record Documents**

Per Section 8.1 of the Construction Agreement between Owner and Contractor, the Contractor shall maintain at the site, for the use of the Owner and of the DP, one copy of all Drawings, Specifications, bulletins, addenda, Change Orders, field orders, approved Shop Drawings, approved Submittals, supplementary instructions, requests for information, catalog data, manufacturers' operating and maintenance instructions, certificates, warranties, guarantees and other contract related documents and their Modifications, if any, in good order and marked daily by the Contractor to clearly show and record all approved changes made during construction. These shall be turned over to the DP by the Contractor during Project Closeout for the purpose of assembling and correlating the material for use by the Owner.

Per Section 10 of the Construction Agreement between Owner and Contractor: Prior to Substantial Completion, the Contractor shall complete and turn over to the DP a preliminary copy of the As-Built Drawings (Preliminary As-Built Drawings). The Preliminary As-Built Drawings shall consist of a set of drawings which indicate all field changes that were made to adapt to field conditions, changes resulting from contract Change Orders and all buried and concealed installation of piping, conduit and utility services. All buried and concealed items both inside and outside the facility shall be accurately located on the Preliminary As-Built Drawings as to depth and in relationship to not less than two permanent features such as interior or exterior wall faces. The Preliminary As-Built Drawings shall be clean and all changes, corrections and dimensions shall be given in a neat and legible manner in a contrasting color.

Contractor shall maintain a set of As-Built Drawings at the job site. These shall be kept legible and current and shall be available for inspection at all times by the DP. Show all changes in the Contract work, or work added, on these Record Drawings in a contrasting color. All Addenda, ASI's, RFI's, Construction Change Directives and applicable executed Change Orders shall be noted on the record as-built set of drawings.

In showing changes in the work, or added work, use the same legends as were used on the Contract Drawings. Indicate exact locations by dimensions and exact routing of all piping, duct work, power and control wiring, etc., location and function of all controls and whether manual or automatic and normal amperage readings for all motors taken at the equipment under normal load conditions.

The contractor shall submit separate Fire Marshall approved drawings for fire sprinkler and fire alarm systems at Substantial Completion.

DP shall review the Preliminary As-Built and he shall be the sole judge of the acceptability of these drawings.

Upon Substantial Completion of the project work, submit Preliminary As-Built to the DP for review. Upon receipt of notice of review of the Preliminary As-Built, deliver them together with five (5) sets of prints, to the DP.

For any changes or corrections in the Work which are made subsequent to Substantial Completion, revisions shall be submitted to the DP prior to Final Payment (Final As-Built Drawings).

01730 Operating and Maintenance Data

Upon completion of the installation of all work specified under Divisions 11, 12, 13, 14, 15, and 16, and prior to Final Completion, furnish three (3) complete bound copies of operating and maintenance instructions and parts lists for all material and equipment, including electrical and control items, being

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supplied. **Operation and maintenance manuals for all specified equipment and systems shall be provided as part of the contractor's base bid.**

Operating instructions shall include complete operating sequence, control diagrams, description of method of 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.

Assemble Maintenance Manual and Operating Instructions in hard-back 3-ring loose leaf binders. Suitably label and index all material contained therein for ready reference.

Upon Final Completion of the Project work, submit three (3) copies of the Maintenance Manual and Operating Instructions to the DP for review. Upon receipt of notice of review deliver the additional copies to the DP.

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

01740	Guarantees and Warranties
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DP to provide project-specific information on guarantee submittals.

Warranty shall commence on the date of Substantial Completion and remain in effect for two years. The General Contractor shall provide 24-hour response to all critical building systems, i.e., loss of heating, cooling and control systems. If applicable, the General Contractor shall provide at Substantial Completion, service agreements between service companies and the University for all critical areas. The service agreement shall include 24-hour phone numbers and contact persons' names the University may use in case of emergency. The Emergency Service Agreement shall remain in effect for the two-year warranty period. The General Contractor shall provide a contact person's name and phone number for Contractor's bonding company for use if the University experiences problems during the warranty.

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

01750	Spare Parts and Maintenance Materials
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DP to provide project-specific information on guarantee submittals.

*** * END OF SECTION * * ***

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01800 **MAINTENANCE**

Information under this section to be provided by the DP.

*****END OF SECTION*****