

Addendum #01 for RFB #947300-01

Project Name: DAS CC Hoover Print Shop Expansion

DAS RFB #: 947300-01

DAS Project: 9473.00

Date: May 14, 2026

Addendum #01:

This addendum is issued to modify, clarify, or amend the original Project Drawings and Specifications and is hereby made part of the Contract Documents. The Contractor shall be responsible for incorporating items in this Addendum to the Work. The following shall take precedence over anything to the contrary in the Drawings or Specifications. **This addendum shall also supersede any previous addenda.**

The receipt of this Addendum shall be acknowledged by inserting its number and date in the space provided on the Bid Form.

This Addendum consists of:

General Items:

1. Addendum Pages (4 Pages)
2. Meeting Minutes from Prebid Meeting held on May 08, 2026 (14 Pages)
3. Prebid Sign in Sheet (1 Page)
4. Revised 00 0110 – Table of Contents (3 Pages)
5. Revised 00 4116 – Bid Form (5 Pages)
6. Revised 01 1200 – Contract Summary (11 Pages)
7. Revised 22 1513 – General-Service Compressed-Air Piping (4 Pages)
8. Added 23 0719 – HVAC Piping and Insulation (8 Pages)
9. Added 23 2113 – Hydronic Piping (6 Pages)

Changes to Specifications

1. Section 00 0110 – Table of Contents
 - a. Delete Section 1.04 Division 03 – Concrete
 - b. Revise Section 1.05 to read: DIVISIONS 03 THRU 05 (NOT USED)
 - c. Delete Section 1.06 – Division 05 - Metals
 - d. Section 1.09
 - i. Add Line D. 08 8000 Glazing
 - e. Revise Section 1.015, A to read: Sleeves and Sleeve Seals for Fire-Suppression Piping
 - f. Add Section 1.017, J – 23 0719 HVAC Piping Insulation
 - g. Add Section 1.017, K – 23 2113 Hydronic Piping
 - h. Revised Section 1.019, F to read: 26 0533.16
2. Section 00 4116 – Bid Form, ALTERNATES
 - a. Revised ALT 01 Description to read: CRAC Unit Replacement (**Mechanical / Plumbing**)
 - b. **Add ALT 02: CRAC Unit Replacement (Electrical)**
3. Section 01 1200 – Contract Summary
 - a. Section 1.09 Bid Package Instructions

- i. Revise Line E to read: Alternate #01 – CRAC Unit Replacement (**Mechanical / Plumbing**)
 - ii. **Add Line H to read: Alternate #02 – CRAC Unit Replacement (Electrical):**
Trade Contractor shall include all the following, but not limited to, as part of the contract:
 - 1) Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 2) 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.
 - 3) Execute accepted alternates under the same conditions as other work of the Contract.
 - 4) This Contractor is responsible for the complete electrical scope as it relates to the CRAC Unit replacement.
4. 22 1513 – General-Service Compressed-Air Piping
 - a. Replace the specification in its entirety.
 5. 23 0719 – HVAC Piping and Insulation
 - a. Add specification to the documents.
 6. 23 2113 – Hydronic Piping
 - a. Add specification to the documents.

Questions and Answers:

Q1. Will the existing cat 6 cabling be demoed by the owner's Low-Voltage Contractor back to the rack?

A1. Bid Package #02 will be responsible for all low-voltage demolition as outlined in Contract Summary Section 1.09.B.3.a. The Owner's low-voltage contractor will be responsible for all termination, testing, and labeling of low-voltage cabling.

Q2. Will the shutdown for transformer XFR ATP to tie-in the new 200A disconnect need to take place after hours or on the weekend?

A2. Any downtime impacting the occupied Print Shop space will need to be coordinated during the Print Shop's scheduled downtime between Saturday at 12:30 a.m. and Monday at 12:00 a.m.

Q3. 2.2.C.2 lists the size needed as 30"x30". The reflected ceiling plan shows the ceiling tile as 24"x24". Can you confirm the size needed for the ACT?

A3. 24"x24" is intended. See updated spec in addendum.

Q4. 2.3.B specifies that steel grid with a steel cap is needed, which is USG DX grid. 2.3.B.5.a specifies USG ZXLA, which is a zinc-coated aluminum-capped grid. This item comes at a higher price point and is usually seen in laboratories, parking garages, and high-humidity environments. Can you confirm what type of suspension system is needed?

A4. Steel grid is intended for this project. See updated spec in addendum.

Q5. Referring to spec section 22 15 13 Compressed Air Piping: The schedule calls out Type L CU as material, the specs only call out Transair Aluminum pipe. Please advise what is acceptable?

A5. Compressed Air piping needs to be copper as called on the piping schedule on the drawings. The spec section will be updated accordingly.

Q6. There is no call out on PD1.00 referring to the scope of ALT#1.

A6. This will be added via addendum.

Q7. There is no specification in the manual for HVAC piping or HVAC piping insulation. There is a schedule on M3.1 that references the specifications for additional information. Is this going to be provided in an addendum?

A7. This specification section will be added via addendum.

Q8. Is there going to be any additional structural steel required to support the CRAC units? If not, typically would hang a unit of this size with Qty. 4 ½" beam clamps or ½" drop1in anchors, ½" all thread and 1 5/8" galvanized Unistrut.

A8. No, please support CRAC units per MFR recommendations.

Q9. Is the electrical contractor supplying the door access system components?

A9. The State will contract directly with Basepoint for the access control system and (ICN) low-voltage wiring. The electrical contractor will be responsible for providing all required pathways and rough-ins.

Q10. What is the MEP budget and overall construction budget?

A10. MEP Budget estimate is \$371,300.00 (including CRAC replacement alternate). Overall construction budget estimate is \$1,167,139.68.

RFB Pre-Bid Minutes: Meeting #1

Meeting Date	May 8, 2026	Meeting Time	12:00 am - 12:00 am Central Time (US & Canada)
Meeting Location			
Overview	Meeting to allow prospective bidders to visit the site, when possible, and learn more about the project.		
Notes			
Attachments	RFB 947300-01 - Prebid Sign in Sheet.pdf		

Scheduled Attendees

Name	Company	Phone Number	Email	Attendance
Stella Sussex			stella.sussex@iowa.gov	Present
Ryan West			ryan.west@iow.gov	Present
Jarrad Boever	DCI Group	P: (515) 244-5043	jarradb@dcigroup-us.com	Present
Sam Escherich	DCI Group	P: (515) 244-5043	same@dcigroup-us.com	Absent
Kurt Fisher	DCI Group	P: (515) 244-5043	kurtf@dcigroup-us.com	Present
Scott Gustafson	DCI Group	P: (515) 244-5043	scottg@dcigroup-us.com	Present
Brandon Halsey	DCI Group	P: (515) 244-5043	brandonh@dcigroup-us.com	Present
Sarah Huston	Farnsworth Group Inc	P: (515) 225-3469	shuston@f-w.com	Absent
Chad Bass	KCL Engineering	P: (515) 724-7938	cbass@kclengineering.com	Present
Eric Heynen	KCL Engineering	P: (515) 724-7938	eheyne@kclengineering.com	Present
Brandon Adams	State of Iowa - Department of Administrative Services		brandon.adams@das.iowa.gov	Absent
Oliver Shimp	State of Iowa - Department of Administrative Services		oliver.shimp@das.iowa.gov	Present

Introduction

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
1.1	1	Introductions				Open
Description Department of Administrative Services (DAS) - Oliver Shimp - Owners Rep. - Brandon Adams - Owners Rep. - Barb Bendon - Bureau Chief, Space Management & Leasing Construction Manager - DCI Group						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
		• Scott Gustafson - Senior Project Manager • Jarrad Boever - Project Manager • Brandon Halsey - Superintendent • Sam Escherich - Superintendent Designer - Farnsworth Group / KCL Engineering • Sarah Huston - Farnsworth Group • Chad Bass - KCL • Eric Heynen - KCL Facility • Ryan West - Chief Operating Officer • Stella Sussex - Public Safety Manger				
		Official Documented Meeting Minutes See attached sign in sheet.				

Project Overview

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
2.1	1	Project Description				Open
		Description 1. Bid Package #01 – General Construction: Trade Contractor shall include all the following, but not limited to, as part of the contract: 1. Includes specification: 1. Division 00 – Procurement and Contracting Requirements 2. Division 01 – General Requirements 3. 02 4100 – Demolition 4. 03 3511 – Concrete Floor Finishes 5. 05 5000 – Metal Fabrication 6. 06 1000 – Rough Carpentry 7. 06 4100 – Architectural Wood Casework 8. 06 8316 – Fiberglass Reinforced Paneling 9. 07 9200 – Joint Sealants 10. 08 1113 – Hollow Metal Doors and Frames 11. 08 1416 – Flush Wood Doors 12. 08 7100 – Door Hardware 13. 09 2116 – Gypsum Board Assemblies 14. 09 5100 – Acoustical Ceilings 15. 09 6700 – Fluid-Applied Flooring 16. 09 6813 – Tile Carpeting 17. 09 9123 – Interior Painting 18. 10 2600 – Wall and Door Protection 19. 10 4400 – Fire Protection Specialties 20. 12 3600 – Countertops 2. General 1. Contractor is responsible for installation of all owner provided appliances as noted in the drawings. Contractor shall verify dimensions prior to final millwork construction. 2. Contractor is responsible for all temporary walls, partitions, barriers required to complete construction.				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
			- Contractor is responsible for protecting any existing finishes, equipment, fixtures, etc. to remain in place during demo and construction. - Contractor is responsible for signage as needed to maintain life safety while temporary partitions are in place. - Contractor shall be responsible for providing and installing all wall protections to include but not limited to fiber reinforced panels and corner guards. - Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require. 3. Demolition - Contractor shall, in cooperation with the Construction Manager, fully inspect and record existing conditions of existing construction to remain BEFORE demolition or removal begins. Documentation of existing conditions shall be submitted to the construction manager prior to the start of work. Any damage not previously identified and recorded will be replaced and/or repaired by this contractor at this contractor's expense. - Prior to the start of demolition, this bid package shall coordinate a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition. - Prior to start of demolition the contractor shall ensure the stability of all walls to remain. - Contractor shall coordinate with other Bid Package Contractors prior to the start of demolition to ensure salvaged items have been removed and area has been de-energized. - Contractor shall be responsible for providing dumpster service for all bid packages. - Contractor is responsible for complete demolition scope per the contract documents including, but not limited to: walls, ceiling (gyp board, ACT, metal), doors/frames, frames, flooring (including adhesives & grouting beds), base, countertops, casework, fire extinguisher cabinet, chair rails, ceilings (including hangers and supports), operable partition, corner guards and furniture walls. This shall include adjacent items, accessories, and apparatuses as necessary. The following will be removed by others: - Bid Package #02: Electrical - lighting, outlets, wiring, tombstones, doghouses, floor tray penetration caps. - Bid Package #02: Low-Voltage - outlets, wiring, tombstones, doghouses, lighting controls, access controls, and control wiring - Bid Package #03: Mechanical - duct, dampers, actuators, grilles, diffusers - Bid Package #03: Controls - thermostats and control wiring. - Contractor to coordinate with CM/State on salvaging the following items to be turned over to the owner: ceiling tiles / lighting fixtures, door(s), door hardware, refrigerator, air compressor(s), 4. Wall Framing and Finishes - Contractor shall be responsible for all new framing, insulation, drywall, and finishing. This includes above ceiling supports where necessary to adequately support walls that do not extend to the deck. The contractor shall install control joints in new walls at door frames on both sides. - Provide in wall blocking at all walls for all cabinets, shelving, and owner supplied Verify locations with the construction manager prior to install. Blocking in existing walls shall include drywall removal and patching. - Contractor shall be responsible for all miscellaneous drywall repairs / patching. - Contractor shall anticipate patching where vinyl base has been removed to provide a smooth and consistent wall finish. 5. Casework - Contractor shall be responsible for the procurement and installation of all new casework and countertops. 6. Doors and Hardware - Contractor is responsible for the complete door, frame and hardware scope. - Contractor shall be responsible for providing and installing all door This shall include, but not be limited to, door stops, astragals, silencers, closers, door position switches, kickplates, request to exit sensors and door mounted coat hooks.			

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
			- Contractor shall provide and install temporary frame spreaders. This Contractor will be responsible for anchoring wall framing to the hollow metal frames and verifying hollow metal frames remain plumb, level, and square after drywall is installed and before doors are installed. - Contractor shall be responsible for painting all door frames to include existing and new. - Contractor shall be responsible for providing glazing for all doors. 7. Painting and Joint Sealants - Contractor is responsible for the complete painting scope of work per the contract This shall include, but not be limited to, painting of drywall, door frames, paintable sealants, cut edges of acoustical ceiling tiles and casework reveals. - Contractor is responsible for all sealant at transitions between a painted surface and dissimilar material. This shall include, but not be limited to, door and window frames, casework, countertops, access panels, and fire extinguisher cabinets. - Provide all touch-ups of minor damage or marred surfaces. - Contractor shall anticipate multiple mobilizations into spaces to prime coat, 1st coat, and final coat walls and ceilings. The final coat shall not be applied until prior written approval by the Construction Manager. - Contractor is to protect adjacent surfaces from one's work. This Contractor will be responsible for removing and cleaning any unintentional paint, stain, and finish from adjacent surfaces. This includes concrete floors. 8. Ceilings - Contractor shall be responsible for the installation of all ceilings, including acoustical ceilings, drywall lids, bulkheads, and soffits. - Contractor shall be responsible for the ceiling modifications to the existing ceilings to accommodate new construction. This shall include selective demolition and patching of the grid and new ceiling tiles to match existing in the area of work. - Provide all fasteners, trim pieces, and grid wires as required to complete this scope of work including support of light fixtures. - Perimeter grid to be tight to wall; if a gap exists, it is the responsibility of this Contractor to fill the gap, so as to be aesthetically pleasing. - Minimize laps in the grid and place in discrete locations on main runners. - Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install. 9. Flooring - Contractor is responsible for the complete flooring / base scope of work per the contract - All floor preparation shall be the responsibility of this contractor. This shall include, but not be limited to, existing mastic removal / preparation, cleaning and sweeping, substrate testing, filling small voids and cracks, and minor gridding or filling to achieve floor flatness. 1. Bid Package #02 – Electrical, Low Voltage, and Fire Alarm: Trade Contractor shall include all the following, but not limited to, as part of the contract: - Includes specification: - Division 00 – Procurement and Contracting Requirements - Division 01 – General Requirements 26 0500 – Common Work Results for Electrical 26 0519 – Low-Voltage Electrical Power Conductors and Cables 26 0526 – Grounding and Bonding for Electrical Systems 26 0529 – Hangers and Supports for Electrical Systems 26 0533.13 – Conduit for Electrical Systems 26 0433.16 – Boxes for Electrical Systems 26 0553 – Identification for Electrical Systems 26 0923 – Lighting Control Devices 26 2416 – Panelboards 26 2726 – Wiring Devices			

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
		13. 26 2813 – Fuses 14. 26 2816.16 – Enclosed Switches 15. 26 5100 – Interior Lighting 16. 27 0000 – General Requirements for Communications Systems 17. 27 0528 – Pathways for Communications Systems 18. 27 0544 – Sleeves and Sleeve Seals for Communications Pathways and Cabling 19. 280000 – General Requirements for Electronic Safety & Security Systems 20. 284600 – Digital, Addressable Fire Alarm System				
		2. General 1. Prior to the start of demolition, this bid package shall participate in a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition. 2. Contractor is responsible for all temporary electrical needs required for the phasing of this project, to include but not limited to, running temp power to equipment. 3. This contractor shall be responsible for OSHA compliant lighting levels in all areas of work. Existing light fixtures may be utilized for construction lighting. 4. Contractor shall be responsible for all core drilling required for this scope of Core drill locations shall be submitted to Architect/Engineer for approval prior to proceeding with work. This shall include exact dimensional locations as well as sizes. 5. Contractor shall coordinate with the construction manager and furniture provider on the layout of furniture and floor boxes to confirm locations prior to install. 6. Contractor to swap out all smoke heads (save for reinstall) to heat heads during construction in the affected areas. This shall include coordination with fire alarm monitoring company, DCI and owner. The contractor shall provide personnel for fire alarm panel monitoring while system is in bypass. The personnel monitoring panel will need to undergo up to 30 minutes of training with DAS personnel. The contractor will also be responsible for the reinstallation of the smoke heads at the end of the project. Heat heads to be turned over to the owner. 7. Contractor shall install owner provided steel caps over abandoned electrical and low voltage floor 8. Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require. 9. Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install. 3. Demolition 1. Contractor is responsible for complete disconnect and removal of all electrical, data and fire alarm systems/equipment called to be salvaged, removed or abandoned. 2. It shall be the responsibility of this contractor to disconnect and make safe all electrical and low voltage that may be impacted by demolition activities. Utilities that must remain in place to serve systems to remain, required for construction, or required for life safety shall be clearly marked and reviewed with the demolition contractor prior to the start of demolition activities. Notify the Construction Manager when areas are ready so the demolition crews can begin. 3. Contractor shall be responsible for the removal, salvage, and turnover to the Owner, or for reinstallation, of electrical and low voltage items as identified on the project drawings. This shall include, but not be limited to: ▪ Existing tombstones ▪ Compressor ▪ Controls ▪ Cameras 4. Electrical 1. Contractor is responsible for all electrical, data and life safety scope including, but not limited to, new electrical, grounding, light fixtures, switches, GFCI, J-hooks, switches, sensors, panels, breakers, receptacles, fire alarm devices, conduits, boxes, emergency lighting, exit signs, FM200 devices and connections. 2. Contractor shall be aware that any shutdowns to systems that will affect occupied spaces may need to be conducted during non-business hours. No additional compensation will be considered for this off-hours work.				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status	
			3. This contractor shall be responsible for obtaining an electrical permit for work performed by this bid package. Copies of permit requests, inspections reports, and closed permits shall be provided to the Construction Manager. 4. At the start of construction, this contractor shall review all panel locations to verify room for installation and code required clearances. Any discrepancies shall be brought the construction manager and designer immediately. 5. Contractor shall be responsible for providing pathways, circuiting, and power connections to all mechanical and electrical equipment. This contractor shall coordinate with the trades providing the equipment and with the approved 6. Contractor will be responsible for lighting and lighting controls. 7. Contractor is responsible for the installation of Owner provided furniture Coordinate locations and requirements with Owner. 8. This contractor shall provide and install power to all mechanical equipment 9. Contractor shall provide an updated and typed panel schedule installed in each electrical panel at the end of the project. 5. Low Voltage 1. Contractor shall be responsible for all in wall and above ceiling low voltage and technology rough-ins including but not limited to boxes, sleeves and conduits stubbed above ceilings. This shall include rough-ins for owner-provided access controls. Cabling will be by Owner provided vendor (ICN). 2. Contractor shall be responsible for making connections to electrified door hardware provided by bid package #01. 3. Contractor shall be responsible for reinstallation of existing public address system. 4. Termination, testing and labeling of low voltage will be completed by an Owner provided vendor (ICN). Contractor will be responsible for coordinating with owner, construction manager and ICN. 6. Audio & Visual 1. Contractor shall be responsible for pathways, junction boxes, and back boxes for all audio and visual technologies. Audio equipment, visual equipment and cabling will be by Owner provided vendor (ICN). 1. Bid Package #03 – Mechanical and Plumbing: Trade Contractor shall include all the following, but not limited to, as part of the contract: 1. Includes specification: 1. Division 00 – Procurement and Contracting Requirements 2. Division 01 – General Requirements 3. 22 0517 – Sleeves and Sleeve Seals for Plumbing Piping 4. 22 0518 – Escutcheons for Plumbing Piping 5. 22 0523 – Valves for Plumbing Piping 6. 22 0529 – Hangars and Supports for Plumbing Piping and Equipment 7. 22 0553 – Identification for Plumbing Piping and Equipment 8. 22 0719 – Plumbing Piping Insulation 9. 22 1116 – Domestic Water Piping 10. 22 1513 – General-Service Compressed-Air Piping 11. 23 0513 – Common Motor Requirements for HVAC Equipment 12. 23 0553 – Identification for HVAC Piping and Equipment 13. 23 0593 – Testing, Adjusting, and Balancing for HVAC 14. 23 0713 – Duct Insulation 15. 23 3113 – Metal Ducts 16. 23 3300 – Air Duct Accessories 17. 23 3346 – Flexible Ducts 18. 23 3713 – Air Outlets and Inlets 19. 23 8123 – Small Capacity Computer-Room Air-Conditioners 2. General				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
			1. Prior to the start of demolition, this bid package shall participate in a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition. 2. Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require. This shall include penetrations that remain from the demolition 3. All piping and duct to be installed as high above ceiling as possible. Access to all equipment must be maintained to allow for routine maintenance – i.e. access hatches and replacement of filters must be maintained with as little interference as 4. Contractor shall be responsible for all core drilling required for this scope of Core drill locations shall be submitted to Architect/Engineer for approval prior to proceeding with work. This shall include exact dimensional locations as well as sizes. 5. Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install. 3. Demolition 1. Contractor is responsible for complete disconnect and removal of all mechanical and plumbing systems called to be salvaged, removed or abandoned. 2. It shall be the responsibility of this contractor to disconnect and make safe all mechanical and plumbing that may be impacted by demolition activities. Existing plumbing shall be drained of water prior to the start of demolition activities excluding utilities that must remain active to maintain existing systems to remain active or for life safety. 3. All plumbing shall be capped either permanently or temporarily until ready for new 4. Utilities that must remain in place to serve systems to remain, required for construction, or required for life safety shall be clearly marked and reviewed with the demolition contractor prior to the start of demolition activities. 5. Contractor shall seal any duct openings that are created during the removal of existing ductwork. 6. All utilities to be abandoned in place shall be clearly marked on contractor's as- built documentation to be turned over at the end of the project. 7. Contractor shall ensure sufficient systems remain in place to provide temporary cooling, heating, and dehumidification to all spaces. Any controls reprogramming required for temporary measures shall be included. Any openings, existing or created by construction that could result in dust infiltration into the mechanical systems shall be sealed or covered with construction filters. Construction filters shall be replaced at a minimum weekly or as needed. 8. Contractor shall salvage equipment for reinstallation or to be turned over to the owner as noted in the construction documents . This shall include, but not be limited to: ▪ Grilles ▪ Diffusers ▪ Controllers ▪ Valves ▪ Actuators ▪ Damper Actuators ▪ Thermostats 9. Contractor shall be responsible for any demolition required to complete this bid packages scope to include demolition and reinstallation of ceilings that are to remain. This will include the reinstallation and finishing of these areas back to their original condition. 4. Mechanical 1. Contractor is responsible for the complete mechanical scope of work on this 2. This Contractor is responsible for all connections to existing ductwork. 3. Contractor shall coordinate installation of ceiling diffusers with Bid Package #1. 4. This contractor shall be responsible for all mechanical insulation including repair of insulation damaged during removals. 5. This contractor shall be responsible for all testing and balancing. 6. In all systems that require filters, this contractor shall provide and install new filters at substantial completion. 5. Plumbing 1. Contractor is responsible for the complete plumbing scope of work to include but not limited to water, sewer, gas, condensate and compressed air. Fire sprinkler scope is excluded from this package.			

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
			- Contractor shall be responsible for all plumbing insulation including repair of insulation damaged during removals. - Contractor shall be responsible for providing all necessary components for a complete functioning system. - All pipes shall be clearly labeled to identify their use. 6. HVAC Controls - This bid package will be responsible for the entirety of the HVAC controls for the building automation system connection. This shall include but not limited to: All wiring, control components, devices, conduit runs, thermostats, transmitters, actuators, dampers, and programming shall be provided by this contractor. - Contractor shall provide thermostats for automatic control of equipment as required by the control drawings 1. Bid Package #04 – Fire Sprinkler: Trade Contractor shall include all the following, but not limited to, as part of the contract: - Includes specification: - Division 00 – Procurement and Contracting Requirements - Division 01 – General Requirements 21 0517 – Sleeves and Sleeve Seals for Plumbing Piping 21 0518 – Escutcheons for Fire-Suppression Piping 21 0553 – Identification for Fire Suppression Piping and Equipment 21 1313 – Wet-Pipe Sprinkler Systems 21 2200 – Clean-Agent Fire-Extinguishing Systems General - Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require. - Shutdowns of systems shall be coordinated with the Construction Manager seven (7) business days in advance of work. - Prior to the start of demolition, this bid package shall participate in a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition. - Contractor is responsible for complete disconnect and removal of all fire sprinkler / clean agent (FM200) systems called to be salvaged, removed or abandoned. - This shall include coordination with fire alarm monitoring company, DCI, and owner for tag out of the fire alarm system anytime modifications are taking place. The contractor shall provide personnel for fire alarm panel monitoring while system is in bypass. The personnel monitoring panel will need to undergo up to 30 minutes of training with DAS personnel. If the fire detection systems will be disabled, the contractor shall also provide sufficient personnel dedicated to fire watch only in the areas disabled and maintain a fire watch log. - Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install. Fire Sprinkler - This contractor shall be responsible for the complete fire sprinkler / clean agent (FM200) scope as defined in the project documents. This shall include, but not be limited to, removals, relocations, modifications, new installations, panels, tanks, sensors. - Contractor to protect the existing fire suppression items that are to remain. Contractor is responsible for verifying existing items that are to be removed and reinstalled are in working order before removing. - Contractor is responsible for cutting all wall and floor openings for the fire protection work. Contractor is responsible for all removal and replacement of materials that are impacted by this scope of work. Replacement of material shall match existing conditions. - Provide Unistrut and other hanging devices as required to support any equipment provided in this bid package. - All piping to be installed as high above ceiling as possible. Access to all equipment must be maintained to allow for routine maintenance – i.e. access hatches and replacement of filters must be maintained with as little interference as possible. - Contractor shall be responsible for all core drilling required for this scope of work. Core drill locations shall be submitted to Architect/Engineer for approval prior to proceeding with work. This shall include exact dimensional locations as well as sizes.			

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
		7. This contractor shall review the existing conditions onsite and confirm existing and new sprinkler head types meet code requirements. 8. This contractor shall be responsible for all authority having jurisdiction submittals, permits, and inspections related to the fire sprinkler system. 1. Alternate #01 – CRAC Unit Replacement: Trade Contractor shall include all the following, but not limited to, as part of the contract: 1. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project. 2. 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. 3. Execute accepted alternates under the same conditions as other work of the Contract. 1. Work Performed by Owner: The State will perform the following work items: 1. Relocate all moveable furniture, fixtures and equipment (FF&E), including window treatments; and personal materials from each sequenced work area prior to demolition and construction activities and after new construction is completed. 2. Termination, testing, and labeling of low voltage cabling. 3. Relocation and connection of existing and new printing equipment. 4. AV equipment installation. 1. Owner Furnished Products: The State will provide the following materials for installation by the contractor: 1. Steel caps for patching floor penetrations 2. New furniture 3. Appliances 4. Audio and visual equipment Official Documented Meeting Minutes - Will split addendum #01 into Mechanical / Plumbing & Electrical. - Contractors should be aware of temp cooling requirements.				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
2.2	1	Project Schedule				Open
Description - Contract(s) Issued: May 20, 2026 - Submittals: June 04, 2026 - Construction: June 20, 2026 - Closeout: January 20, 2027 A pull-plan session will be held with the successful bid package contractors to finalize the construction schedule. State Holidays: New Year's Day, Martin Luther King Day, Memorial Day, 4th of July, Labor Day, Veterans Day, Thanksgiving and day after Thanksgiving, Christmas Day Official Documented Meeting Minutes - No questions.						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
2.3	1	Site Rules				Open
Description Scope Applicable to All Bid Packages: 01 1201 General Work Requirements 01 1202 Special Work Requirements - The Contractor's Work includes all labor, supervision, materials, equipment, services, supplies, tools, facilities, transportation, hoisting, storage, receiving, licenses, inspections, certifications, overhead, profit, or other items required or reasonably inferable to properly and timely perform and complete all work and services to be performed by the Contractor pursuant to this Agreement. Unless specifically stated otherwise, incidental work required to accomplish the work of this Bid Package shall be included in the bid. This would include, but not be limited to, temporary facilities, protection of the work, security of equipment, materials, and work in progress, etc. Contractor's Work shall be performed in accordance with the Drawings, Specification Divisions 00 and 01, and Specification sections applicable to each Contractor's scope. - Contractor is responsible for all labor and equipment to unload, account for all material delivered, stock, and delivery for this scope of work. Storage and delivery of materials and equipment at the Site shall be permitted only to the extent approved in advance by the Construction Manager, and if anything stored, obstructs the progress of any portion of the work, it shall be promptly removed or relocated by the Contractor without reimbursement. - On site supervision by Prime Contractor at all times work by that contractor or their subcontractors/suppliers is taking place. - Provide all temporary facilities required for this scope of work including trailer, trailer power, telephone, secured storage, temporary power for work, temporary and task lighting for work, etc. as determined necessary by Contractor. Coordinate location of trailers, material storage and utility lines with Construction Manager. Limited space is available, and permission to bring any such facility or excess materials on to the site shall be approved by the Construction Manager. - Contractor shall provide all equipment and tools for Contractor's own cleanup. Clean up shall be done at end of every shift or more frequently if required for the Contractor to perform their work, for other Contractors to perform their work, as required by the Owner's operations, and at the discretion of the Construction Manager. - Protect adjacent existing building elements from damage from Scope of work. Repair existing building elements damaged during Contractor's Scope of work. - All contractor shall be aware this work will be completed in multiple phases. Previous phases will need to be completed and occupied by the Owner prior to beginning work on subsequent phases. Multiple inspections, punch lists, and substantial completions should be anticipated. WORK HOUR RESTRICTIONS - Work hours are from 7:00 AM to 5:00 PM, Monday through Friday unless arrangements are made in advance. CONTRACTOR USE OF SITE AND PREMISES - Construction Operations: Limited to areas noted on Drawings. - Provide access to and from site as required by law and Owner: - Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered. - Do not obstruct roadways, sidewalks, or other public ways without permission of Owner and permit if required. - Facility will be occupied, at all times, during duration of work. Contractor personnel shall always conduct themselves in an agreeable manner. Failure to do so may result in removal from the work site. OWNER OCCUPANCY - Owner intends to occupy the Project upon Substantial Completion. - Cooperate with Owner to minimize conflict and to facilitate Owner's operations. - Schedule the Work to accommodate Owner occupancy. RULES FOR CONSTRUCTION WORKERS - The staff of the State of Iowa has a responsibility to protect the public by providing a secure environment. All work site rules must be followed to the letter, at all times.						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
		2. All construction workers must have a background check completed prior to entering the campus to perform work. Name, birth date, gender, and social security numbers will be required for these background checks. Contractors will be responsible for the cost associated with the background checks which is \$15.00 per request. 3. Hot Work Permit Processes and Fire Watch, when necessary, will be adhered to for this project. 1. Fire Watch: Written request will be required four days in advance of work. When the fire alarm system must be put in bypass or test, the contractor shall provide personnel at the fire alarm panel to continuously monitor the panel. The personnel shall be required to meet with State prior to fire watch for training. Anticipate less than one hour for training. If the fire detection systems will be disabled, the contractor shall also provide sufficient personnel dedicated to fire watch only in the areas disabled and maintain a fire watch log. Template notifications, procedures, and logs are available for the contractor's use. 2. Hot Work: Hot work shall be conducted per OSHA guidelines. It will be the responsibility of the contractor to provide personnel for fire watch and to maintain a fire watch log. 4. All State properties are tobacco free. No smoking will be permitted or tolerated on campus unless in designated areas. 5. You are permitted access only to the work site and no other area of the institution. 6. No drugs, alcohol, or firearms are allowed on the work site. 7. Do not leave money, drugs, alcohol, or firearms in your personal vehicle. 8. Company and personal vehicles are to be parked and locked in designated or authorized areas of the work. Contractor parking shall be located at parking lot to the south of the Hoover Building across East Court Avenue or at available street parking. 9. Secure all tools at the end of the day. 10. Maintain control of all tools, supplies, and debris at all times during the work. 11. Any shutdowns to existing systems will need to be coordinated seven (7) business days in advance and will need reviewed with DCI Group and the States maintenance personnel.				
		Official Documented Meeting Minutes • Will power and water be provided to job trailers? No, the State will only provide power and water onsite. • There is space in the back dock area that a dumpster can be placed.				

RFB Overview

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.1	1	Bid Submission				Open
		Description • Bids are due 2:00 pm, Tuesday, May 19, 2026 • The Bid shall be submitted to the Issuing Officer through the IMPACS Electronic Procurement System. ◦ Link and information is in the project manual ◦ Contractors will need to register prior to bidding ◦ Bidders will need to register regardless of whether it has already done business with the State of Iowa. ◦ Bidders should complete the registration process and ensure the ability to log in as soon as possible to ensure Bids can be submitted on the due date. ◦ Please make sure the electronic documents submitted contain any required signatures. Digital signatures will be accepted. • Bid Opening will be held via conference call on 3:00 pm on Tuesday, May 19, 2026 • Contractor shall reference section 00 0116 for the bid submittal checklist ◦ Bid Proposal Information ◦ Non Discrimination Clause Information ◦ Contractor Targeted Small Business Enterprise Pre-Bid Contract Information ◦ Bid Security – 5% of total Bid amount • Apparent low bidder will be required to submit subcontractor/supplier list 48hrs after the bid opening				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
		Official Documented Meeting Minutes No questions.				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.2	1	Bid Schedule				Open
		Description - Questions/Substitutions Due in Writing to Construction.Procurement@das.iowa.gov: 3:00 pm, May 13, 2026 - Addendum Issued: Addendum #01 will be issued early next week. - Bids Due: 2:00 pm, Tuesday, May 19, 2026 - Tentative NOI Issued: May 20, 2026				
		Official Documented Meeting Minutes Team planning to issue Addendum #01 early next week.				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.3	1	Administrative Details				Open
		Description - Contractors will sign a modified ConsensusDocs 802. Example in the project manual. - Project-specific Certificate of Insurance must be provided prior to contract execution. Follow example in the project manual and limits in the 802. - Project-specific P&P bonds must be provided prior to contract execution. - Successful contractor must turn in their list of subcontractors and suppliers within 48 hours of the bid. - DAS will provide tax exempt certificates upon request. - Procore will be used for all project management, at no cost to the trade contractor. - Submittals, Invoicing, RFIs, ASIs, PRs, RFQs - Contracts, Change Orders and Certificates of Substantial and Final Completion will also use DocuSign - Contractor Schedule of Values shall be broken out as specified in the project manual. - SOV must contain a closeout line item for at least 1% of the total contract value. - This line item can only be invoiced once the certificate of final completion has been signed by all parties.				
		Official Documented Meeting Minutes Schedule of values must include a 1% or \$1,000 (whichever is greater) closeout line item.				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.4	1	Pre-Bid Site Visits				Open
		Description - Project will be walked after prebid meeting. - To request additional site visits please reach out to Construction.Procurement@das.iowa.gov				

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
		Official Documented Meeting Minutes Please note that State emails have changed.				

Questions

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
4.1	1	Questions				Open
Description Submit all questions in writing to construction.procurement@das.iowa.gov - Referring to spec section 22 15 13 Compressed Air Piping: The schedule calls out Type L CU as material, the specs only call out Transair Aluminum pipe. Please advise what is acceptable. - There is no call out on PD1.00 referring to the scope of ALT#1 - There is no specification in the manual for HVAC piping or HVAC piping insulation. There is a schedule on M3.1 that references the specifications for additional information. Is this going to be provided in an addendum? - Is there going to be any additional structural steel required to support the CRAC units? If not, typically would hang a unit of this size with Qty. 4 ½" beam clamps or ½" drop1in anchors, ½" all thread and 1 5/8" galvanized Unistrut. 2.C.2 lists the size needed as 30"x30". - The reflected ceiling plan shows the ceiling tile as 24"x24". Can you confirm the size needed for the ACT? 3.B specifies that steel grid with a steel cap is needed, which is USG DX grid. 2.3.B.5.a specifies USG ZXLA, which is a zinc-coated aluminum-capped grid. - This item comes at a higher price point and is usually seen in laboratories, parking garages, and high-humidity environments. Can you confirm what type of suspension system is needed? 2.C.2 lists the size needed as 30"x30". - The reflected ceiling plan shows the ceiling tile as 24"x24". Can you confirm the size needed for the ACT?						
Official Documented Meeting Minutes Answers: Q1. Referring to spec section 22 15 13 Compressed Air Piping: The schedule calls out Type L CU as material, the specs only call out Transair Aluminum pipe. Please advise what is acceptable. A1. Copper is acceptable. Additional information will be submitted via addendum. Q2. There is no call out on PD1.00 referring to the scope of ALT#1. A2. Additional information will be submitted via addendum. Q3. There is no specification in the manual for HVAC piping or HVAC piping insulation. There is a schedule on M3.1 that references the specifications for additional information. Is this going to be provided in an addendum? A3. This specification section will be added via addendum. Q4. Is there going to be any additional structural steel required to support the CRAC units? If not, typically would hang a unit of this size with Qty. 4 ½" beam clamps or ½" drop1in anchors, ½" all thread and 1 5/8" galvanized Unistrut. A4. No, additional information will be provided via addendum but structural steal will not be required. Q5. 2.C.2 lists the size needed as 30"x30". The reflected ceiling plan shows the ceiling tile as 24"x24". Can you confirm the size needed for the ACT? A5. Ceiling tile size will be 24" x 24". Additional information will be submitted in the addendum to correct.						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
		Q6. 3.B specifies that steel grid with a steel cap is needed, which is USG DX grid. 2.3.B.5.a specifies USG ZXLA, which is a zinc-coated aluminum-capped grid. This item comes at a higher price point and is usually seen in laboratories, parking garages, and high-humidity environments. Can you confirm what type of suspension system is needed? A6. Additional information will be submitted via addendum. Q7. 2.C.2 lists the size needed as 30"x30". The reflected ceiling plan shows the ceiling tile as 24"x24" Can you confirm the size needed for the ACT? A7. Ceiling tile size will be 24" x 24". Additional information will be submitted in the addendum to correct. Q8. Can existing pathways get reused? A8. If there are existing pathways that meet all specifications and in acceptable shape, they can get reused. Q9. Is low voltage demo on the owner? A9. No, low voltage demo will be on Bid Package #02. All new low voltage installations and wire pulling will be by the State's contractor.				

These meeting minutes are believed to be an accurate reflection of those items discussed and the conclusions that were reached during the referenced meeting.
Please contact State of Iowa - Department of Administrative Services if there are any discrepancies or questions with the content of these minutes.



Project: RFB 947300-01

Date: 5/08/2026

PLEASE PRINT CLEARLY

Name	Company / Firm	Phone #	Email
MIKE SCSHA	CUMMINS INC	515-781-8666	mscsa@cummingsinc.com
Heegan Abbott	Modern Electrical Services	(515) 447-9835	keegan@modernelectricalservices.net
Josh Pearson	Elia Fine Sprinkler Systems	515-499-5076	jpearson@eliainfinesprinklersystems.com
Brynnh Scudder	KEL Engineering	319-217-9208	bscudder@kelengineering.com
Robert Morris	Air Con Mechanical	515-213-5500	rmorris@airconmechanical.com
Chad Bass	KEL Engineering	515-205-1399	cbass@kelengineering.com
Jason Todd	8x8 Electrical	515-707-4472	jason@8x8electrical.com
Nathan McCoy	CIMA	515-322-3171	nmcroy@cimech.com
Olivier Shimp	DAI	515-675-9741	olivier.shimp@Das.iowa.gov
Stella Surace	AS Print	515-939-0355	stella.surace@das.iowa.gov
Drew Kethman	dhethman@airconme.com	515-370-3640	Air Con Electric
Kurt Fisher	Kueste DCT Group-us.com	(515) 901-4687	DKT@GABA
Keith Paulsen	Price Electric	(319) 213-2593	kpaulsen@priceelectric.us
Scott Gustafson	DCT Group	515-490-6364	scottg@dctgroup-us.com
Jarrad Boever	DCT Group	515-480-8880	jarradb@dctgroup-us.com
Brandon Halsey	DCT Group	515-480-3048	brandonh@dctgroup-us.com
Ryan West	DAS Print	515-672-6703	ryan.west@iowa.gov
Randel Sweet	Modern Companies	719-355-0683	randel.sweet@moderncompaniesinc.com
Eric Heynen	KEL Engineering	515-300-8090	ehyenen@kelengineering.com

SECTION 00 0110

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END OF SECTION

SECTION 00 4116

BID FORM

The Bid Form must be submitted online through the State's [IMPACS Electronic Procurement System](#).

RFB #947300-01

BID FORM for CONSTRUCTION CONTRACT
for
Hoover Print Shop Expansion
1305 E Walnut St, Des Moines, Iowa
Project 9473.00

Iowa Department of Administrative Services
Hoover State Office Building, Level 3
1305 East Walnut Street
Des Moines, Iowa 50319-0105

The following information is to be completed and submitted with your bid..

1. Bid Form - Completed and Signed (to be uploaded with bid submission)
2. Non Discrimination Clause Information
3. Contractor Targeted Small Business Enterprise Pre-Bid Contract Information
4. Bid Security – 5% of total Bid amount (to be uploaded with bid submission)

Authorized Representative:

The undersigned Bidder, in response to your Request for Bid for construction of the above project, having examined the Drawings, Specifications, and other Bidding Documents dated April 17, 2026 and Addenda issued and acknowledged below as received and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, equipment and supplies to perform all work to construct the project in strict accordance with the proposed Contract Documents, within the time and at the prices stated below. Prices are to cover all expenses incurred in performing the work required under the proposed Contract Documents, of which this bid is a part.

Bidder acknowledges receipt of the following Addenda which are a part of the Bidding Documents and for which any effect on cost of the Work is included in the bid amounts indicated:

Number	_____	_____	_____	_____	_____
Dated	_____	_____	_____	_____	_____

Note that the State of Iowa is exempt from State and Local sales and use taxes (including local option and school option) for this project. Taxes on construction materials shall NOT be included in the bid amounts.

Amounts shall be indicated in both words and figures. In case of discrepancy, the amount indicated in words shall govern.

BID PACKAGES:

BP 01

Description: **General Construction**

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

Dollars
(\$_____).

BP 02

Description: **Electrical, Low Voltage, and Fire Alarm**

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

Dollars
(\$_____).

BP 03

Description: **Mechanical and Plumbing**

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

Dollars
(\$_____).

BP 04

Description: **Fire Sprinkler**

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

Dollars
(\$_____).

ALTERNATES:

ALT 01

Description: **CRAC Unit Replacement (Mechanical / Plumbing)**

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

Dollars
(\$_____).

ALT 02

Description: **CRAC Unit Replacement (Electrical)**

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

Dollars
(\$_____).

Bidder hereby certifies that:

1. This bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm or corporation;
2. Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain any advantage over any other bidder or over the Owner.
3. Bidder hereby certifies that the Bidder is registered with the Iowa Labor Commissioner as a Contractor as required by Chapter 91C, Code of Iowa.
4. Bidder agrees to comply with all Federal and State Affirmative Action/Equal Employment Opportunity requirements concerning fair employment and will not discriminate between or among them by reason of race, color, religion, sex, national origin or physical handicap.
5. All construction under this Contract shall conform to the requirements of the *Iowa State Building Code*.
6. Bidder agrees that this bid shall remain valid and shall not be withdrawn for a period of thirty (30) calendar days after the date for receipt of bids.
7. Bidder agrees that if written notice of acceptance of this bid is mailed, emailed, or delivered to the undersigned within thirty (30) days after the date in which bids are due, or at any time thereafter before it is withdrawn, the undersigned will sign and return the Contract Agreement, prepared in accord with the Bidding Documents and this bid as accepted; and will also provide proof of insurance coverage and required surety bonds.
8. Bidder understands that the Owner reserves the right to reject any, and all bids, and to waive irregularities or informalities and enter into a contract for the work, as the Owner deems to be in the best interest of the State.
9. Bidder understands that the Owner reserves the right to accept any, or no, Alternate Bid, if requested, and that the Alternate Bids may be considered in any order or combination, and the

low Bidder shall be determined on the basis of the sum of the base bid and any Alternate(s) accepted.

Subcontractors:

The Trade Contractor must identify all Subcontractors and Suppliers within 48 hours of the published date and time for which bids must be submitted, in accordance with Iowa Code Section 8A311, as amended by House File 646 in 2011. Subcontractors and suppliers may not be changed without the approval of the Owner. Requests for changing a Subcontractor or supplier must identify the reason for the proposed change, the name of the new Subcontractor or supplier, and the change in the subcontractor or supplier price because of the change. Any reduction in subcontractor or supplier price because of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract Price via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.

Enforcement of Reciprocal Resident Bidder Preference, per Iowa Code 73A.21.

All bidders shall either check the box next to "Resident Bidder" or check the box next to "Nonresident Bidder" and by doing so and signing thereafter certifies and attests to the same. All information requested must be provided. Seek the advice of an attorney if you have questions.

"Resident Bidder" means a person or entity authorized to transact business in of the State of Iowa and having a place of business for transacting business within the State of Iowa at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. Note, however, that if a nonresident bidder's state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.

☐

Resident Bidder

Name of Resident Bidder: _____

By: _____
Authorized Agent and Signatory of Resident Bidder

OR:

☐

Nonresident Bidder

Name of Nonresident Bidder: _____

Name of State or Foreign Country of Nonresident Bidder: _____

Particularly identify and describe any preference, labor preference, or any other type of preferential treatment, in effect in the nonresident bidder's state or foreign country at the time of this bid:

NOTICE: Nonresident Bidders domiciled in a state or country with a resident labor force preference shall make and keep, for a period of not less than three years, accurate records of all workers employed on the public improvement. The records shall include each worker's name, address, telephone number when available, social security number, trade classification, and the starting ending time of employment.

By: _____
Authorized Agent and Signatory of Nonresident Bidder

REQUIRED: Bid Form shall be signed by an officer of the company with authority to bind in a contract. Notice of acceptance of this bid, or request for additional information by the Department of Administrative Services, may be addressed to the undersigned at the address set forth below:

Legal Name of Firm: _____

Date: _____

Signature of Bidder: _____

Title: _____

Typed Name of Signatory: _____

Email: _____

Business Address:

Telephone Number: _____ Fax Number: _____

Federal Tax Identification Number: _____

Iowa Contractor Registration Number: _____

Bidder Safety Manager Name: _____

For an out-of-state Bidder, Bidder certifies that the Resident Preference given by the State or

Foreign Country of Bidder's residence: _____, is _____ %.

END OF SECTION

SECTION 01 1200

CONTRACT SUMMARY

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Project Information
- B. Project Summary
- C. Bid Scope Summary
- D. Work Hour Restrictions
- E. Access to Site
- F. Coordination with Occupants
- G. Rules for Construction Workers
- H. Bid Package Instructions

1.02 PROJECT INFORMATION

- A. Facility Name/Location: Hoover Print Shop Expansion, 1305 E Walnut, Des Moines, IA 50319
- B. DAS Project #: 9473.00
- C. Owner: State of Iowa, Department of Administrative Services, Hoover State Office Building, Level 3, 1305 East Walnut Street, Des Moines, IA 50319
- D. Owner's Representative: Oliver Shimp, Iowa Department of Administrative Services, 109 SE 13th Street, Des Moines, IA 50319
- E. Construction Manager: DCI Group, 220 SE 6th Street, Ste. 200, Des Moines, IA 50309

1.03 PROJECT SUMMARY

- A. The project includes Hoover Print Shop Expansion / Renovations.
- B. Target date to provide substantial completion is **January 20, 2027**.

1.04 BID SCOPE SUMMARY

- A. Scope Applicable to All Bid Packages:
 - 1. 01 1201 General Work Requirements
 - 2. 01 1202 Special Work Requirements
 - 3. The Contractor's Work includes all labor, supervision, materials, equipment, services, supplies, tools, facilities, transportation, hoisting, storage, receiving, licenses, inspections, certifications, overhead, profit, or other items required or reasonably inferable to properly and timely perform and complete all work and services to be performed by the Contractor pursuant to this Agreement. Unless specifically stated otherwise, incidental work required to accomplish the work of this Bid Package shall be included in the bid. This would include, but not be limited to, temporary facilities, protection of the work, security of equipment, materials, and work in progress, etc. Contractor's Work shall be performed in accordance with the Drawings, Specification Divisions 00 and 01, and Specification sections applicable to each Contractor's scope.
 - 4. Contractor is responsible for all labor and equipment to unload, account for all material delivered, stock, and delivery for this scope of work. Storage and delivery of materials and equipment at the Site shall be permitted only to the extent approved in advance by the Construction Manager, and if anything stored, obstructs the progress of any portion of the work, it shall be promptly removed or relocated by the Contractor without reimbursement.
 - 5. On site supervision by Prime Contractor at all times work by that contractor or their subcontractors/suppliers is taking place.

6. Provide all temporary facilities required for this scope of work including trailer, trailer power, telephone, secured storage, temporary power for work, temporary and task lighting for work, etc. as determined necessary by Contractor. Coordinate location of trailers, material storage and utility lines with Construction Manager. Limited space is available, and permission to bring any such facility or excess materials on to the site shall be approved by the Construction Manager.
7. Contractor shall provide all equipment and tools for Contractor's own cleanup. Clean up shall be done at end of every shift or more frequently if required for the Contractor to perform their work, for other Contractors to perform their work, as required by the Owner's operations, and at the discretion of the Construction Manager.
8. Protect adjacent existing building elements from damage from Scope of work. Repair existing building elements damaged during Contractor's Scope of work.
9. All contractor shall be aware this work will be completed in multiple phases. Previous phases will need to be completed and occupied by the Owner prior to beginning work on subsequent phases. Multiple inspections, punch lists, and substantial completions should be anticipated.

1.05 WORK HOUR RESTRICTIONS

- A. Work hours are from 7:00 AM to 5:00 PM, Monday through Friday unless arrangements are made in advance.

1.06 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Provide access to and from site as required by law and Owner:
 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 2. Do not obstruct roadways, sidewalks, or other public ways without permission of Owner and permit if required.
- C. Facility will be occupied, at all times, during duration of work. Contractor personnel shall always conduct themselves in an agreeable manner. Failure to do so may result in removal from the work site.

1.07 OWNER OCCUPANCY

- A. Owner intends to occupy the Project upon Substantial Completion.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.08 RULES FOR CONSTRUCTION WORKERS

- A. The staff of the State of Iowa has a responsibility to protect the public by providing a secure environment. All work site rules must be followed to the letter, at all times.
- B. **All construction workers must have a background check completed prior to entering the campus to perform work. Name, birth date, gender, and social security numbers will be required for these background checks. Contractors will be responsible for the cost associated with the background checks which is \$15.00 per request.**
- C. Hot Work Permit Processes and Fire Watch, when necessary, will be adhered to for this project.
 1. Fire Watch: Written request will be required four days in advance of work. When the fire alarm system must be put in bypass or test, the contractor shall provide personnel at the fire alarm panel to continuously monitor the panel. The personnel shall be required to meet with State prior to fire watch for training. Anticipate less than one hour for training. If the fire detection systems will be disabled, the contractor shall also provide sufficient

- personnel dedicated to fire watch only in the areas disabled and maintain a fire watch log. Template notifications, procedures, and logs are available for the contractor's use.
- 2. Hot Work: Hot work shall be conducted per OSHA guidelines. It will be the responsibility of the contractor to provide personnel for fire watch and to maintain a fire watch log.
- D. All State properties are tobacco free. No smoking will be permitted or tolerated on campus unless in designated areas.
- E. You are permitted access only to the work site and no other area of the institution.
- F. No drugs, alcohol, or firearms are allowed on the work site.
- G. Do not leave money, drugs, alcohol, or firearms in your personal vehicle.
- H. Company and personal vehicles are to be parked and locked in designated or authorized areas of the work. Contractor parking shall be located at parking lot to the south of the Hoover Building across East Court Avenue or at available street parking.
- I. Secure all tools at the end of the day.
- J. Maintain control of all tools, supplies, and debris at all times during the work.
- K. Any shutdowns to existing systems will need to be coordinated seven (7) business days in advance and will need reviewed with DCI Group and the States maintenance personnel.

1.09 BID PACKAGE INSTRUCTIONS

- A. **Bid Package #01** – General Construction: Trade Contractor shall include all the following, but not limited to, as part of the contract:
 - 1. Includes specification:
 - a. Division 00 – Procurement and Contracting Requirements
 - b. Division 01 – General Requirements
 - c. 02 4100 – Demolition
 - d. 03 3511 – Concrete Floor Finishes
 - e. 05 5000 – Metal Fabrication
 - f. 06 1000 – Rough Carpentry
 - g. 06 4100 – Architectural Wood Casework
 - h. 06 8316 – Fiberglass Reinforced Paneling
 - i. 07 9200 – Joint Sealants
 - j. 08 1113 – Hollow Metal Doors and Frames
 - k. 08 1416 – Flush Wood Doors
 - l. 08 7100 – Door Hardware
 - m. 09 2116 – Gypsum Board Assemblies
 - n. 09 5100 – Acoustical Ceilings
 - o. 09 6700 – Fluid-Applied Flooring
 - p. 09 6813 – Tile Carpeting
 - q. 09 9123 – Interior Painting
 - r. 10 2600 – Wall and Door Protection
 - s. 10 4400 – Fire Protection Specialties
 - t. 12 3600 – Countertops
 - 2. **General**
 - a. Contractor is responsible for installation of all owner provided appliances as noted in the drawings. Contractor shall verify dimensions prior to final millwork construction.
 - b. Contractor is responsible for all temporary walls, partitions, barriers required to complete construction.
 - c. Contractor is responsible for protecting any existing finishes, equipment, fixtures, etc. to remain in place during demo and construction.
 - d. Contractor is responsible for signage as needed to maintain life safety while temporary partitions are in place.
 - e. Contractor shall be responsible for providing and installing all wall protections to include but not limited to fiber reinforced panels and corner guards.

- f. Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require.
- 3. Demolition**
- a. Contractor shall, in cooperation with the Construction Manager, fully inspect and record existing conditions of existing construction to remain BEFORE demolition or removal begins. Documentation of existing conditions shall be submitted to the construction manager prior to the start of work. Any damage not previously identified and recorded will be replaced and/or repaired by this contractor at this contractor's expense.
 - b. Prior to the start of demolition, this bid package shall coordinate a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition.
 - c. Prior to start of demolition the contractor shall ensure the stability of all walls to remain.
 - d. Contractor shall coordinate with other Bid Package Contractors prior to the start of demolition to ensure salvaged items have been removed and area has been de-energized.
 - e. Contractor shall be responsible for providing dumpster service for all bid packages.
 - f. Contractor is responsible for complete demolition scope per the contract documents including, but not limited to: walls, ceiling (gyp board, ACT, metal), doors/frames, frames, flooring (including adhesives & grouting beds), base, countertops, casework, fire extinguisher cabinet, chair rails, ceilings (including hangers and supports), operable partition, corner guards and furniture walls. This shall include adjacent items, accessories, and apparatuses as necessary. The following will be removed by others:
 - 1) Bid Package #02: Electrical - lighting, outlets, wiring, tombstones, doghouses, floor tray penetration caps.
 - 2) Bid Package #02: Low-Voltage - outlets, wiring, tombstones, doghouses, lighting controls, access controls, and control wiring
 - 3) Bid Package #03: Mechanical - duct, dampers, actuators, grilles, diffusers
 - 4) Bid Package #03: Controls - thermostats and control wiring.
 - g. Contractor to coordinate with CM/State on salvaging the following items to be turned over to the owner: ceiling tiles / lighting fixtures, door(s), door hardware, refrigerator, air compressor(s),
- 4. Wall Framing and Finishes**
- a. Contractor shall be responsible for all new framing, insulation, drywall, and finishing. This includes above ceiling supports where necessary to adequately support walls that do not extend to the deck. The contractor shall install control joints in new walls at door frames on both sides.
 - b. Provide in wall blocking at all walls for all cabinets, shelving, and owner supplied equipment. Verify locations with the construction manager prior to install. Blocking in existing walls shall include drywall removal and patching.
 - c. Contractor shall be responsible for all miscellaneous drywall repairs / patching.
 - d. Contractor shall anticipate patching where vinyl base has been removed to provide a smooth and consistent wall finish.
- 5. Casework**
- a. Contractor shall be responsible for the procurement and installation of all new casework and countertops.
- 6. Doors and Hardware**
- a. Contractor is responsible for the complete door, frame and hardware scope.
 - b. Contractor shall be responsible for providing and installing all door accessories. This shall include, but not be limited to, door stops, astragals, silencers, closers, door position switches, kickplates, request to exit sensors and door mounted coat hooks.

- c. Contractor shall provide and install temporary frame spreaders. This Contractor will be responsible for anchoring wall framing to the hollow metal frames and verifying hollow metal frames remain plumb, level, and square after drywall is installed and before doors are installed.
- d. Contractor shall be responsible for painting all door frames to include existing and new.
- e. Contractor shall be responsible for providing glazing for all doors.
- 7. **Painting and Joint Sealants**
 - a. Contractor is responsible for the complete painting scope of work per the contract documents. This shall include, but not be limited to, painting of drywall, door frames, paintable sealants, cut edges of acoustical ceiling tiles and casework reveals.
 - b. Contractor is responsible for all sealant at transitions between a painted surface and dissimilar material. This shall include, but not be limited to, door and window frames, casework, countertops, access panels, and fire extinguisher cabinets.
 - c. Provide all touch-ups of minor damage or marred surfaces.
 - d. Contractor shall anticipate multiple mobilizations into spaces to prime coat, 1st coat, and final coat walls and ceilings. The final coat shall not be applied until prior written approval by the Construction Manager.
 - e. Contractor is to protect adjacent surfaces from one's work. This Contractor will be responsible for removing and cleaning any unintentional paint, stain, and finish from adjacent surfaces. This includes concrete floors.
- 8. **Ceilings**
 - a. Contractor shall be responsible for the installation of all ceilings, including acoustical ceilings, drywall lids, bulkheads, and soffits.
 - b. Contractor shall be responsible for the ceiling modifications to the existing ceilings to accommodate new construction. This shall include selective demolition and patching of the grid and new ceiling tiles to match existing in the area of work.
 - c. Provide all fasteners, trim pieces, and grid wires as required to complete this scope of work including support of light fixtures.
 - d. Perimeter grid to be tight to wall; if a gap exists, it is the responsibility of this Contractor to fill the gap, so as to be aesthetically pleasing.
 - e. Minimize laps in the grid and place in discrete locations on main runners.
 - f. Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install.
- 9. **Flooring**
 - a. Contractor is responsible for the complete flooring / base scope of work per the contract documents.
 - b. All floor preparation shall be the responsibility of this contractor. This shall include, but not be limited to, existing mastic removal / preparation, cleaning and sweeping, substrate testing, filling small voids and cracks, and minor gridding or filling to achieve floor flatness.

B. **Bid Package #02 – Electrical, Low Voltage, and Fire Alarm:** Trade Contractor shall include all the following, but not limited to, as part of the contract:

- 1. Includes specification:
 - a. Division 00 – Procurement and Contracting Requirements
 - b. Division 01 – General Requirements
 - c. 26 0500 – Common Work Results for Electrical
 - d. 26 0519 – Low-Voltage Electrical Power Conductors and Cables
 - e. 26 0526 – Grounding and Bonding for Electrical Systems
 - f. 26 0529 – Hangers and Supports for Electrical Systems
 - g. 26 0533.13 – Conduit for Electrical Systems
 - h. 26 0433.16 – Boxes for Electrical Systems
 - i. 26 0553 – Identification for Electrical Systems

- j. 26 0923 – Lighting Control Devices
- k. 26 2416 – Panelboards
- l. 26 2726 – Wiring Devices
- m. 26 2813 – Fuses
- n. 26 2816.16 – Enclosed Switches
- o. 26 5100 – Interior Lighting
- p. 27 0000 – General Requirements for Communications Systems
- q. 27 0528 – Pathways for Communications Systems
- r. 27 0544 – Sleeves and Sleeve Seals for Communications Pathways and Cabling
- s. 280000 – General Requirements for Electronic Safety & Security Systems
- t. 284600 – Digital, Addressable Fire Alarm System

2. General

- a. Prior to the start of demolition, this bid package shall participate in a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition.
- b. Contractor is responsible for all temporary electrical needs required for the phasing of this project, to include but not limited to, running temp power to equipment.
- c. This contractor shall be responsible for OSHA compliant lighting levels in all areas of work. Existing light fixtures may be utilized for construction lighting.
- d. Contractor shall be responsible for all core drilling required for this scope of work. Core drill locations shall be submitted to Architect/Engineer for approval prior to proceeding with work. This shall include exact dimensional locations as well as sizes.
- e. Contractor shall coordinate with the construction manager and furniture provider on the layout of furniture and floor boxes to confirm locations prior to install.
- f. Contractor to swap out all smoke heads (save for reinstall) to heat heads during construction in the affected areas. This shall include coordination with fire alarm monitoring company, DCI and owner. The contractor shall provide personnel for fire alarm panel monitoring while system is in bypass. The personnel monitoring panel will need to undergo up to 30 minutes of training with DAS personnel. The contractor will also be responsible for the reinstallation of the smoke heads at the end of the project. Heat heads to be turned over to the owner.
- g. Contractor shall install owner provided steel caps over abandoned electrical and low voltage floor penetrations then they must be slugged full of grout.
- h. Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require.
- i. Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install.

3. Demolition

- a. Contractor is responsible for complete disconnect and removal of all electrical, data and fire alarm systems/equipment called to be salvaged, removed or abandoned.
- b. It shall be the responsibility of this contractor to disconnect and make safe all electrical and low voltage that may be impacted by demolition activities. Utilities that must remain in place to serve systems to remain, required for construction, or required for life safety shall be clearly marked and reviewed with the demolition contractor prior to the start of demolition activities. Notify the Construction Manager when areas are ready so the demolition crews can begin.
- c. Contractor shall be responsible for the removal, salvage, and turnover to the Owner, or for reinstallation, of electrical and low voltage items as identified on the project drawings. This shall include, but not be limited to:
 - 1) Existing tombstones
 - 2) Compressor
 - 3) Controls

4) Cameras

4. Electrical

- a. Contractor is responsible for all electrical, data and life safety scope including, but not limited to, new electrical, grounding, light fixtures, switches, GFCI, J-hooks, switches, sensors, panels, breakers, receptacles, fire alarm devices, conduits, boxes, emergency lighting, exit signs, FM200 devices and connections.
- b. Contractor shall be aware that any shutdowns to systems that will affect occupied spaces may need to be conducted during non-business hours. No additional compensation will be considered for this off-hours work.
- c. This contractor shall be responsible for obtaining an electrical permit for work performed by this bid package. Copies of permit requests, inspections reports, and closed permits shall be provided to the Construction Manager.
- d. At the start of construction, this contractor shall review all panel locations to verify room for installation and code required clearances. Any discrepancies shall be brought the construction manager and designer immediately.
- e. Contractor shall be responsible for providing pathways, circuiting, and power connections to all mechanical and electrical equipment. This contractor shall coordinate with the trades providing the equipment and with the approved submittals.
- f. Contractor will be responsible for lighting and lighting controls.
- g. Contractor is responsible for the installation of Owner provided furniture harnesses. Coordinate locations and requirements with Owner.
- h. This contractor shall provide and install power to all mechanical equipment controllers.
- i. Contractor shall provide an updated and typed panel schedule installed in each electrical panel at the end of the project.

5. Low Voltage

- a. Contractor shall be responsible for all in wall and above ceiling low voltage and technology rough-ins including but not limited to boxes, sleeves and conduits stubbed above ceilings. This shall include rough-ins for owner-provided access controls. Cabling will be by Owner provided vendor (ICN).
- b. Contractor shall be responsible for making connections to electrified door hardware provided by bid package #01.
- c. Contractor shall be responsible for reinstallation of existing public address system.
- d. Termination, testing and labeling of low voltage will be completed by an Owner provided vendor (ICN). Contractor will be responsible for coordinating with owner, construction manager and ICN.

6. Audio & Visual

- a. Contractor shall be responsible for pathways, junction boxes, and back boxes for all audio and visual technologies. Audio equipment, visual equipment and cabling will be by Owner provided vendor (ICN).

C. Bid Package #03 – Mechanical and Plumbing: Trade Contractor shall include all the following, but not limited to, as part of the contract:

- 1. Includes specification:
 - a. Division 00 – Procurement and Contracting Requirements
 - b. Division 01 – General Requirements
 - c. 22 0517 – Sleeves and Sleeve Seals for Plumbing Piping
 - d. 22 0518 – Escutcheons for Plumbing Piping
 - e. 22 0523 – Valves for Plumbing Piping
 - f. 22 0529 – Hangars and Supports for Plumbing Piping and Equipment
 - g. 22 0553 – Identification for Plumbing Piping and Equipment
 - h. 22 0719 – Plumbing Piping Insulation
 - i. 22 1116 – Domestic Water Piping
 - j. 22 1513 – General-Service Compressed-Air Piping
 - k. 23 0513 – Common Motor Requirements for HVAC Equipment

- l. 23 0553 – Identification for HVAC Piping and Equipment
- m. 23 0593 – Testing, Adjusting, and Balancing for HVAC
- n. 23 0713 – Duct Insulation
- o. 23 3113 – Metal Ducts
- p. 23 3300 – Air Duct Accessories
- q. 23 3346 – Flexible Ducts
- r. 23 3713 – Air Outlets and Inlets
- s. 23 8123 – Small Capacity Computer-Room Air-Conditioners

2. General

- a. Prior to the start of demolition, this bid package shall participate in a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition.
- b. Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require. This shall include penetrations that remain from the demolition of through roof, floor or wall piping, duct, or pathways.
- c. All piping and duct to be installed as high above ceiling as possible. Access to all equipment must be maintained to allow for routine maintenance – i.e. access hatches and replacement of filters must be maintained with as little interference as possible.
- d. Contractor shall be responsible for all core drilling required for this scope of work. Core drill locations shall be submitted to Architect/Engineer for approval prior to proceeding with work. This shall include exact dimensional locations as well as sizes.
- e. Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install.

3. Demolition

- a. Contractor is responsible for complete disconnect and removal of all mechanical and plumbing systems called to be salvaged, removed or abandoned.
- b. It shall be the responsibility of this contractor to disconnect and make safe all mechanical and plumbing that may be impacted by demolition activities. Existing plumbing shall be drained of water prior to the start of demolition activities excluding utilities that must remain active to maintain existing systems to remain active or for life safety.
- c. All plumbing shall be capped either permanently or temporarily until ready for new connections.
- d. Utilities that must remain in place to serve systems to remain, required for construction, or required for life safety shall be clearly marked and reviewed with the demolition contractor prior to the start of demolition activities.
- e. Contractor shall seal any duct openings that are created during the removal of existing ductwork.
- f. All utilities to be abandoned in place shall be clearly marked on contractor's as-built documentation to be turned over at the end of the project.
- g. Contractor shall ensure sufficient systems remain in place to provide temporary cooling, heating, and dehumidification to all spaces. Any controls reprogramming required for temporary measures shall be included. Any openings, existing or created by construction that could result in dust infiltration into the mechanical systems shall be sealed or covered with construction filters. Construction filters shall be replaced at a minimum weekly or as needed.
- h. Contractor shall salvage equipment for reinstallation or to be turned over to the owner as noted in the construction documents . This shall include, but not be limited to:
 - 1) Grilles
 - 2) Diffusers

- 3) Controllers
- 4) Valves
- 5) Actuators
- 6) Damper Actuators
- 7) Thermostats
- i. Contractor shall be responsible for any demolition required to complete this bid packages scope to include demolition and reinstallation of ceilings that are to remain. This will include the reinstallation and finishing of these areas back to their original condition.
- 4. **Mechanical**
 - a. Contractor is responsible for the complete mechanical scope of work on this project.
 - b. This Contractor is responsible for all connections to existing ductwork.
 - c. Contractor shall coordinate installation of ceiling diffusers with Bid Package #1.
 - d. This contractor shall be responsible for all mechanical insulation including repair of insulation damaged during removals.
 - e. This contractor shall be responsible for all testing and balancing.
 - f. In all systems that require filters, this contractor shall provide and install new filters at substantial completion.
- 5. **Plumbing**
 - a. Contractor is responsible for the complete plumbing scope of work to include but not limited to water, sewer, gas, condensate and compressed air. Fire sprinkler scope is excluded from this package.
 - b. Contractor shall be responsible for all plumbing insulation including repair of insulation damaged during removals.
 - c. Contractor shall be responsible for providing all necessary components for a complete functioning system.
 - d. All pipes shall be clearly labeled to identify their use.
- 6. **HVAC Controls**
 - a. This bid package will be responsible for the entirety of the HVAC controls for the building automation system connection. This shall include but not limited to: All wiring, control components, devices, conduit runs, thermostats, transmitters, actuators, dampers, and programming shall be provided by this contractor.
 - b. Contractor shall provide thermostats for automatic control of equipment as required by the control drawings
- D. **Bid Package #04 – Fire Sprinkler:** Trade Contractor shall include all the following, but not limited to, as part of the contract:
 - 1. Includes specification:
 - a. Division 00 – Procurement and Contracting Requirements
 - b. Division 01 – General Requirements
 - c. 21 0517 – Sleeves and Sleeve Seals for Plumbing Piping
 - d. 21 0518 – Escutcheons for Fire-Suppression Piping
 - e. 21 0553 – Identification for Fire Suppression Piping and Equipment
 - f. 21 1313 – Wet-Pipe Sprinkler Systems
 - g. 21 2200 – Clean-Agent Fire-Extinguishing Systems
 - 2. **General**
 - a. Any penetrations created by this contractor, whether from demolition of existing systems or installation of new, shall be sealed by this contractor to match adjacent surface and rating. This shall include firestopping where documents require.
 - b. Shutdowns of systems shall be coordinated with the Construction Manager seven (7) business days in advance of work.
 - c. Prior to the start of demolition, this bid package shall participate in a meeting with DCI Group, the State, and all other bid packages to review existing systems to remain and systems that will remain live during demolition.

- d. Contractor is responsible for complete disconnect and removal of all fire sprinkler / clean agent (FM200) systems called to be salvaged, removed or abandoned.
- e. This shall include coordination with fire alarm monitoring company, DCI, and owner for tag out of the fire alarm system anytime modifications are taking place. The contractor shall provide personnel for fire alarm panel monitoring while system is in bypass. The personnel monitoring panel will need to undergo up to 30 minutes of training with DAS personnel. If the fire detection systems will be disabled, the contractor shall also provide sufficient personnel dedicated to fire watch only in the areas disabled and maintain a fire watch log.
- f. Where equipment is installed on ceiling tiles, it will be the responsibility of the contractor installing the equipment to mount it in the ceiling tile. It shall be the responsibility of Bid Package #01 to provide ceiling tile to other trades for install.

3. Fire Sprinkler

- a. This contractor shall be responsible for the complete fire sprinkler / clean agent (FM200) scope as defined in the project documents. This shall include, but not be limited to, removals, relocations, modifications, new installations, panels, tanks, sensors.
- b. Contractor to protect the existing fire suppression items that are to remain. Contractor is responsible for verifying existing items that are to be removed and reinstalled are in working order before removing.
- c. Contractor is responsible for cutting all wall and floor openings for the fire protection work. Contractor is responsible for all removal and replacement of materials that are impacted by this scope of work. Replacement of material shall match existing conditions.
- d. Provide Unistrut and other hanging devices as required to support any equipment provided in this bid package.
- e. All piping to be installed as high above ceiling as possible. Access to all equipment must be maintained to allow for routine maintenance – i.e. access hatches and replacement of filters must be maintained with as little interference as possible.
- f. Contractor shall be responsible for all core drilling required for this scope of work. Core drill locations shall be submitted to Architect/Engineer for approval prior to proceeding with work. This shall include exact dimensional locations as well as sizes.
- g. This contractor shall review the existing conditions onsite and confirm existing and new sprinkler head types meet code requirements.
- h. This contractor shall be responsible for all authority having jurisdiction submittals, permits, and inspections related to the fire sprinkler system.

E. **Alternate #01 – CRAC Unit Replacement (Mechanical / Plumbing):** Trade Contractor shall include all the following, but

not limited to, as part of the contract:

- 1. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
- 2. 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.
- 3. Execute accepted alternates under the same conditions as other work of the Contract.
- 4. **This Contractor is responsible for the complete mechanical and plumbing scope as it relates to the CRAC Unit replacement.**

F. **Work Performed by Owner:** The State will perform the following work items:

- 1. Relocate all moveable furniture, fixtures and equipment (FF&E), including window treatments; and personal materials from each sequenced work area prior to demolition and construction activities and after new construction is completed.
- 2. Termination, testing, and labeling of low voltage cabling.
- 3. Relocation and connection of existing and new printing equipment.

4. AV equipment installation.

G. **Owner Furnished Products:** The State will provide the following materials for installation by the contractor:

1. Steel caps for patching floor penetrations
2. New furniture
3. Appliances
4. Audio and visual equipment

H. **Alternate #02 – CRAC Unit Replacement (Electrical):** Trade Contractor shall include all the following, but

not limited to, as part of the contract:

1. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
2. 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.
3. Execute accepted alternates under the same conditions as other work of the Contract.
4. This Contractor is responsible for the complete electrical scope as it relates to the CRAC Unit replacement.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 22 15 13 - GENERAL-SERVICE COMPRESSED-AIR PIPING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes piping and related specialties for general-service compressed-air systems operating at 200 psig or less.
 - 1. Section 221519 "General-Service Packaged Air Compressors and Receivers" for general-service air compressors and accessories.

1.3 DEFINITIONS

- A. Low-Pressure Compressed-Air Piping: System of compressed-air piping and specialties operating at pressures of 150 psig or less.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Pipes, fittings, and valves.
 - 2. Quick couplings.
 - 3. Hose assemblies.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Pressure-Seal Joining Procedure for Copper Tubing: Qualify operators according to training provided by Viega; Plumbing and Heating Systems.
- B. ASME Compliance:
 - 1. Comply with ASME B31.9, "Building Services Piping," for low-pressure compressed-air piping.

PART 2 PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

- A. Copper Tube: ASTM B 88, Type L seamless, drawn-temper, water tube.
 - 1. Wrought-Copper Fittings: ASME B16.22, solder-joint pressure type or MSS SP-73, wrought copper with dimensions for brazed joints.
 - 2. Cast-Copper-Alloy Flanges: ASME B16.24, Class 150 or 300.
 - 3. Copper Unions: ASME B16.22 or MSS SP-123.
 - 4. Press-Type Fittings, NPS 2 and Smaller: Wrought-copper fitting with EPDM O-ring seal in each end.
- B. Transition Couplings for Metal Piping: Metal coupling or other manufactured fitting same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.

2.2 JOINING MATERIALS

- A. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing, unless otherwise indicated.

2.3 VALVES

- A. Treated brass ball valve, maximum working pressure of 232 psig from -4F to 140F, ASME B31.1.

2.4 DIELECTRIC FITTINGS

- A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.

2.5 FLEXIBLE PIPE CONNECTORS

- A. Stainless-Steel-Hose Flexible Pipe Connectors: Corrugated-stainless-steel tubing with stainless-steel wire-braid covering and ends welded to inner tubing.
 - 1. Working-Pressure Rating: 250 psig minimum.
 - 2. End Connections, NPS 2 and Smaller: Threaded steel pipe nipple.
 - 3. End Connections, NPS 2-1/2 and Larger: Flanged steel nipple.

2.6 SPECIALTIES

- A. Coalescing Filters: Coalescing type with activated carbon capable of removing water and oil aerosols; with color-change dye to indicate when carbon is saturated and warning light to indicate when selected maximum pressure drop has been exceeded. Include mounting bracket if wall mounting is indicated.
- B. Mechanical Filters: Two-stage, mechanical-separation-type, air-line filters. Equip with deflector plates, resin-impregnated-ribbon-type filters with edge filtration, and drain cock. Include mounting bracket if wall mounting is indicated.
- C. Air-Line Lubricators: With drip chamber and sight dome for observing oil drop entering air stream; with oil-feed adjustment screw and quick-release collar for easy bowl removal. Include mounting bracket if wall mounting is indicated.
 - 1. Provide with automatic feed device for supplying oil to lubricator.

2.7 QUICK COUPLINGS

- A. General Requirements for Quick Couplings: Assembly with locking-mechanism feature for quick connection and disconnection of compressed-air hose.
- B. Valveless Quick Couplings: Straight-through brass body with stainless-steel or nickel-plated-steel operating parts.
 - 1. Socket End: With O-ring or gasket seal, without valve, and with barbed inlet for attaching hose.
 - 2. Plug End: With barbed outlet for attaching hose.

2.8 HOSE ASSEMBLIES

- A. Description: Compatible hose, clamps, couplings, and splicers suitable for compressed-air service, of nominal diameter indicated, and rated for 300-psig minimum working pressure, unless otherwise indicated.
 - 1. Hose: Reinforced double-wire-braid, CR-covered hose for compressed-air service.
 - 2. Hose Clamps: Stainless-steel clamps or bands.
 - 3. Hose Couplings: Two-piece, straight-through, threaded brass or stainless-steel O-ring or gasket-seal swivel coupling with barbed ends for connecting two sections of hose.
 - 4. Hose Splicers: One-piece, straight-through brass or stainless-steel fitting with barbed ends for connecting two sections of hose.

PART 3 EXECUTION

3.1 PIPING APPLICATIONS

- A. Compressed-Air Piping: Refer to Piping Schedule on drawings for piping material and joint application.

3.2 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of compressed-air piping. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, air-compressor sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

- B. Install piping concealed from view and protected from physical contact by building occupants, unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited, unless otherwise indicated.
- D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal and to coordinate with other services occupying that space where installed in areas with ceilings.
- E. Install piping adjacent to equipment and machines to allow service and maintenance.
- F. Install air and drain piping with 1 percent slope downward in direction of flow.
- G. Install nipples, flanges, unions, transition and special fittings, and valves with pressure ratings same as or higher than system pressure rating, unless otherwise indicated.
- H. Install eccentric reducers where compressed-air piping is reduced in direction of flow, with bottoms of both pipes and reducer fitting flush.
- I. Install branch connections to compressed-air mains from top of main. Provide drain leg and drain trap at end of each main and branch and at low points.
- J. Install piping to permit valve servicing.
- K. Install piping free of sags and bends.
- L. Install fittings for changes in direction and branch connections.
- M. Install sleeves for piping penetrations of walls, ceilings, and floors.
- N. Install escutcheons for piping penetrations of walls, ceilings, and floors.

3.3 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Pressure-Sealed Joints: Join with tools recommended by fitting manufacturer, using operators qualified according to Part 1 "Quality Assurance" Article.
- D. Brazed Joints for Copper Tubing: Join according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter.
- E. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Join according to ASTM B 828 or CDA's "Copper Tube Handbook."

3.4 VALVE INSTALLATION

- A. Install shutoff valves and unions or flanged joints at compressed-air piping to air compressors.
- B. Install shutoff valve at inlet to each automatic drain valve, filter, lubricator, and pressure regulator.
- C. Install check valves to maintain correct direction of compressed-air flow to and from compressed-air piping specialties and equipment.

3.5 SPECIALTY INSTALLATION

- A. Install quick couplings at piping terminals for hose connections.
- B. Install hose assemblies at hose connections.

3.6 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment" for pipe hanger and support devices.
- B. Vertical Piping: MSS Type 8 or 42, clamps.
- C. Individual, Straight, Horizontal Piping Runs:
 - 1. 100 Feet or Less: MSS Type 1, adjustable, steel clevis hangers.
 - 2. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.

- D. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
 - E. Base of Vertical Piping: MSS Type 52, spring hangers.
 - F. Support horizontal piping within 12 inches of each fitting and coupling.
 - G. Rod diameter may be reduced 1 size for double-rod hangers, with 3/8-inch minimum rods.
 - H. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:
 - 1. NPS 1/4: 60 inches with 3/8-inch rod.
 - 2. NPS 3/8 and NPS 1/2: 72 inches with 3/8-inch rod.
 - 3. NPS 3/4: 84 inches with 3/8-inch rod.
 - 4. NPS 1: 96 inches with 3/8-inch rod.
 - 5. NPS 1-1/4: 108 inches with 3/8-inch rod.
 - 6. NPS 1-1/2: 10 feet with 3/8-inch rod.
 - I. Install supports for vertical copper tubing every 10 feet.
- 3.7 LABELING AND IDENTIFICATION
- A. Install identifying labels and devices for general-service compressed-air piping, valves, and specialties. Comply with requirements in Section 220553 "Identification for Plumbing Piping and Equipment."
- 3.8 FIELD QUALITY CONTROL
- A. Perform field tests and inspections.
 - B. Tests and Inspections:
 - 1. Piping Leak Tests for Metal Compressed-Air Piping: Test new and modified parts of existing piping. Cap and fill general-service compressed-air piping with oil-free dry air or gaseous nitrogen to pressure of 50 psig above system operating pressure, but not less than 150 psig. Isolate test source and let stand for four hours to equalize temperature. Refill system, if required, to test pressure; hold for two hours with no drop in pressure.
 - 2. Repair leaks and retest until no leaks exist.
 - C. Prepare test reports.

END OF SECTION

SECTION 23 07 19 - HVAC PIPING INSULATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes insulating the following HVAC piping systems:
 - 1. Condensate drain piping, indoors.
 - 2. Chilled-water piping, indoors

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.4 COORDINATION

- A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."
- B. Coordinate clearance requirements with piping Installer for piping insulation application. Before preparing piping Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

1.5 SCHEDULING

- A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.
- B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 PRODUCTS

2.1 INSULATION MATERIALS

- A. Comply with requirements in "Piping Insulation Schedule, General," "Indoor Piping Insulation Schedule," and "Outdoor, Aboveground Piping Insulation Schedule" articles for where insulating materials shall be applied.
- B. Products shall not contain asbestos, lead, mercury, or mercury compounds.
- C. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.
- D. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable according to ASTM C 795.
- E. Mineral-Fiber, Preformed Pipe Insulation: Type I, 850 deg F Materials: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 547, Type I, Grade A, with factory-applied ASJ. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

2.2 ADHESIVES

- A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.
- B. Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.
- C. ASJ Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.
- D. PVC Jacket Adhesive: Compatible with PVC jacket.

2.3 MASTICS

- A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-PRF-19565C, Type II.
- B. Vapor-Barrier Mastic: Water based; suitable for indoor use on below-ambient services.
 - 1. Water-Vapor Permeance: ASTM E 96/E 96M, Procedure B, 0.013 perm at 43-mil dry film thickness.
 - 2. Service Temperature Range: Minus 20 to plus 180 deg F.
 - 3. Solids Content: ASTM D 1644, 58 percent by volume and 70 percent by weight.
 - 4. Color: White.
- C. Breather Mastic: Water based; suitable for indoor and outdoor use on above-ambient services.
 - 1. Water-Vapor Permeance: ASTM F 1249, 1.8 perms at 0.0625-inch dry film thickness.
 - 2. Service Temperature Range: Minus 20 to plus 180 deg F.
 - 3. Solids Content: 60 percent by volume and 66 percent by weight.
 - 4. Color: White.

2.4 SEALANTS

- A. ASJ Flashing Sealants and PVC Jacket Flashing Sealants:
 - 1. Materials shall be compatible with insulation materials, jackets, and substrates.
 - 2. Fire- and water-resistant, flexible, elastomeric sealant.
 - 3. Service Temperature Range: Minus 40 to plus 250 deg F.
 - 4. Color: White.

2.5 FACTORY-APPLIED JACKETS

- A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:
 - 1. ASJ: White, kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C 1136, Type I.

2.6 FIELD-APPLIED JACKETS

- A. Field-applied jackets shall comply with ASTM C 921, Type I, unless otherwise indicated.
- B. PVC Jacket: High-impact-resistant, UV-resistant PVC complying with ASTM D 1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming. Thickness is indicated in field-applied jacket schedules.
 - 1. Adhesive: As recommended by jacket material manufacturer.
 - 2. Color: White.
 - 3. Factory-fabricated fitting covers to match jacket if available; otherwise, field fabricate.
 - a. Shapes: 45- and 90-degree, short- and long-radius elbows, tees, valves, flanges, unions, reducers, end caps, soil-pipe hubs, traps, mechanical joints, and P-trap and supply covers for lavatories.

2.7 TAPES

- A. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C 1136.
 - 1. Width: 3 inches.
 - 2. Thickness: 11.5 mils.
 - 3. Adhesion: 90 ounces force/inch in width.
 - 4. Elongation: 2 percent.

5. Tensile Strength: 40 lbf/inch in width.
6. ASJ Tape Disks and Squares: Precut disks or squares of ASJ tape.
- B. PVC Tape: White vapor-retarder tape matching field-applied PVC jacket with acrylic adhesive; suitable for indoor and outdoor applications.
 1. Width: 2 inches.
 2. Thickness: 6 mils.
 3. Adhesion: 64 ounces force/inch in width.
 4. Elongation: 500 percent.
 5. Tensile Strength: 18 lbf/inch in width.
 6. Width: 2 inches.
 7. Thickness: 3.7 mils.
 8. Adhesion: 100 ounces force/inch in width.
 9. Elongation: 5 percent.
 10. Tensile Strength: 34 lbf/inch in width.

2.8 SECUREMENTS

- A. Bands:
 1. Stainless Steel: ASTM A 167 or ASTM A 240/A 240M, Type 304; 0.015 inch thick, 1/2 inch wide with wing seal.
 2. Aluminum: ASTM B 209, Alloy 3003, 3005, 3105, or 5005; Temper H-14, 0.020 inch thick, 1/2 inch wide with wing seal.
- B. Staples: Outward-clinching insulation staples, nominal 3/4-inch-wide, stainless steel or Monel.
- C. Wire: 0.062-inch soft-annealed, stainless steel.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.
 1. Verify that systems to be insulated have been tested and are free of defects.
 2. Verify that surfaces to be insulated are clean and dry.
 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

3.3 GENERAL INSTALLATION REQUIREMENTS

- A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping including fittings, valves, and specialties.
- B. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of pipe system as specified in insulation system schedules.
- C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.
- D. Install insulation with longitudinal seams at top and bottom of horizontal runs.
- E. Install multiple layers of insulation with longitudinal and end seams staggered.
- F. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.
- G. Keep insulation materials dry during application and finishing.

- H. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.
 - I. Install insulation with least number of joints practical.
 - J. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.
 - 1. Install insulation continuously through hangers and around anchor attachments.
 - 2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
 - 3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
 - 4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.
 - K. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.
 - L. Install insulation with factory-applied jackets as follows:
 - 1. Draw jacket tight and smooth.
 - 2. Cover circumferential joints with 3-inch-wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
 - 3. Overlap jacket longitudinal seams at least 1-1/2 inches. Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 2 inches o.c.
 - a. For below-ambient services, apply vapor-barrier mastic over staples.
 - 4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
 - 5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings.
 - M. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
 - N. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
 - O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.
 - P. For above-ambient services, do not install insulation to the following:
 - 1. Vibration-control devices.
 - 2. Testing agency labels and stamps.
 - 3. Nameplates and data plates.
- 3.4 PENETRATIONS
- A. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.
 - B. Insulation Installation at Fire-Rated Wall and Partition Penetrations: Install insulation continuously through penetrations of fire-rated walls and partitions.

1. Comply with requirements in Division 7 for firestopping and fire-resistive joint sealers.
- 3.5 GENERAL PIPE INSULATION INSTALLATION
- A. Requirements in this article generally apply to all insulation materials except where more specific requirements are specified in various pipe insulation material installation articles.
 - B. Insulation Installation on Fittings, Valves, Strainers, Flanges, and Unions:
 1. Install insulation over fittings, valves, strainers, flanges, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
 2. Insulate pipe elbows using preformed fitting insulation or mitered fittings made from same material and density as adjacent pipe insulation. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.
 3. Insulate tee fittings with preformed fitting insulation or sectional pipe insulation of same material and thickness as used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
 4. Insulate valves using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. For valves, insulate up to and including the bonnets, valve stuffing-box studs, bolts, and nuts. Fill joints, seams, and irregular surfaces with insulating cement.
 5. Insulate strainers using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. Fill joints, seams, and irregular surfaces with insulating cement. Insulate strainers so strainer basket flange or plug can be easily removed and replaced without damaging the insulation and jacket. Provide a removable reusable insulation cover. For below-ambient services, provide a design that maintains vapor barrier.
 6. Insulate flanges and unions using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker.
 7. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.
 8. For services not specified to receive a field-applied jacket except for flexible elastomeric and polyolefin, install fitted PVC cover over elbows, tees, strainers, valves, flanges, and unions. Terminate ends with PVC end caps. Tape PVC covers to adjoining insulation facing using PVC tape.
 9. Stencil or label the outside insulation jacket of each union with the word "union." Match size and color of pipe labels.
 - C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at

these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.

- D. Install removable insulation covers at locations indicated. Installation shall conform to the following:
1. Make removable flange and union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as adjoining pipe insulation.
 2. When flange and union covers are made from sectional pipe insulation, extend insulation from flanges or union long at least two times the insulation thickness over adjacent pipe insulation on each side of flange or union. Secure flange cover in place with stainless-steel or aluminum bands. Select band material compatible with insulation and jacket.
 3. Construct removable valve insulation covers in same manner as for flanges, except divide the two-part section on the vertical center line of valve body.
 4. When covers are made from block insulation, make two halves, each consisting of mitered blocks wired to stainless-steel fabric. Secure this wire frame, with its attached insulation, to flanges with tie wire. Extend insulation at least 2 inches over adjacent pipe insulation on each side of valve. Fill space between flange or union cover and pipe insulation with insulating cement. Finish cover assembly with insulating cement applied in two coats. After first coat is dry, apply and trowel second coat to a smooth finish.
 5. Unless a PVC jacket is indicated in field-applied jacket schedules, finish exposed surfaces with a metal jacket.

3.6 INSTALLATION OF MINERAL-FIBER INSULATION

- A. Insulation Installation on Straight Pipes and Tubes:
1. Secure each layer of preformed pipe insulation to pipe with wire or bands and tighten bands without deforming insulation materials.
 2. Where vapor barriers are indicated, seal longitudinal seams, end joints, and protrusions with vapor-barrier mastic and joint sealant.
 3. For insulation with factory-applied jackets on above-ambient surfaces, secure laps with outward-clinched staples at 6 inches o.c.
 4. For insulation with factory-applied jackets on below-ambient surfaces, do not staple longitudinal tabs. Instead, secure tabs with additional adhesive as recommended by insulation material manufacturer and seal with vapor-barrier mastic and flashing sealant.
- B. Insulation Installation on Pipe Flanges:
1. Install preformed pipe insulation to outer diameter of pipe flange.
 2. Make width of insulation section same as overall width of flange and bolts, plus twice the thickness of pipe insulation.
 3. Fill voids between inner circumference of flange insulation and outer circumference of adjacent straight pipe segments with mineral-fiber blanket insulation.
 4. Install jacket material with manufacturer's recommended adhesive, overlap seams at least 1 inch, and seal joints with flashing sealant.
- C. Insulation Installation on Pipe Fittings and Elbows:
1. Install preformed sections of same material as straight segments of pipe insulation when available.

2. When preformed insulation elbows and fittings are not available, install mitered sections of pipe insulation, to a thickness equal to adjoining pipe insulation. Secure insulation materials with wire or bands.
- D. Insulation Installation on Valves and Pipe Specialties:
 1. Install preformed sections of same material as straight segments of pipe insulation when available.
 2. When preformed sections are not available, install mitered sections of pipe insulation to valve body.
 3. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
 4. Install insulation to flanges as specified for flange insulation application.
- 3.7 FIELD-APPLIED JACKET INSTALLATION
 - A. Where PVC jackets are indicated, install with 1-inch overlap at longitudinal seams and end joints; for horizontal applications. Seal with manufacturer's recommended adhesive.
 1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.
- 3.8 PIPING INSULATION SCHEDULE, GENERAL
 - A. Acceptable preformed pipe and tubular insulation materials and thicknesses are identified for each piping system and pipe size range. If more than one material is listed for a piping system, selection from materials listed is Contractor's option.
- 3.9 INDOOR PIPING INSULATION SCHEDULE - REFER TO HVAC PIPING AND INSULATION SCHEDULE ON DRAWINGS
- 3.10 INDOOR, FIELD-APPLIED JACKET SCHEDULE
 - A. Install jacket over insulation material. For insulation with factory-applied jacket, install the field-applied jacket over the factory-applied jacket.
 - B. If more than one material is listed, selection from materials listed is Contractor's option.
 - C. Piping, Exposed, within 8'-0" of finished floor:
 1. PVC: 20 mils thick.

END OF SECTION 230719

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SECTION 23 21 13 - HYDRONIC PIPING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes pipe and fitting materials and joining methods for the following:
 - 1. Chilled - water piping.
 - 2. Condensate-drain piping.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Hydronic piping components and installation shall be capable of withstanding the following minimum working pressure and temperature unless otherwise indicated:
 - 1. Chilled-Water Piping: 150 psig at 73 deg F.
 - 2. Condensate-Drain Piping: 150 deg F.

2.2 COPPER TUBE AND FITTINGS

- A. Drawn-Temper Copper Tubing: ASTM B 88, Type L.
- B. DWV Copper Tubing: ASTM B 306, Type DWV.
- C. Wrought-Copper Unions: ASME B16.22.

2.3 JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos free, 1/8-inch maximum thickness unless otherwise indicated.
 - a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.
- B. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.
- C. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.
- D. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for joining copper with copper; or BAg-1, silver alloy for joining copper with bronze or steel.
- E. Gasket Material: Thickness, material, and type suitable for fluid to be handled and working temperatures and pressures.

2.4 TRANSITION FITTINGS

- A. Plastic-to-Metal Transition Fittings:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Charlotte Pipe and Foundry Company.
 - b. IPEX Inc.
 - c. KBI (King Bros. Industries).
 - 2. One-piece fitting with one threaded brass or copper insert and one solvent-cement-joint end of material and wall thickness to match plastic pipe material.
- B. Plastic-to-Metal Transition Unions:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Charlotte Pipe and Foundry Company.
 - b. IPEX Inc.
 - c. KBI (King Bros. Industries).
 - d. NIBCO INC; Model #T/S-1710.
2. Brass or copper end, solvent-cement-joint end of material and wall thickness to match plastic pipe material, rubber gasket, and threaded union.

2.5 DIELECTRIC FITTINGS

- A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
- B. Dielectric Unions:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. A.Y. McDonald Mfg. Co.
 - b. Capitol Manufacturing Company.
 - c. Central Plastics Company.
 - d. Hart Industries International, Inc.
 - e. Jomar International, Ltd.
 - f. Matco-Norca.
 - g. Watts Regulator Co.
 - h. Zurn Industries, LLC; AquaSpec Commercial Faucet Products.
 - 2. Description:
 - a. Standard: ASSE 1079.
 - b. Pressure Rating: 150 psig.
 - c. End Connections: Solder-joint copper alloy and threaded ferrous.
- C. Dielectric Flanges:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Capitol Manufacturing Company.
 - b. Central Plastics Company.
 - c. Matco-Norca.
 - d. Watts Regulator Co.
 - e. Zurn Industries, LLC; AquaSpec Commercial Faucet Products.
 - 2. Description:
 - a. Standard: ASSE 1079.
 - b. Factory-fabricated, bolted, companion-flange assembly.
 - c. Pressure Rating: 150 psig.
 - d. End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.
- D. Dielectric-Flange Insulating Kits:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advance Products & Systems, Inc.
 - b. Calpico, Inc.

- c. Central Plastics Company.
 - d. Pipeline Seal and Insulator, Inc.
- 2. Description:
 - a. Nonconducting materials for field assembly of companion flanges.
 - b. Pressure Rating: 150 psig.
 - c. Gasket: Neoprene or phenolic.
 - d. Bolt Sleeves: Phenolic or polyethylene.
 - e. Washers: Phenolic with steel backing washers.
- E. Dielectric Nipples:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Elster Perfection.
 - b. Grinnell Mechanical Products.
 - c. Matco-Norca.
 - d. Precision Plumbing Products, Inc.
 - e. Victaulic Company.
 - 2. Description:
 - a. Standard: IAPMO PS 66.
 - b. Electroplated steel nipple, complying with ASTM F 1545.
 - c. Pressure Rating: 300 psig at 225 deg F.
 - d. End Connections: Male threaded or grooved.
 - e. Lining: Inert and noncorrosive, propylene.

PART 3 EXECUTION

3.1 PIPING APPLICATIONS - REFER TO HVAC PIPING AND INSULATION SCHEDULE ON DRAWINGS

3.2 PIPING INSTALLATIONS

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- E. Install piping to permit valve servicing.
- F. Install piping at indicated slopes.
- G. Install hydronic piping level and plumb.
- H. Install piping free of sags and bends.
- I. Install fittings for changes in direction and branch connections.
- J. Install piping to allow application of insulation.
- K. Select system components with pressure rating equal to or greater than system operating pressure.
- L. Install groups of pipes parallel to each other, spaced to permit applying insulation and servicing of valves.
- M. Install drains, consisting of a tee fitting, NPS 3/4 ball valve, and short NPS 3/4 threaded nipple with cap, at low points in piping system mains and elsewhere as required for system drainage.

- N. Install piping at a uniform grade of 0.2 percent upward in direction of flow.
 - O. Reduce pipe sizes using eccentric reducer fitting installed with level side up.
 - P. Install branch connections to mains using tee fittings in main pipe, with the branch connected to the bottom of the main pipe. For up-feed risers, connect the branch to the top of the main pipe.
 - Q. Install valves according to Section 230523 "General-Duty Valves for HVAC Piping."
 - R. Install unions in piping, NPS 2 and smaller, adjacent to valves, at final connections of equipment, and elsewhere as indicated.
 - S. Install shutoff valve immediately upstream of each dielectric fitting.
 - T. Comply with requirements in Section 230553 "Identification for HVAC Piping and Equipment" for identifying piping.
 - U. Install sleeves for piping penetrations of walls, ceilings, and floors.
 - V. Install escutcheons for piping penetrations of walls, ceilings, and floors.
- 3.3 DIELECTRIC FITTING INSTALLATION
- A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
 - B. Dielectric Fittings for NPS 2 and Smaller: Use dielectric nipples.
- 3.4 HANGERS AND SUPPORTS
- A. Comply with requirements in Section 230529 "Hangers and Supports for HVAC Piping and Equipment" for hanger, support, and anchor devices. Comply with the following requirements for maximum spacing of supports.
 - B. Install the following pipe attachments:
 - 1. Adjustable steel clevis hangers for individual horizontal piping less than 20 feet long.
 - 2. Adjustable roller hangers and spring hangers for individual horizontal piping 20 feet or longer.
 - 3. Pipe Roller: MSS SP-58, Type 44 for multiple horizontal piping 20 feet or longer, supported on a trapeze.
 - 4. Spring hangers to support vertical runs.
 - 5. Provide copper-clad hangers and supports for hangers and supports in direct contact with copper pipe.
 - C. Install hangers for drawn-temper copper piping with the following maximum spacing and minimum rod sizes:
 - 1. NPS 3/4: Maximum span, 5 feet; minimum rod size, 1/4 inch.
 - 2. NPS 1: Maximum span, 6 feet; minimum rod size, 1/4 inch.
 - 3. NPS 1-1/4: Maximum span, 7 feet; minimum rod size, 3/8 inch.
 - 4. NPS 1-1/2: Maximum span, 8 feet; minimum rod size, 3/8 inch.
- 3.5 PIPE JOINT CONSTRUCTION
- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
 - B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
 - C. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.
 - D. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8/A5.8M.
 - E. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

- F. Mechanically Formed, Copper-Tube-Outlet Joints: Use manufacturer-recommended tool and procedure, and brazed joints.

3.6 TERMINAL EQUIPMENT CONNECTIONS

- A. Sizes for supply and return piping connections shall be the same as or larger than equipment connections.
- B. Install control valves in accessible locations close to connected equipment.
- C. Install bypass piping with globe valve around control valve. If parallel control valves are installed, only one bypass is required.
- D. Install ports for pressure gages and thermometers at coil inlet and outlet connections.

3.7 FIELD QUALITY CONTROL

- A. Prepare hydronic piping according to ASME B31.9 and as follows:
 - 1. Leave joints, including welds, uninsulated and exposed for examination during test.
 - 2. Provide temporary restraints for expansion joints that cannot sustain reactions due to test pressure. If temporary restraints are impractical, isolate expansion joints from testing.
 - 3. Flush hydronic piping systems with clean water; then remove and clean or replace strainer screens.
 - 4. Isolate equipment from piping. If a valve is used to isolate equipment, its closure shall be capable of sealing against test pressure without damage to valve. Install blinds in flanged joints to isolate equipment.
 - 5. Install safety valve, set at a pressure no more than one-third higher than test pressure, to protect against damage by expanding liquid or other source of overpressure during test.
- B. Perform the following tests on hydronic piping:
 - 1. Use ambient temperature water as a testing medium unless there is risk of damage due to freezing. Another liquid that is safe for workers and compatible with piping may be used.
 - 2. While filling system, use vents installed at high points of system to release air. Use drains installed at low points for complete draining of test liquid.
 - 3. Subject piping system to hydrostatic test pressure that is not less than 1.5 times the system's working pressure. Test pressure shall not exceed maximum pressure for any vessel, pump, valve, or other component in system under test. Verify that stress due to pressure at bottom of vertical runs does not exceed 90 percent of specified minimum yield strength or 1.7 times the "SE" value in Appendix A in ASME B31.9, "Building Services Piping."
 - 4. After hydrostatic test pressure has been applied for at least 10 minutes, examine piping, joints, and connections for leakage. Eliminate leaks by tightening, repairing, or replacing components, and repeat hydrostatic test until there are no leaks.
 - 5. Prepare written report of testing.
- C. Perform the following before operating the system:
 - 1. Open manual valves fully.
 - 2. Inspect air vents at high points of system and determine if all are installed and operating freely (automatic type), or bleed air completely (manual type).
 - 3. Set temperature controls so all coils are calling for full flow.
 - 4. Verify lubrication of motors and bearings.

END OF SECTION 232113

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END OF ADDENDUM #01