

DICK VAN DYKE ADDICTION TREATMENT CENTER – KITCHEN & DINING ROOM ADDITION INCLUDING ASBESTOS ABATEMENT PROJECT

1330 County Rd. #132
Ovid, New York, 14521

Prepared for: Dormitory Authority State of New York (DASNY)
Prepared by: Colliers Engineering & Design
280 East Broad Street - Suite 200
Rochester, New York 14604

ADDENDUM # 003

Date Issued: September 30, 2026

The following additions, changes, and clarification modify the original bidding documents, and receipt of this addendum shall be acknowledged in the space provided on the proposal form. This addendum contains changes to the requirements of the Contract Documents - Project Manual/ Specifications and Construction Document Drawings - which have been issued to date. Such changes are to be incorporated into the Contract Documents and shall apply to the Work with the same meaning and force as if they had been included in the original documents. Wherever this Addendum modified a portion of a paragraph of the Project Manual, or portion of any Drawings, the remainder of the paragraph or Drawing shall remain in force.

RFI Questions/Responses:

Item No. 001 – 09/17/26

1. Need clarification on specs stating that both GC and PC own Temp toilets, Wash facilities and Drinking water. With PC running temporary pipe connections to existing sanitary lines. Who is responsible for these items and what temporary piping is needed for the sanitary line?
 - **RESPONSE:** Per section 3.2 in specification 015000, the GC is to provide the fixtures (temp toilets, wash facilities and drinking water facilities). All GC provided temporary fixtures/facilities are unpiped. There will be no temporary piping connections required for the temporary fixtures (toilets, wash facilities and drinking water facilities) included in the PC contract.

Item No. 002 – 09/18/26

1. Is there a place onsite for spoil material?
 - **RESPONSE:** There is limited room at the South end of the building for a small amount of spoils that are intended to be reused at a later date. Any excess not anticipated for re-use on site will need to be removed from site.
2. There is a requirement for a double-wide office trailer for the owner's use. Ask for staging plan for that trailer's location.
 - **RESPONSE:** Refer to staging plan attached below for location.
3. Is the Owner responsible for moving existing loose stored materials & furnishings?
 - **RESPONSE:** The GC is responsible for moving existing loose stored materials & furnishings. Refer to Phasing specification attached below.

Item No. 003 – 09/21/26

1. What hardware set is required for doors no. 165A & S02.
 - **RESPONSE:**
 - Refer to door hardware specification for door 165A.
 - Refer to attached door hardware specification below for door S02 hardware.
2. Project spec book states "HVAC instrumentation and controls" and "building automation system" are part of the HVAC contract. Spec sections for HVAC controls and building automation system are not provided along with HVAC controls schematics in Mechanical drawing set.
 - **RESPONSE:** This project falls under the New York State Residential Building Codes, therefore commissioning is not required.
3. HVAC commissioning spec section is not included in project spec manual.
 - **RESPONSE:** This project falls under the New York State Residential Building Codes, therefore commissioning is not required.

Item No. 004 – 09/22/26

1. Please provide a spec section for louver L-1 and L-2 that can be found on M101 and in the schedule on M600.
 - **RESPONSE:** Contractor to buy the model and submit comparable products as shown on M101 and M600 drawings.
2. FSE-2 Kitchen plumbing plan, items no. 9.1 and 9.3 evaporator drains. Where are these to drain?
 - **RESPONSE:** See drawings P100 and P101 issued as part of Bid Addendum #003.

3. Can you verify who owns the controls in the building. No spec section is provided in the documents.
 - **RESPONSE:** See drawing M701 issued as part of Bid Addendum #003 for control diagram.

Item No. 005 – 09/23/26 – Substitution

1. A substitution for the Resinous Flooring Coating was requested.
 - **RESPONSE:** All substitutions will be considered as long as the proposed product meets all performance requirements of the basis of design listed in specification 096723.

Item No. 006 – 09/23/26

1. Please let me know the budget for the HVAC contract.
 - **RESPONSE:** The estimated cost is \$850,000 - \$940,000 per the advertisement for bid.
2. Please let me know who the controller is for the HVAC contract.
 - **RESPONSE:** The current BMS system is Daikin and the contact is Modular Comfort Systems
3. Please let me know if there is an allowance for the HVAC contract.
 - **RESPONSE:** There is no allowance for the HVAC contract.
4. Please confirm if the RD-1 and the 3" ORD-1 shown on M120 are to be supplied and installed by the plumbing contract.
 - **RESPONSE:** Yes, those are to be supplied and installed by the Plumbing contractor.

Item No. 007 – 09/24/26

1. On A100, Keynote 1 is calling out new waterproofing on the foundation walls. What is the height of the foundation wall requiring waterproofing? Are all areas the same? Will these areas of replacement be able to be laid back for excavation? Please advise.
 - **RESPONSE:** Based on existing documents, from grade to T.O. footing is approximately 5'-0" (V.I.F.) where keynote 1 is shown on A100. Yes, these areas are anticipated to be laid back during excavation for abatement and waterproofing.
2. Looking at the Shed on A407, assuming the entire perimeter is 8x8x16 half scored cmu. For the wall between the DVD Storage and Client Storage, assuming this wall will be standard CMU with no half scored? Color for all CMU at shed is Standard Gray since it will be painted? Please advise.
 - **RESPONSE:** Correct, the wall between DVD storage and Client Storage is to be standard CMU. Correct, color for CMU is standard gray.

3. A101 – Keynote 12, states to reinstall window system raised from an existing sill height of 2'-6" above second floor to sill height of 3' above second floor. I do not see any details showing the existing conditions, whether it is Brick and CMU/ or Metal panel and CFMF backup wall. Do we need a steel lintel or not. Please provide a section cut through this window location. Also, what are the existing conditions within the room that will be disturbed by the removal and reinstallation of this window. Please advise.
 - **RESPONSE:** Existing wall construction at this window location consists of 6" cold formed metal stud framing, 5/8" exterior gypsum board sheathing, 1 1/2" rigid insulation, horizontal rainscreen framing and ACM wall panel. Replacement/patching/painting of 5/8" gypsum board at the interior should be assumed. A 1/2" solid surface sill is to be salvaged and re-installed. Refer to 6/A502 for similar construction. The existing ceiling in the space is ACT at 8'-4" H.

Contractor to include a 6" x 6" box header and 2X blocking at the new window head, a steel lintel is not required. Contractor to provide new king and jack studs as required to carry header.

Room 245 and its contents (desk, two (2) file cabinets, printer, chairs, floor rug, etc.) will be relocated to room 243 by the contractor.

Item No. 008 – 09/25/26

1. We are preparing a bid for the Dick Van Dyke ATC Kitchen & Dining Room Addition. The specs require the new fire alarm work to match and extend the existing system. However, the documents don't identify the existing service vendor. Can you share the name or contact information of the fire alarm vendor who currently services the facility.
 - **RESPONSE:** Specification 284621.11, section 2.1 – Addressable Fire – Alarm Systems and sheets E300 and E301 have been modified to include basis of design.

Item No. 009 – 09/28/26

1. Wall sections (A321 & A322) details call out for waterproofing and drainboard but no specs. were provided. Is this required?
 - **RESPONSE:** Yes, please see specification 071326 – Self-Adhering Sheet Waterproofing attached below.
2. Please provide specification for temperature controls for this project.
 - **RESPONSE:** Refer to specification 238129, section 2.6 – System Controls in the project manual.
3. Under General Conditions, Section 4.03 Coordinated Composite Drawings. Will base line drawings be provided? What was the software/version the original drawings were produced? Will these be 2D drawings only? Which contractor is the coordinator for the overall coordination drawings?

- **RESPONSE:** The software/version that the original drawings were produced in was Revit 2023. At the contractor's request, AutoCAD drawings can be exported for their use in developing coordination drawings. The GC is responsible for overall coordination drawings.
- 4. Will the Contract manager Software site be provided to us and free to use? 01 31 00, 1.8.
- **RESPONSE:** The project management software is PMWeb and the Contractor will be given access.
- 5. Please advise as to what size field office will be required for the owner.
- **RESPONSE:** The field office should be sufficient for construction progress meetings and have enough space for 15 +/- people around a conference room table.
- 6. Can't find anywhere if these blocks need to be grouted/rebar or not? Please confirm.
- **RESPONSE:** Refer to 1/S507 for CMU wall reinforcing.
- 7. Can't find spec. for below grade waterproofing.
- **RESPONSE:** Refer to specification 071326 – Self-Adhering Sheet Waterproofing attached below.
- 8. Note 5 on A402 calls for masonry repair as required after loading dock removed but amount of this masonry work is unknown.
- **RESPONSE:** Contractor should assume 34 SF of masonry repair/repointing/replacement.

Item No. 010 – 09/29/26

1. Please provide spec. for waterproofing/drainage board on existing and new build.
- **RESPONSE:** Refer to specification 071326 – Self-Adhering Sheet Waterproofing attached below.
2. Page 230713-3, Section 2.2 Insulation materials, Part E, calls out to use 2 3/13" w/installed R-8.4 value. But page 230713-12, Section 3.10 Duct Insulation Schedule, Part E lists 2" thick installed R-6 value. We need clarification on which to use.
- **RESPONSE:** Insulation to be used is 2" thick with an R-value of 6.
3. Page 230713-3, Section 3.9 Duct Insulation Schedule, General, Part-D lists indoor Return Duct as not getting. Same page, Section 3.10 Duct Insulation Schedule, Part-E lists Return Ductwork as being insulated. We need clarification on whether Return Ductwork is insulated and spec. for it if so.
- **RESPONSE:** Return ductwork is to be insulated. Specifications are the same as the supply ductwork in Section E.
4. Not mentioned in specs. is L/A (Relief Air) and S-O/A (Outdoor Supply Air) within the building envelope. Do these ducts get insulated or should they be excluded? Would also need specs. for these items.

- **RESPONSE:** Relief Air is the same as Exhaust Air, so no insulation. Outdoor Supply Air is the same as Supply Air and shall be insulated as per 3.9.E and 3.9.F depending on location.
- 5. Please provide spec. for Wall Covering 1 (WC1). Do not see this listed within the specifications.
- **RESPONSE:** Refer to specification 066400 – Plastic Paneling attached below.
- 6. Please provide spec. for the stainless-steel wall panel at Cooking Area 168, details 5 and 6 on A422.
- **RESPONSE:** Fabricate from 20-gauge stainless steel no. 4 – 180 grit. Panels shall be interlocking type with hemmed edges and sanded smooth corners. Use clear silicone adhesive to adhere to each other and to wall. Provide fastener holes at 9" O.C. at tops of panels and at concealed edges for mounting.

Item 11: Refer to Contract Document Drawings – Substitute the following sheets:

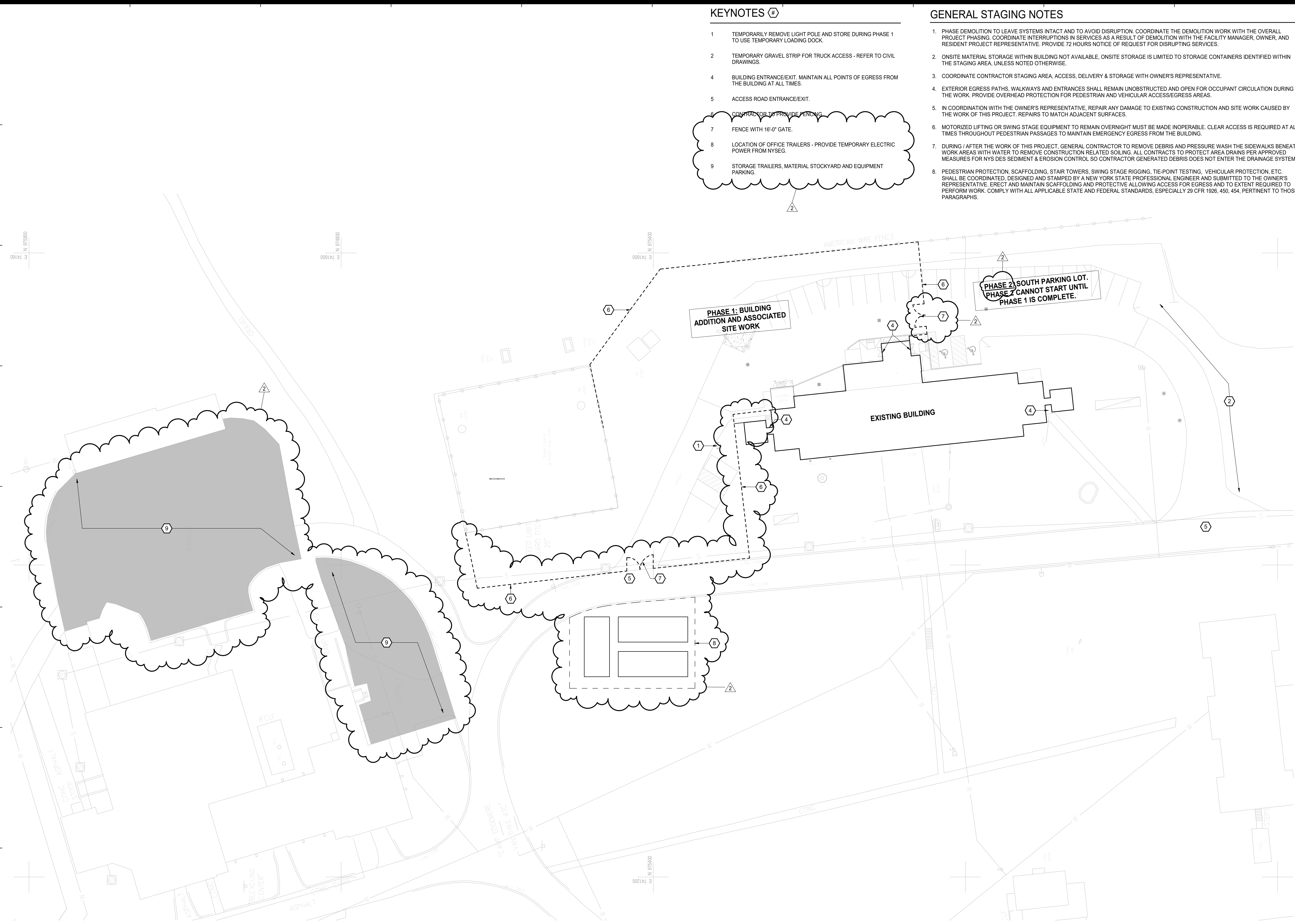
1. Sheet G005 - STAGING PLAN
 - a. **MODIFY:** Extents of fencing.
 - b. **ADD:** Office trailers and storage trailer locations, material stock yard and equipment parking. Keynotes added to sheet to reflect these items.
2. Sheet M701 – MECHANICAL CONTROLS DIAGRAM
 - a. **ADD:** New drawing; added control diagram.
3. Sheet P100 – BASEMENT SANITARY & VENT PIPING PLAN
 - a. **ADD:** Combination waste/vent piping from floor sink on first floor.
4. Sheet P101 – FIRST FLOOR SANITARY & VENT PIPING PLAN
 - a. **ADD:** Combination waste/vent piping and floor sink to serve freezer and cooler, plus keynote 11.
5. Sheet E300 – BASEMENT SPECIAL SYSTEMS PLAN
 - a. **MODIFY:** Keynote 2 to include VALCOM as basis of design.
6. Sheet E301 – FIRST FLOOR SPECIAL SYSTEMS PLAN
 - a. **MODIFY:** Keynote 4 and 8 to include VALCOM and JCI as basis of design.

Item 12: Refer to Contract Document Project Manuals – Substitute the following specifications:

1. Section "000110 – TABLE OF CONTENTS"
 - a. **ADD:** Specification 066400 – PLASTIC PANELING and 071326 – SELF-ADHERING SHEET WATERPROOFING.
2. Section "000115 – LIST OF DRAWING SHEETS"
 - a. **ADD:** Drawing M701 – MECHANICAL CONTROLS DIAGRAM to drawing list
3. Section "087100 – DOOR HARDWARE"
 - a. **ADD:** Door S02 to hardware set 4.0.

4. Section "284621.11 – ADDRESSABLE FIRE – ALARM SYSTEMS"
 - a. **ADD:** JCI as basis of design

END OF ADDENDUM #003

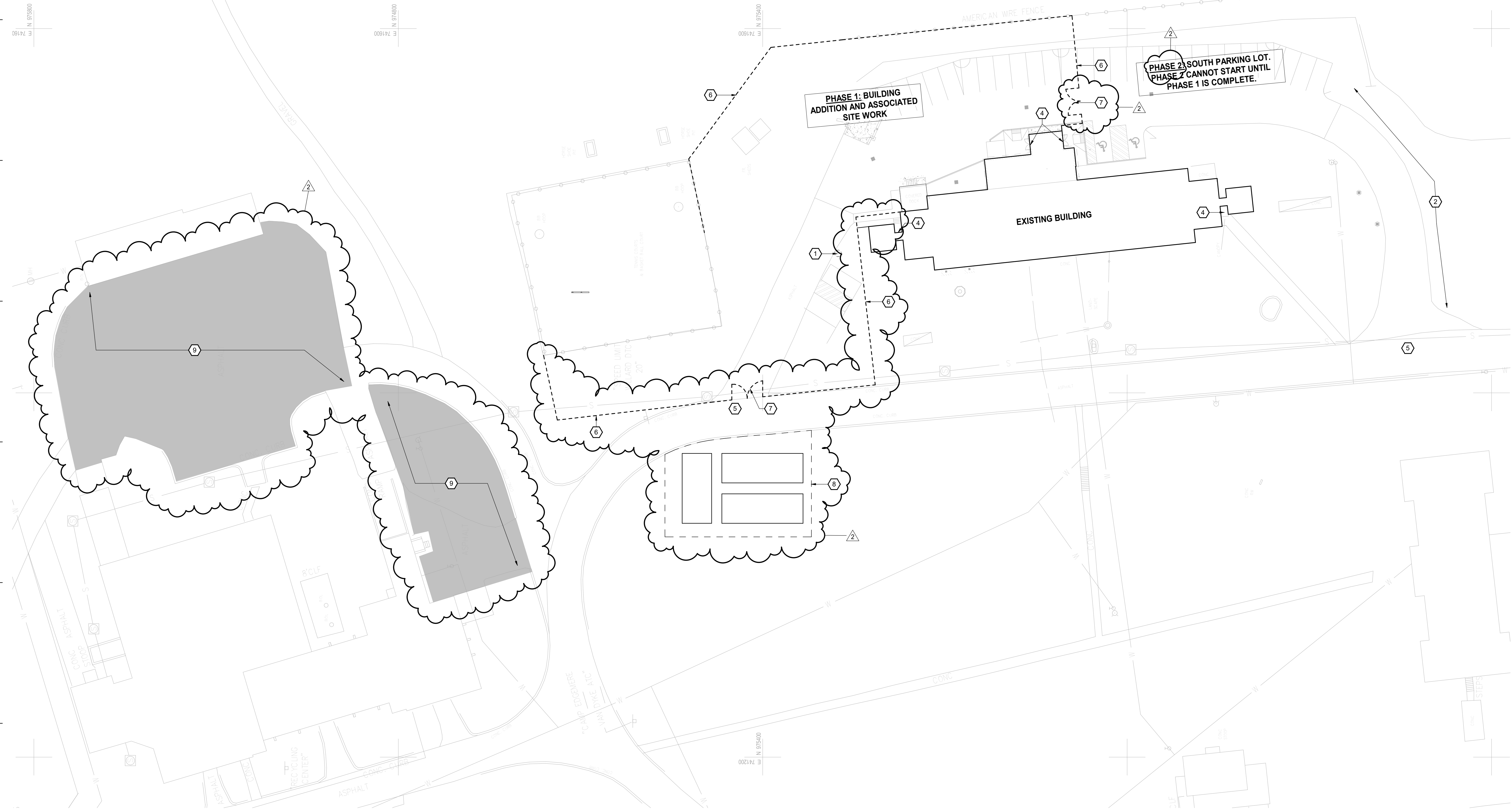


KEYNOTES

- 1 TEMPORARILY REMOVE LIGHT POLE AND STORE DURING PHASE 1 TO USE TEMPORARY LOADING DOCK.
- 2 TEMPORARY GRAVEL STRIP FOR TRUCK ACCESS - REFER TO CIVIL DRAWINGS.
- 4 BUILDING ENTRANCE/EXIT. MAINTAIN ALL POINTS OF EGRESS FROM THE BUILDING AT ALL TIMES.
- 5 ACCESS ROAD ENTRANCE/EXIT.
- 6 CONTRACTOR TO PROVIDE PENDING.
- 7 FENCE WITH 16'-0" GATE.
- 8 LOCATION OF OFFICE TRAILERS - PROVIDE TEMPORARY ELECTRIC POWER FROM NYSEG.
- 9 STORAGE TRAILERS, MATERIAL STOCKYARD AND EQUIPMENT PARKING.

GENERAL STAGING NOTES

1. PHASE DEMOLITION TO LEAVE SYSTEMS INTACT AND TO AVOID DISRUPTION. COORDINATE THE DEMOLITION WORK WITH THE OVERALL PROJECT PHASING. COORDINATE INTERRUPTIONS IN SERVICES AS A RESULT OF DEMOLITION WITH THE FACILITY MANAGER, OWNER, AND RESIDENT PROJECT REPRESENTATIVE. PROVIDE 72 HOURS NOTICE OF REQUEST FOR DISRUPTING SERVICES.
2. ONSITE MATERIAL STORAGE WITHIN BUILDING NOT AVAILABLE, ONSITE STORAGE IS LIMITED TO STORAGE CONTAINERS IDENTIFIED WITHIN THE STAGING AREA, UNLESS NOTED OTHERWISE.
3. COORDINATE CONTRACTOR STAGING AREA, ACCESS, DELIVERY & STORAGE WITH OWNER'S REPRESENTATIVE.
4. EXTERIOR EGRESS PATHS, WALKWAYS AND ENTRANCES SHALL REMAIN UNOBSTRUCTED AND OPEN FOR OCCUPANT CIRCULATION DURING THE WORK. PROVIDE OVERHEAD PROTECTION FOR PEDESTRIAN AND VEHICULAR ACCESS/EGRESS AREAS.
5. IN COORDINATION WITH THE OWNER'S REPRESENTATIVE, REPAIR ANY DAMAGE TO EXISTING CONSTRUCTION AND SITE WORK CAUSED BY THE WORK OF THIS PROJECT. REPAIRS TO MATCH ADJACENT SURFACES.
6. MOTORIZED LIFTING OR SWING STAGE EQUIPMENT TO REMAIN OVERNIGHT MUST BE MADE INOPERABLE. CLEAR ACCESS IS REQUIRED AT ALL TIMES THROUGHOUT PEDESTRIAN PASSAGES TO MAINTAIN EMERGENCY EGRESS FROM THE BUILDING.
7. DURING / AFTER THE WORK OF THIS PROJECT, GENERAL CONTRACTOR TO REMOVE DEBRIS AND PRESSURE WASH THE SIDEWALKS BENEATH WORK AREAS WITH WATER TO REMOVE CONSTRUCTION RELATED SOILING. ALL CONTRACTS TO PROTECT AREA DRAINS PER APPROVED MEASURES FOR NYS DES SEDIMENT & EROSION CONTROL SO CONTRACTOR GENERATED DEBRIS DOES NOT ENTER THE DRAINAGE SYSTEM.
8. PEDESTRIAN PROTECTION, SCAFFOLDING, STAIR TOWERS, SWING STAGE RIGGING, TIE-POINT TESTING, VEHICULAR PROTECTION, ETC. SHALL BE COORDINATED, DESIGNED AND STAMPED BY A NEW YORK STATE PROFESSIONAL ENGINEER AND SUBMITTED TO THE OWNER'S REPRESENTATIVE. ERECT AND MAINTAIN SCAFFOLDING AND PROTECTIVE ALLOWING ACCESS FOR EGRESS AND TO EXTENT REQUIRED TO PERFORM WORK. COMPLY WITH ALL APPLICABLE STATE AND FEDERAL STANDARDS, ESPECIALLY 29 CFR 1926, 450, 454, PERTINENT TO THOSE PARAGRAPHS.



1 STAGING PLAN
SCALE : 1" = 30'-0"



DASNY

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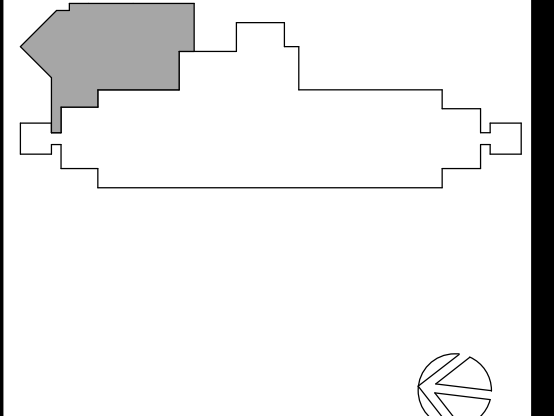


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Project Key



REVISIONS

Rev No	Description	Date
2	ADDENDUM #003	09/30/26

Client

OASAS
1450 WESTERN AVE.
ALBANY, NY 12203

Project Title

KITCHEN & DINING ROOM
ADDITION INCLUDING ASBESTOS
ABATEMENT PROJECT
DICK VAN DYKE - ADDITION
TREATMENT CENTER
1330 COUNTY RD. #132, OVID, NY 14521

Drawing Title

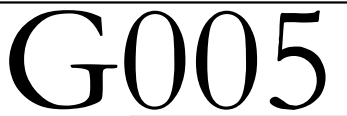
STAGING PLAN

Phase

BID SUBMISSION



Date: 07/10/2026
DASNY Project No: 374120
Consultant Project No: 24001978A
Scale: As indicated
Drawn By: B. THOMPSON
Checked By: C. BRAUN



Drawing Number Drawing of

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Project Key

REVISIONS		
Rev No	Description	Date
2	ADDENDUM #003	09/30/26

Client

OASAS
1450 WESTERN AVE.
ALBANY, NY 12203

Project Title

**KITCHEN & DINING
ROOM ADDITION**
DICK VAN DYKE
ADDITION TREATMENT CENTER
1330 COUNTY ROAD #132,
OVID, NY 14521

Drawing Title

**MECHANICAL CONTROL
DIAGRAMS**

Phase

BID SUBMISSION

STATE OF NEW YORK

SEAL

PROFESSIONAL ENGINEER

08243

108243

Date:

07/10/2026

DASNY Project No:

374120

Consultant Project No:

24001978A

Scale:

12" = 1'-0"

Drawn By:

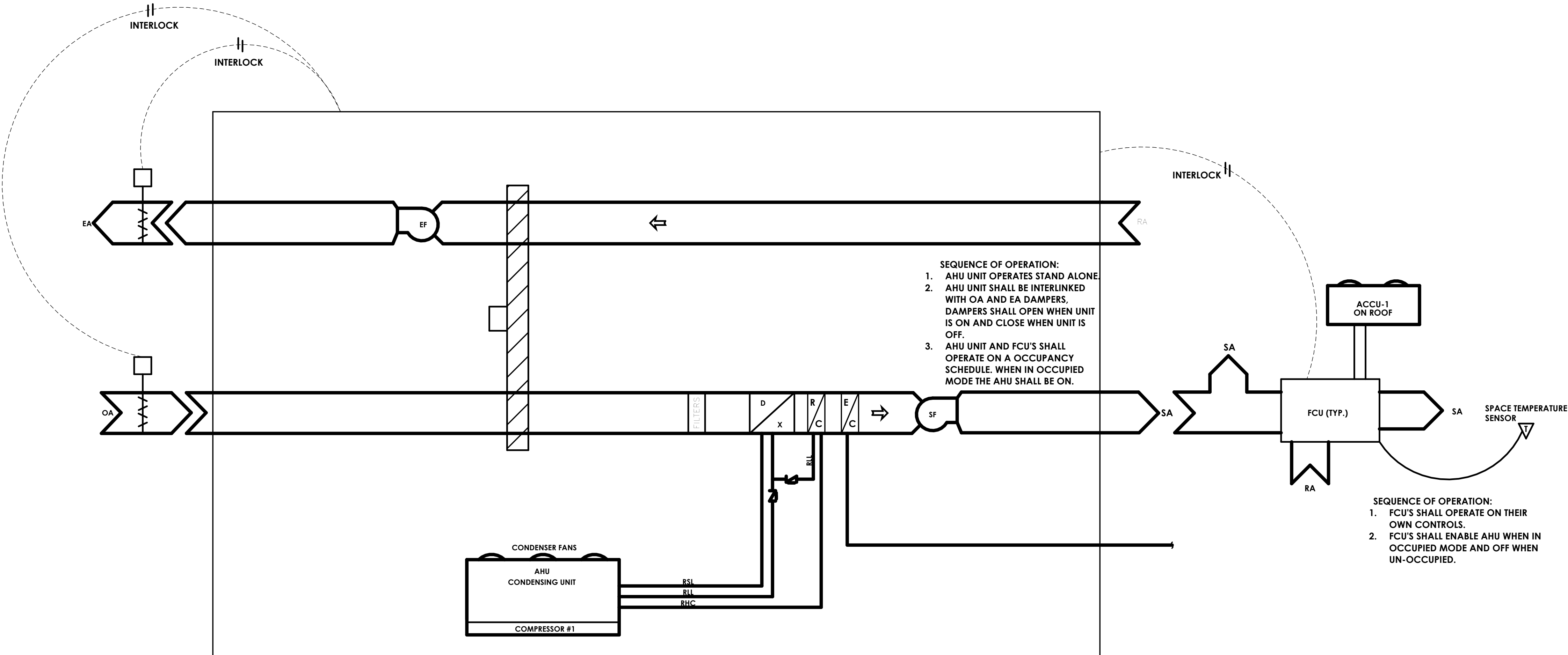
J LOFTFIELD

Checked By:

T MCCLURE

M701

Drawing Number of



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Project Key



REVISIONS

Rev No	Description	Date
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2 ADDENDUM #003 09/30/26

Client

OASAS

1450 WESTERN AVE.
ALBANY, NY 12203

Project Title

KITCHEN & DINING

ROOM ADDITION

DICK VAN DYKE
ADDITION TREATMENT CENTER
1330 COUNTY ROAD #132,
OVID, NY 14521

Drawing Title

**BASEMENT SANITARY &
VENT PIPING PLAN**

Phase

BID SUBMISSION

Professional Seal & Signature

Date: 07/10/2026

DASNY Project No: 374120

Consultant Project No: 24001978A

Scale: 3/16" = 1'-0"

Drawn By: J LOFFIELD

Checked By: T McCLURE

P100

Drawing Number

Drawing of

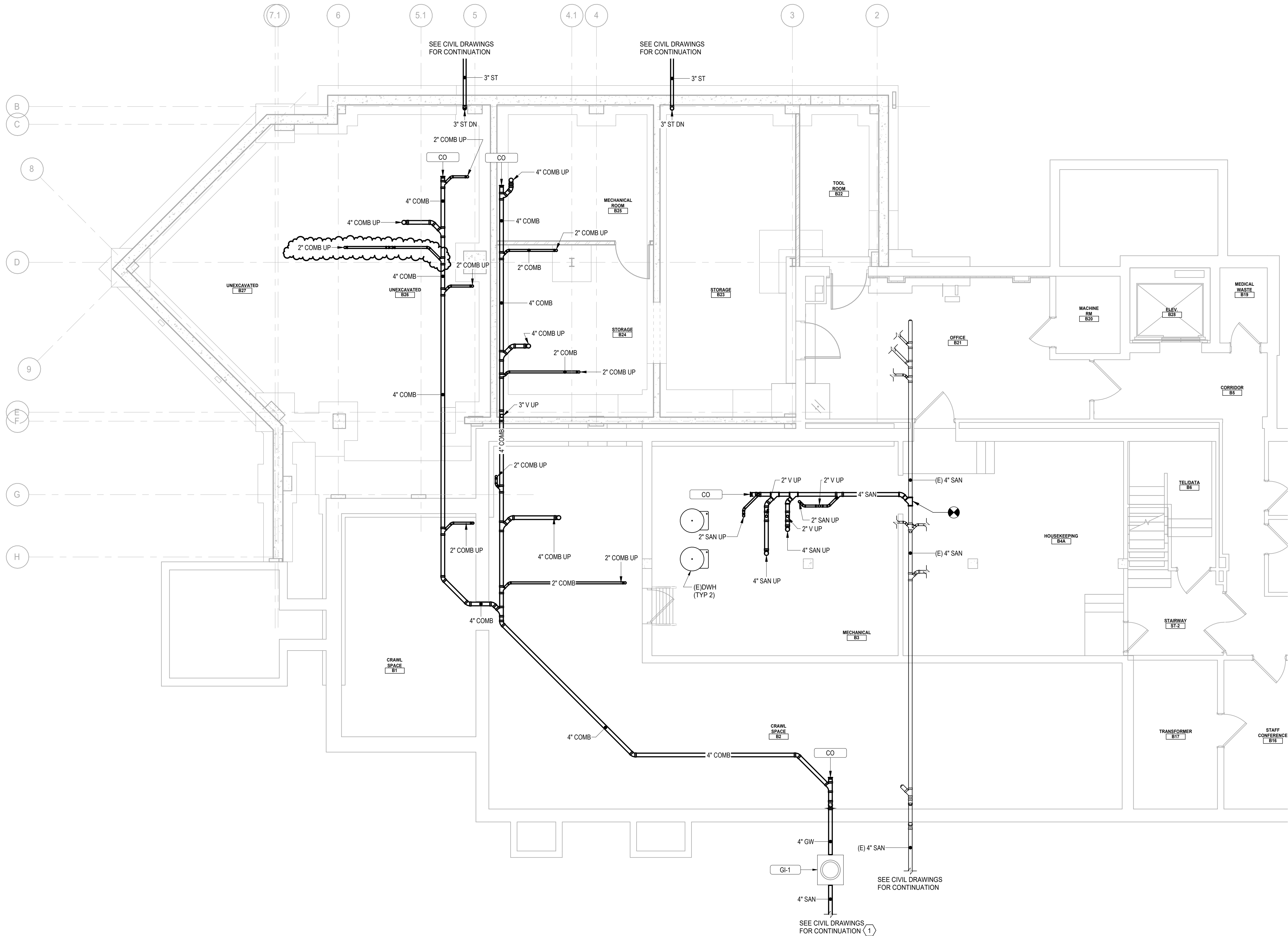
GENERAL NOTES

A. CONTRACTOR TO VERIFY PIPING SYSTEM MODIFICATIONS DID NOT LEAVE ANY DEAD-END PIPING COMING FROM THE UPPER FLOORS OR ACTIVE AREAS OUTSIDE THE AREA OF WORK. ANY DEAD-END PIPING IN THE AREA OF WORK THAT IS CURRENTLY ABANDONED SHALL BE REMOVED.

B. COMBINATION WASTE/VENT PIPING SHALL BE INSTALLED AT 1/8" PER FOOT PITCH.

KEYNOTES (#)

1. COORDINATE WITH CIVIL DRAWINGS TO AVOID EXISTING STEAM TUNNEL.



1 BASEMENT SANITARY & VENT PIPING PLAN
SCALE : 3/16" = 1'-0"

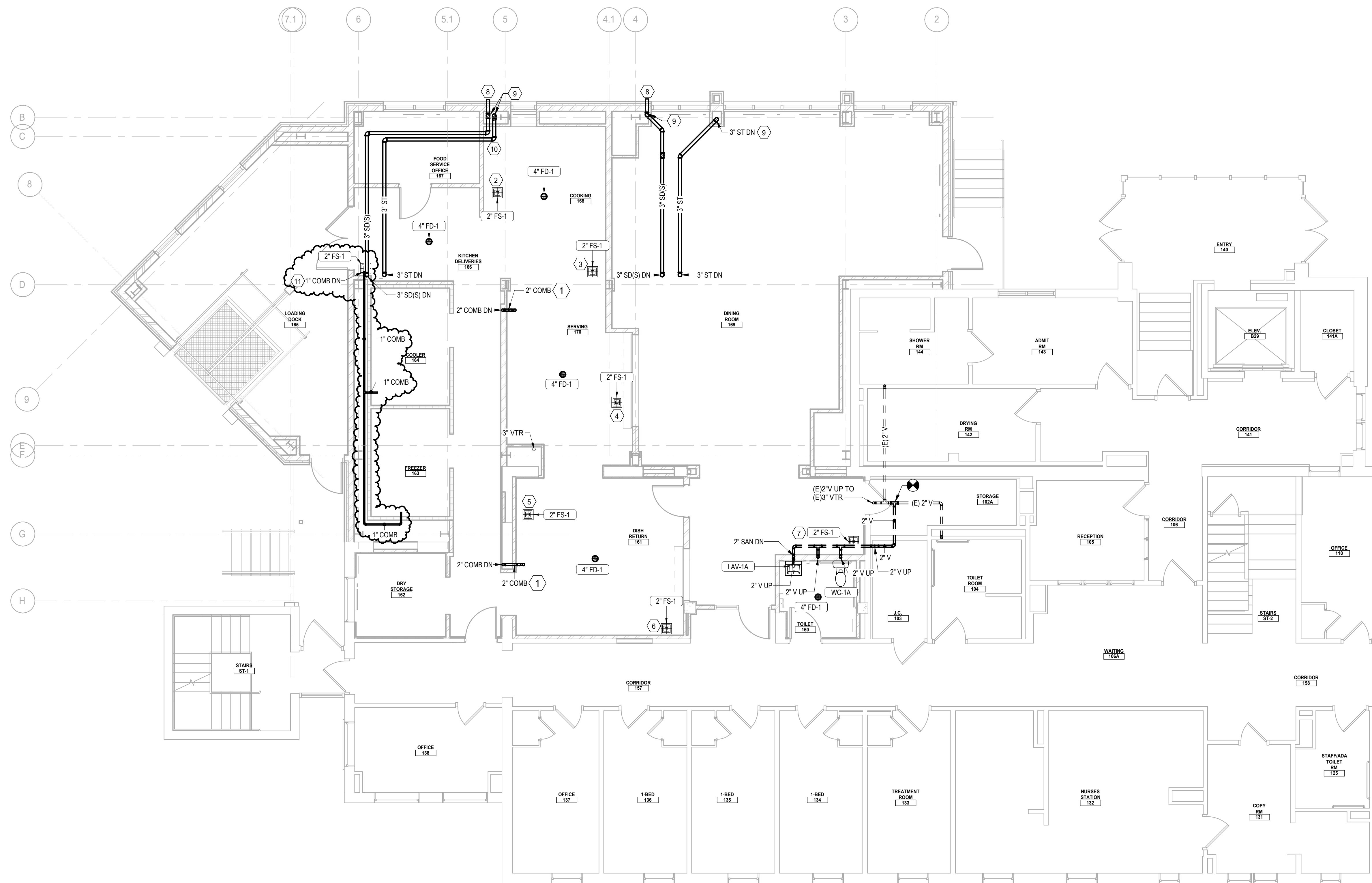
Client **OASAS**
1450 WESTERN AVE.
ALBANY, NY 12203

Project Title
**KITCHEN & DINING
ROOM ADDITION**
DICK VAN DYKE
ADDICTION TREATMENT CENTER
1330 COUNTY ROAD #132,
OVID, NY 14521

Drawing Title	
FIRST FLOOR SANITARY VENT PIPING PLAN	
Phase	
BID SUBMISSION	
Professional Seal & Signature	Date: 07/10/2026 DASHI PROJECT NO: 374120 Consultant Project No: 24001978A
	Scale: 3/16" = 1'-0" Drawn by: J. LOTTFIELD Checked by: T MCCLURE
P101	
Drawing Number	Drawing of

- A. CONTRACTOR SHALL COORDINATE INSTALLATION OF EQUIPMENT AND PIPING WITH GENERAL, ELECTRICAL AND MECHANICAL TRADES.
- B. CONTRACTOR SHALL PROTECT EXISTING CONSTRUCTION AND EQUIPMENT NOTED TO REMAIN FROM DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES. ANY DAMAGE TO EXISTING PROPERTY RESULTING FROM CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- C. CONTRACTOR SHALL PROTECT ADJACENT SURFACES IN PREPARATION OF SAW CUTTING REQUIRED FOR CONSTRUCTION ACTIVITIES.
- D. CONTRACTOR TO VERIFY PIPING SYSTEM MODIFICATIONS DID NOT LEAVE ANY DEAD-END PIPING COMING FROM THE UPPER FLOORS OR ACTIVE AREAS OUTSIDE THE AREA OF WORK. ANY DEAD-END PIPING IN THE AREA OF WORK THAT IS CURRENTLY ABANDONED SHALL BE REMOVED.
- E. CONTRACTOR SHALL PROVIDE INSULATION ON STORM PIPING LOCATED IN KITCHEN AREA WITH A PVC JACKET.

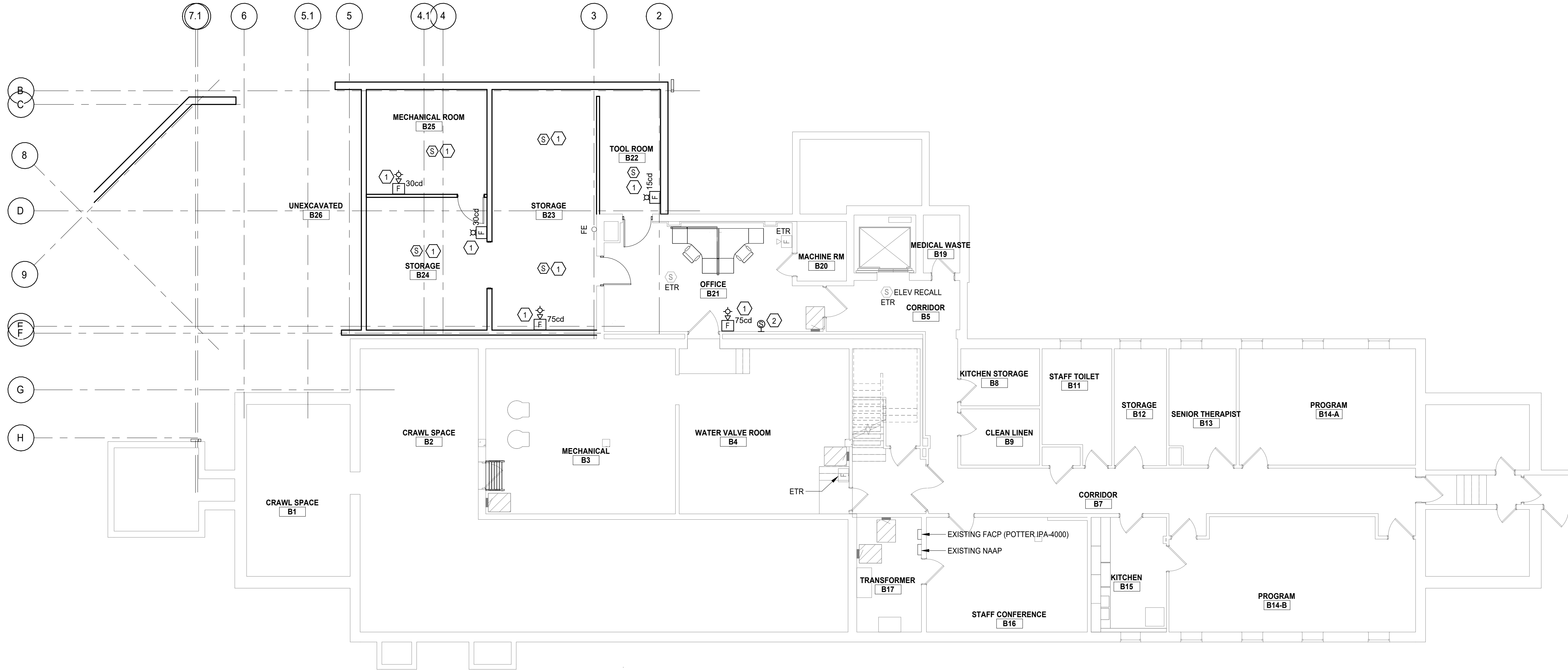
1. CONNECT TO HAND SINK PROVIDED BY KITCHEN CONSULTANT. SEE KITCHEN EQUIPMENT DRAWINGS FOR FINAL LOCATION.
2. INDIRECT DRAINS FROM PREP TABLE WITH SINK TO BE ROUTED TO FLOOR SINK. TERMINATE DRAINS WITH AIR GAP 4" ABOVE FLOOR SINK. SEE KITCHEN EQUIPMENT DRAWINGS FOR EQUIPMENT LOCATIONS.
3. INDIRECT DRAINS FROM PREP TABLE WITH SINK AND COMBI OVEN TO BE ROUTED TO FLOOR SINK. TERMINATE DRAINS WITH AIR GAP 4" ABOVE FLOOR SINK. SEE KITCHEN EQUIPMENT DRAWINGS FOR EQUIPMENT LOCATIONS.
4. INDIRECT DRAIN FROM HOT FOOD TABLE TO BE ROUTED TO FLOOR SINK. TERMINATE DRAINS WITH AIR GAP 1" ABOVE FLOOR SINK. SEE KITCHEN EQUIPMENT DRAWINGS FOR EQUIPMENT LOCATIONS.
5. INDIRECT DRAINS FROM THREE BAY SINK TO BE ROUTED TO FLOOR SINK. TERMINATE DRAINS WITH AIR GAP 3" ABOVE FLOOR SINK. SEE KITCHEN EQUIPMENT DRAWINGS FOR EQUIPMENT LOCATIONS.
6. INDIRECT DRAINS FROM VENTLESS DISHWASHER AND SOILED DISHABLE TO BE ROUTED TO FLOOR SINK. TERMINATE DRAINS WITH AIR GAP 4" ABOVE FLOOR SINK. SEE KITCHEN EQUIPMENT DRAWINGS FOR EQUIPMENT LOCATIONS AND INDIRECT WASTE/FLOOR SINK DIAGRAM FOR ADDITIONAL INFORMATION ON P500.
7. INDIRECT DRAIN FROM ICE MAKER/DISPENSER TO BE ROUTED TO FLOOR SINK. TERMINATE DRAINS WITH AIR GAP 1-1/2" ABOVE FLOOR SINK. SEE KITCHEN EQUIPMENT DRAWINGS FOR EQUIPMENT LOCATIONS.
8. TERMINATE 3" ST(5) PIPING 24" AFF. PIPING SHALL EXTEND THROUGH EXTERIOR WALL AND TERMINATE WITH DOWNSPOUT FITTING. PENETRATION SHALL BE SEALED WEATHER TIGHT.
9. PROVIDE CLEANOUT AT BASE OF STORM RISER.
10. PROVIDE AN OVERSIZED DRIP PAN BELOW THE PIPING AND INSTALL PER NYS PLUMBING CODE REQUIREMENTS.
11. INDIRECT DRAIN FROM FREEZER AND COOLER EVAPORATOR COILS TO BE ROUTED TO FLOOR SINK. TERMINATE DRAIN WITH AIR GAP 4" ABOVE FLOOR SINK. SEE KITCHEN EQUIPMENT DRAWINGS FOR EQUIPMENT LOCATIONS.



1 FIRST FLOOR SANITARY & VENT PIPING PLAN
SCALE : 3/16" = 1'-0"

FIRE ALARM KEYNOTES

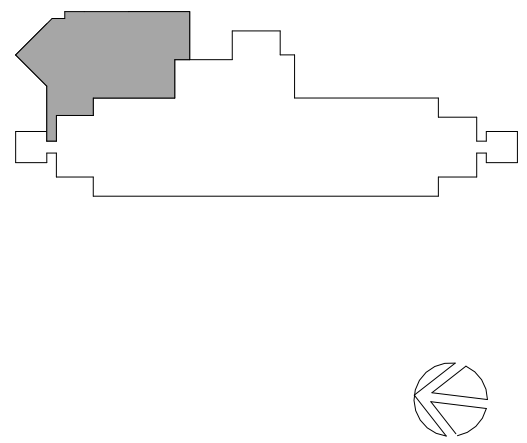
1. PROVIDE FIRE ALARM DEVICE COMPATIBLE WITH EXISTING SYSTEM.
CONNECT TO EXISTING FACP ON THIS FLOOR. PROVIDE ALL
PROGRAMMING AND TESTING.
2. PROVIDE SPEAKER COMPATIBLE WITH EXISTING BUILDING SYSTEM.
PROVIDE CONDUIT AND WIRING TO HEADEND. COORDINATE WITH
OWNER ON LOCATION OF HEADEND. BASIS OF DESIGN IS VALCOM.



1 BASEMENT FIRE ALARM PLAN

SCALE : 1/8" = 1'-0"

Project Key



REVISIONS

Rev	Description	Date
1	BID ADDENDUM #003	09/30/26

Client
DASNY
515 BROADWAY
ALBANY, NY 12207-2964

Project Title
**KITCHEN & DINING
ROOM ADDITION**
DICK VAN DYKE
ADDICTION TREATMENT CENTER
1330 COUNTY ROAD #132,
OVID, NY 14521

Drawing Title
**BASEMENT SPECIAL
SYSTEMS PLAN**

Phase
BID SUBMISSION

Professional Seal & Signature

Date:
07/10/2026
DASNY Project No:
374120
Consultant Project No:
24001978A
Scale:
1/8" = 1'-0"
Drawn By:
T. COGHLAN
Checked By:
B. ELIASZ

E300
Drawing Number of

PROJECT PHASING

1.1 PHASING

- A. The Dick Van Dyke Addiction Treatment Center will remain fully occupied during the renovations. The project will be constructed in 4 phases, see phasing drawings in bid documents. Coordinate access to rooms with Van Dyke ATC Director and DASNY.
- B. The General Construction contractor may schedule sub-phase work to be approved by Van Dyke ATC Director, DASNY and OASAS.
- C. This project will be completed in phases to allow the building to remain fully occupied, except for the immediate work zone.

1.2 EXIT/LIFE SAFETY MEASURES

- A. An approved exit/life safety plan must be implemented for each Phase. The General Contractor shall be responsible for posting notices and providing temporary signage redirecting staff, residents, and visitors. The General Contractor shall install Photoluminescent exit signs for interim life safety changes to egress paths. Provide temporary covers over existing exits signs when required. Post evacuation route maps (furnished by owner) at locations of existing maps, including corridors and common rooms.
- B. Work by phase shall include the installation of work associated with interim life safety measures, and temporary partitions prior to the start of construction. Provide construction barriers to prevent occupants from entering or exiting through work area. Provide floor-to-ceiling dustproof partitions to separate areas occupied by the Owner from construction and abatement activities. At the conclusion of the phase, remove all temporary measures prior to starting the next phase.
- C. Use methods to install barricades, partitions, and signs etc. that do not disturb flooring.
- D. The General Contractor shall submit interim life safety measures plan, modified as required to correspond to actual construction sequencing and work limits for review by Van Dyke ATC Director, DASNY and OASAS. The plan shall include locations, materials, and type of temporary measures to be employed.

1.3 STAGING

- A. The Contractor shall submit a staging plan for approval by the DASNY Representative and Owner.
 - 1. Confine operations to areas within the Contract limits.
 - 2. Keep roads and entrances serving the premises clear and available to the staff and the public at all times. Do not use these areas for parking or storage of materials.

PROJECT PHASING

3. The General Contractor shall be responsible for providing the means, method, and path for all equipment to the site. Reinstall anything removed that is not scheduled for demolition.
4. The work, staging and decontamination areas shall be secured and made safe at the end of each workday.
5. The Contractor shall provide, install, and maintain any temporary fence enclosures required by the Owner.
6. Stored material shall be protected from the elements. Security of stored material is the responsibility of Contractor. Storage must be in secured enclosures. Any loss or damage items will be the responsibility of the Contractor.
7. Contractor parking will not be adjacent to the project site. Areas will be designated on the campus by DASNY.
8. Storage trailers will not be adjacent to the project site. Areas will be designated on the campus by DASNY. In addition to contractor storage trailers, provide space for three (3) storage trailers for Owner's furniture, equipment and packed boxes that cannot remain within facility during construction.

1.4 RELOCATION SERVICES

- A. The General Contractor will be responsible for moving contents (furniture, equipment and belongings) to: storage, temporary locations and swing spaces during each phase and/or stage, setting up proper furniture for bedrooms or offices to be provided in the swing space and to move furniture "to remain" within each room being renovated to accommodate work by all trades.
- B. The General Contractor shall provide three (3) storage trailers (45-53 feet in length) fully enclosed, lockable, and weatherproof grade-level units or trailers including a stair and a metal walk-board with anti-skid surface for access, permitting access to the items in the trailer by the Owner/OASAS.
- C. The General Contractor will be responsible for packing and moving all contents from rooms in the basement. Provide boxes, crates, bins etc. for best possible use.

The General Contractor shall supply all material required for the move, i.e., boxes, tape, labels, heavy-duty bags for packing electronics, bubble wrap, protective covering, carts, dollies, moving blankets, etc.

The contractor shall furnish the following boxes to the facility:

300 reusable medium moving boxes x 5 uses.

200 reusable banker boxes x 5 uses.

PROJECT PHASING

Dick Van Dyke Addiction Treatment Center

Kitchen & Dining Room Addition

DASNY Project No.: 374120

DASNY Term Contract No.: 226747

Bergmann No. 24001978A

The contractor shall move all boxes, equipment and furniture, beds, to destinations as instructed by DASNY/Owner. It is the responsibility of staff to ensure all their boxes and residents' boxes are properly labelled.

The contractor shall move/relocate equipment, such as washers/dryers, except copiers.

Vertical office file cabinets shall be moved with partial contents inside (2-drawers).

Lateral file cabinets shall be moved empty.

Desk, tables, dressers, etc. shall not be stacked without protection between units to prevent damage.

Electronic equipment such as computers, printers, facsimile machines, TV etc. shall be protected.

END OF SECTION - PHASING

TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

INTRODUCTORY INFORMATION

Document Number and Title

000101 Title Page (Cover)
000110 Table Of Contents
000115 List Of Drawings

CONSTRUCTION BIDDING REQUIREMENTS

Document Number and Title

Notice to Bidders
Information for Bidders
Form of Bid
Minimum Qualifications Form
DASNY Omnibus Certification
W-9
Bid Bond

CONSTRUCTION CONTRACT FORMS

Document Number and Title

Scope Verification Form
Insurance Form
Agreement
Payment Bond
Performance Bond

GENERAL CONDITIONS

General Conditions
Prevailing Wage Rates
Appendices

SPECIFICATIONS

DIVISION 01 – GENERAL REQUIREMENTS

011200	Contract Summary of Work
012900	Payment Procedures
013100	Project Management and Coordination
013200	Project Scheduling – Multiple Prime
013300	Submittal Procedures
014000	Quality and Code Requirements
015000	Temporary Facilities and Controls
016000	Product Requirements
017329	Cutting and Patching
017419	Construction Waste Management
017700	Contract Closeout Requirements
017823	Operation and Maintenance Manuals
017839	As Built Documents

DIVISION 02 – EXISTING CONDITIONS

024119	Selective Demolition
028200	Asbestos Removal
028310	Disturbances Using OSHA Lead Safe Work Practices
028600	Identification and Disposal of Hazardous Waste

DIVISION 03 – CONCRETE

031000	Concrete Forming and Accessories
032000	Concrete Reinforcing
033000	Cast-in-Place Concrete

DIVISION 04 – MASONRY

042200	Concrete Unit Masonry
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DIVISION 05 – METALS

051200	Structural Steel Framing
053100	Steel Decking
054000	Cold-Formed Metal Framing
055000	Metal Fabrication
055213	Pipe and Tube Railings

DIVISION 06 – WOOD, PLASTICS & COMPOSITES

061000	Rough Carpentry
061600	Sheathing
066400	Plastic Paneling

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

071326	Self-Adhered Sheet Waterproofing
072100	Thermal Insulation
072700	Weather Barriers
074213.23	Aluminum Composite Material (ACM) Panels
074400	Concrete Faced Panels
074646	Fiber Cement Siding
075323	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
076200	Sheet Metal Flashing and Trim
077100	Roof Specialties
078400	Penetration Firestopping
079200	Joint Sealants
079500	Expansion Joint Cover Assemblies

DIVISION 08 – OPENINGS

081113	Hollow Metal Doors and Frames
083113	Access Doors and Frames
083313	Coiling Doors
083613	Sectional Doors
084113	Aluminum-Framed Storefronts
087100	Door Hardware
088000	Glazing
088813	Fire-Rated Glazing

DIVISION 09 – FINISHES

092216	Non-Structural Metal Framing
092900	Gypsum Board
093013	Ceramic Tiling
095123	Acoustical Tile Ceilings
096513	Resilient Base and Accessories
096516	Resilient Sheet Flooring
096519	Resilient Tile Flooring
096723	Resinous Flooring
097700	Fiberglass Reinforced Wall Panels
099123	Painting

DIVISION 10 – SPECIALTIES

102613	Corner Guards
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102800	Toilet Accessories
104413	Fire Protection Cabinets
104416	Fire Extinguishers

DIVISION 11 – SPECIALTIES

111313	Loading Dock Bumpers
111316	Loading Dock Seals
111319	Stationary Loading Dock Equipment
114000	Food Service Equipment

DIVISION 21 – FIRE SUPPRESSION

210517	Sleeves and Sleeve Seals for Fire-Suppression Piping
210518	Escutcheons for Fire-Suppression Piping
210523	General-Duty Valves for Water-Based Fire-Suppression Piping
210529	Hangers and Supports for Fire Suppression Piping
211313	Wet-Pipe Sprinkler Systems

DIVISION 22 - PLUMBING

220500	Common Work Results for Plumbing
220523	General-Duty Valves for Plumbing Piping
220529	Hangers and Supports for Plumbing Piping and Equipment
220553	Identification for Plumbing Piping and Equipment
220593	Testing, Adjusting, and Balancing for Plumbing
220719	Plumbing Piping Insulation
221116	Domestic Water Piping
221119	Domestic Water Piping Specialties
221123.21	Inline, Domestic Water Pumps
221316	Sanitary Waste and Vent Piping
221319	Sanitary Waste Piping Specialties
221319.13	Sanitary Drains
221323	Sanitary Waste Interceptors
221414	Storm Drainage Piping
221423	Storm Drainage Piping Specialties
224200	Commercial Plumbing Fixtures

DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING

230500	Common Work Results For HVAC
230548.13	Vibration Controls For HVAC
230553	Identification For HVAC
230529	Hangers and Supports for HVAC Piping and Equipment
230593	Testing, Adjusting, and Balancing for HVAC
230713	Duct Insulation
230716	HVAC Piping and Equipment Insulation

231126	Facility Liquefied-Petroleum Gas Piping
232300	Refrigerant Piping
233113	Metal Ducts
233300	Air Duct Accessories
233400	HVAC Fans
233533	Listed Kitchen Ventilation System Exhaust Ducts
233713.13	Air Diffusers
233713.23	Registers, and Grilles
235116	Fabricated Breechings And Accessories
235123	Gas Vents
236313	Air Cooled Refrigerant Condensers
237223.13	Packaged Indoor Heat Wheel Energy Recovery Units
238129	Variable-Refrigerant-Flow HVAC Systems
238236	Finned-Tube Radiation Heaters
238239.13	Cabinet Unit Heaters

DIVISION 26 – ELECTRICAL

260010	Supplemental Requirements for Electrical
260519	Low-Voltage Electrical Power Conductors and Cables
260526	Grounding and Bonding for Electrical Systems
260529	Hangers and Supports for Electrical Systems
260533	Raceways and Boxes for Electrical Systems
260553	Identification for Electrical Systems
260923	Lighting Control Devices
262416	Panelboards
262726	Wiring Devices
265119	LED Interior Lighting
265213	Emergency and Exit Lighting
265619	LED Exterior Lighting

DIVISION 27 – ELECTRONIC SAFETY AND SECURITY

270526	Grounding and Binding for Communication Systems
270528	Pathways for Communication Systems
271500	Communications Copper Horizontal Cabling

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

284621.11	Addressable Fire-Alarm Systems
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DIVISION 31 – EARTHWORK

311000	Site Clearing
312000	Earth Moving
312319	Dewatering
315000	Excavation Support
317000	Slope Protection and Erosion Control

DIVISION 32 – EXTERIOR IMPROVEMENTS

321216	Asphalt Paving
321300	Concrete Paving
321373	Concrete Joint Sealants
322000	Signs and Parking Appurtenances
329113	Soil Preparation
329200	Turf and Grasses
329300	Plants

DIVISION 33 – SITE UTILITIES

334100	Storm Utility Drainage
334200	Sewer Conveyance

END OF TABLE OF CONTENTS

SECTION 00 01 15 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

- A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Table of Contents page of the separately bound drawing set titled Pricing Set Submission, dated 11/25/2025, as modified by subsequent Addenda and Contract modifications.
- B. List of Drawings: Drawings consist of the following Contract Drawings and other drawings of type indicated:

GENERAL

G000	Cover Sheet
G001	Code Review
G002	Code Compliance and Life Safety Plans
G003	Phasing Plan – Basement and First Floor
G004	Phasing Plan – Second Floor
G005	Staging Plan

CIVIL

EX1	Existing Conditions Survey
C001	General Notes
C090	Site Demolition Plan
C100	Site Plan
C110	Utility Plan
C120	Grading and Erosion
C130	Landscape Plan
C500	Miscellaneous Details
C501	Miscellaneous Details
C502	Miscellaneous Details
C503	Landscape Details

HAZARDOUS MATERIALS

HM100	Basement Hazardous Material Removal Plan
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STRUCTURAL

S001	Structural Notes
S002	Structural Notes
S010	Load Diagrams
S100	Foundation Plan
S101	First Floor Plan

S102	Roof Framing Plan
S301	Building Sections
A401	Enlarged Basement Plan
S402	Shed Plans and Sections
S501	Typical Foundation Details
S502	Typical Foundation Details
S503	Typical Foundation Details
S504	Typical Framing Details
S505	Framing Sections and Details
S506	Column Schedule and Base Plate Details
S507	Sections and Details

ARCHITECTURAL

A001	General Notes and Legends
A002	Wall Types
AD100	Basement & First Floor Demolition Plans
AD101	Second Floor & Roof Demolition Plans
AD120	Basement & First Floor Demolition Ceiling Plans
AD201	Exterior Demolition Elevations
A100	Basement & First Floor Plans
A101	Second Floor & Roof Plans
A120	Basement & First Floor Reflected Ceiling Plans
A201	Exterior Elevations
A301	Building Sections
A321	Wall Sections
A322	Wall Sections
A323	Wall Sections
A400	Enlarged Basement Plan
A401	Enlarged First Floor Plan
A402	Enlarged Roof Plan
A403	Enlarged Basement Reflected Ceiling Plan
A404	Enlarged First Floor Reflected Ceiling Plan
A405	Enlarged Stair Plan and Details
A407	Shed Plan, Elevations and Details
A421	Interior Elevations
A422	Interior Elevations
A501	Plan Details
A502	Section Details
A503	Section Details
A505	Roof Details
A532	Ceiling Details
A601	Door Schedules and Details
A602	Window and Storefront Schedules & Details
A801	Room Finish Schedules

FOOD SERVICE

FSE-1	Kitchen Plan
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FSE-2 Kitchen Plumbing Plan
FSE-3 Kitchen Electrical Plan

MECHANICAL

M000 Mechanical Legend Sheet
MD100 Basement HVAC Demolition Plan
MD101 First Floor HVAC Demolition Plan
M100 Basement HVAC Plan
M101 First Floor HVAC Plan
M110 Basement Hydronic Piping Plan
M111 First Floor Hydronic Piping Plan
M120 Roof HVAC Plan
M401 Enlarged HVAC Plans
M500 Mechanical Details
M501 Mechanical Details
M600 Mechanical Schedules
M601 Mechanical Schedules
M700 Mechanical Piping Diagrams
M701 Mechanical Controls Diagrams

PLUMBING

P000 Plumbing Legend Sheet
PD101 First Floor Plumbing Demolition Plan
P100 Basement Sanitary & Vent Piping Plan
P101 First Floor Sanitary & Vent Piping Plan
P120 Basement Domestic Plumbing Plan
P121 First Floor Domestic Plumbing Plan
P500 Plumbing Details
P600 Plumbing Schedules
P700 Plumbing Diagrams

FIRE PROTECTION

F000 Fire Protection Legend Sheet
FD100 Basement Fire Protection Removals Plan
FD101 First Floor Fire Protection Removals Plan
F100 Basement Fire Protection Plan
F101 First Floor Fire Protection Plan

ELECTRICAL

E001 Legend
ED101 Electrical Demolition Plan
E100 Basement Power Plan
E101 First Floor Power Plan
E102 Roof Power Plan
E200 Basement Lighting Plan

Dick Van Dyke Addiction Treatment Center

Kitchen & Dining Room Addition

DASNY Project No.: 374120

DASNY Term Contract No.: 226747

Bergmann No. 24001978A

E201	First Floor Lighting Plan
E300	Basement Special Systems Plan
E301	First Floor Special Systems Plan
E601	Diagrams
E801	Schedules
E802	Schedules
ES100	Electrical Site Plan
ES101	Site Lighting Photometric Plan

END OF SECTION 00 01 15

SECTION 06 64 00 - PLASTIC PANELING

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:
 - 1. Plastic sheet paneling.
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry" for wood furring for installing plastic paneling.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For plastic paneling and trim accessories, in manufacturer's standard sizes.

1.4 QUALITY ASSURANCE

- A. Testing Agency: Acceptable to authorities having jurisdiction.

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install plastic paneling until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain plastic paneling and trim accessories from single manufacturer.

2.2 PLASTIC SHEET PANELING

- A. Glass-Fiber-Reinforced Plastic Paneling: Gelcoat-finished, glass-fiber-reinforced plastic panels complying with ASTM D5319. Panels shall be USDA accepted for incidental food contact.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Construction Specialties – Acrovyn (Basis of Design)
 - b. Inpro.
 - c. Architect Approved Equal.
 - 2. Surface-Burning Characteristics: As follows when tested by a qualified testing agency according to ASTM E84. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 3. Nominal Thickness: Not less than 0.04 inch (1.02 mm).
 - 4. Surface Finish: Smooth suede texture.
 - 5. Color: As selected by Architect from manufacturer's full range.

2.3 ACCESSORIES

- A. Trim Accessories: Manufacturer's standard one-piece vinyl extrusions designed to retain and cover edges of panels. Provide division bars, inside corners, outside corners, and caps as needed to conceal edges.
 - 1. Color: Match Architect's sample.
- B. Exposed Fasteners: Nylon drive rivets recommended by panel manufacturer.
- C. Concealed Mounting Splines: Continuous, H-shaped aluminum extrusions designed to fit into grooves routed in edges of factory-laminated panels and to be fastened to substrate.
- D. Adhesive: As recommended by plastic paneling manufacturer.
 - 1. Verify adhesives have a VOC content of 50 g/L or less.
 - 2. Verify adhesive complies with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- E. Sealant: Mildew-resistant, single-component, neutral-curing silicone sealant recommended by plastic paneling manufacturer and complying with requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove wallpaper, vinyl wall covering, loose or soluble paint, and other materials that might interfere with adhesive bond.
- B. Prepare substrate by sanding high spots and filling low spots as needed to provide flat, even surface for panel installation.
- C. Clean substrates of substances that could impair adhesive bond, including oil, grease, dirt, and dust.
- D. Condition panels by unpacking and placing in installation space before installation according to manufacturer's written recommendations.
- E. Lay out paneling before installing. Locate panel joints so that trimmed panels at corners are not less than 12 inches (300 mm) wide.
 - 1. Mark plumb lines on substrate at trim accessory locations for accurate installation.
 - 2. Locate trim accessories to allow clearance at panel edges according to manufacturer's written instructions.

3.3 INSTALLATION

- A. Install plastic paneling according to manufacturer's written instructions.
- B. Install panels in a full spread of adhesive.
- C. Install panels with fasteners. Layout fastener locations and mark on face of panels so that fasteners are accurately aligned.
 - 1. Drill oversized fastener holes in panels and center fasteners in holes.
 - 2. Apply sealant to fastener holes before installing fasteners.
- D. Install factory-laminated panels using concealed mounting splines in panel joints.
- E. Install trim accessories with adhesive and nails. Do not fasten through panels.
- F. Fill grooves in trim accessories with sealant before installing panels, and bed inside corner trim in a bead of sealant.
- G. Maintain uniform space between panels and wall fixtures. Fill space with sealant.

Dick Van Dyke Addiction Treatment Center

Kitchen & Dining Room Addition

DASNY Project No.: 374120

DASNY Term Contract No.: 226747

Bergmann No. 24001978A

- H. Maintain uniform space between adjacent panels and between panels and floors, ceilings, and fixtures. Fill space with sealant.
- I. Remove excess sealant and smears as paneling is installed. Clean with solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

END OF SECTION 06 64 00

SECTION 071326 - SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Modified bituminous sheet waterproofing.
 - 2. Insulation drainage panels.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show locations and extent of waterproofing and details of substrate joints and cracks, expansion joints, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.
- C. Samples: For each exposed product and for each color and texture specified.

1.4 INFORMATIONAL SUBMITTALS

- A. Sample warranties.

1.5 QUALITY ASSURANCE

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

1.6 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to furnish replacement waterproofing material for waterproofing that does not comply with requirements or that fails to remain watertight within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MODIFIED BITUMINOUS SHEET WATERPROOFING

- A. Modified Bituminous Sheet Waterproofing: Minimum 60-mil nominal thickness, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated on one side to a 4-mil-thick, polyethylene-film reinforcement, and with release liner on adhesive side; formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlisle Coatings & Waterproofing Inc.
 - b. GCP Applied Technologies Inc. (formerly Grace Construction Products).
 - c. Tamko Building Products, Inc.
 - d. Or architect approved equal.
 2. Physical Properties:
 - a. Tensile Strength, Membrane: 250 psi minimum; ASTM D412, Die C, modified.
 - b. Ultimate Elongation: 300 percent minimum; ASTM D412, Die C, modified.
 - c. Low-Temperature Flexibility: Pass at minus 20 deg F; ASTM D1970/D1970M.
 - d. Crack Cycling: Unaffected after 100 cycles of 1/8-inch movement; ASTM C836/C836M.
 - e. Puncture Resistance: 40 lbf minimum; ASTM E154/E154M.
 - f. Water Absorption: 0.2 percent weight-gain maximum after 48-hour immersion at 70 deg F; ASTM D570.
 - g. Water Vapor Permeance: 0.05 perm maximum; ASTM E96/E96M, Water Method.
 - h. Hydrostatic-Head Resistance: 150 feet minimum; ASTM D5385.
 3. Sheet Strips: Self-adhering, rubberized-asphalt strips of same material and thickness as sheet waterproofing.

2.2 AUXILIARY MATERIALS

- A. Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.
1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.
- B. Primer: Liquid waterborne primer recommended for substrate by sheet-waterproofing material manufacturer.

- C. Surface Conditioner: Liquid, waterborne surface conditioner recommended for substrate by sheet-waterproofing material manufacturer.
- D. Liquid Membrane: Elastomeric, two-component liquid, cold fluid applied, of trowel grade or low viscosity.
- E. Substrate Patching Membrane: Low-viscosity, two-component, modified asphalt coating.
- F. Metal Termination Bars: Aluminum bars, approximately 1 by 1/8 inch, predrilled at 9-inch centers.

2.3 INSULATION DRAINAGE PANELS

- A. Insulation: Comply with Section 072100 "Thermal Insulation" for general building insulation, including insulation drainage panels.
- B. Geotextile-Faced, Wall-Insulation Type VI, Drainage Panels: Extruded-polystyrene board insulation according to ASTM C578, Type VI, 40-psi minimum compressive strength; fabricated with tongue-and-groove edges and with one side having grooved drainage channels faced with nonwoven geotextile filter fabric.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Owens Corning
 - b. T. Clear Corporation
 - c. Kingspan Greenguard
 - d. Or architect approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.
- B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.

3.2 INSTALLATION OF MODIFIED BITUMINOUS SHEET-WATERPROOFING

- A. Install modified bituminous sheets according to waterproofing manufacturer's written instructions.

- B. Apply primer to substrates at required rate and allow it to dry. Limit priming to areas that will be covered by sheet waterproofing in same day. Reprime areas exposed for more than 24 hours.
- C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align sheets and maintain uniform 2-1/2-inch-minimum lap widths and end laps. Overlap and seal seams, and stagger end laps to ensure watertight installation.
 - 1. When ambient and substrate temperatures range between 25 and 40 deg F, install self-adhering, modified bituminous sheets produced for low-temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 deg F.
- D. Apply continuous sheets over already-installed sheet strips, bridging substrate cracks, construction, and contraction joints.
- E. Seal edges of sheet-waterproofing terminations with mastic.
- F. Install sheet-waterproofing and auxiliary materials to tie into adjacent waterproofing.
- G. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending 6 inches beyond repaired areas in all directions.

3.3 INSTALLATION OF INSULATION DRAINAGE-PANELS

- A. Install insulation drainage panels over waterproofed surfaces. Cut and fit to within 3/4 inch of projections and penetrations.
- B. Ensure that drainage channels are aligned and free of obstructions.
- C. On vertical surfaces, set insulation drainage panels in adhesive or tape applied according to manufacturer's written instructions.
- D. On horizontal surfaces, loosely lay insulation drainage panels according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

3.4 PROTECTION, REPAIR, AND CLEANING

- A. Do not permit foot or vehicular traffic on unprotected membrane.
- B. Protect installed insulation drainage panels from damage due to UV light, harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.
- C. Correct deficiencies in or remove waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.

Dick Van Dyke Addiction Treatment Center

Kitchen & Dining Room Addition

DASNY Project No.: 374120

DASNY Term Contract No.: 226747

Bergmann No. 24001978A

- D. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended in writing by manufacturer of affected construction.

END OF SECTION 071326

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical door hardware.
- C. Related Sections:
 - 1. Division 08 Section "Hollow Metal Doors and Frames".
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series.
 - 2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
 - 3. ANSI/UL 294 - Access Control System Units.
 - 4. UL 305 - Panic Hardware.
 - 5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
 - 1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
 - a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
 - b. Complete (risers, point-to-point) access control system block wiring diagrams.
 - c. Wiring instructions for each electronic component scheduled herein.
 - 2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

- D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- E. Informational Submittals:
 - 1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

1.4 CLOSEOUT SUBMITTALS

- A. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.
- B. Project Record Documents: Provide record documentation of as-built door hardware sets in digital format (.pdf, .docx, .xlsx, .csv) and as required in Division 01, Project Record Documents.

1.5 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
- C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
 - 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
 - 2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

- F. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.
- G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.
 - 2. Plans for existing and future key system expansion.
 - 3. Requirements for key control storage and software.
 - 4. Installation of permanent keys, cylinder cores and software.
 - 5. Address and requirements for delivery of keys.
- H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
 - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 - 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 - 3. Review sequence of operation narratives for each unique access controlled opening.
 - 4. Review and finalize construction schedule and verify availability of materials.
 - 5. Review the required inspecting, testing, commissioning, and demonstration procedures
- I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.7 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check

Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

- B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.8 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Hardware shall not have any visible manufacturer names on exposed materials, except cylinders, when the door is in a closed position.

2.2 BUTT HINGES

- A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
 - 1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

- a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
4. Hinge Options: Comply with the following:
 - a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for all out-swinging lockable doors.
5. Manufacturers:
 - a. Hager Companies (HA) - BB Series, 5-knuckle.
 - b. Ives (IV) - 5BB Series, 5-knuckle.
 - c. McKinney (MK) - TA/T4A Series, 5-knuckle.

2.3 CONTINUOUS HINGES

- A. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge. with minimum 0.120-inch thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.
 1. Manufacturers:
 - a. Hager Companies (HA).
 - b. Ives (IV).
 - c. Pemko (PE).

2.4 POWER TRANSFER DEVICES

- A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
 1. Manufacturers:
 - a. Securitron (SU) - EL-CEPT Series.
 - b. dormakaba BEST (ST) EPT-12C Series.
 - c. Von Duprin (VD) - EPT-10 Series.

- B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:

- a. McKinney (MK) - Electrical Connecting Kit: QC-R001.
- b. McKinney (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

- a. McKinney (MK) - QC-C Series.
- b. dormakaba BEST (ST) - WH Series.
- c. Von Duprin (VD) - Connect.

2.5 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

1. Manufacturers:

- a. dormakaba BEST (BE).
- b. Match Existing, Field Verify.

- B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

- 1. Threaded mortise cylinders with rings and cams to suit hardware application.
- 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
- 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
- 4. Tubular deadlocks and other auxiliary locks.
- 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
- 6. Keyway: Match Facility Standard.

- C. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.

- D. Keying System: Each type of lock and cylinders to be factory keyed.

- 1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
- 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
- 3. Existing System: Field verify and key cylinders to match Owner's existing system.

- E. Key Quantity: Provide the following minimum number of keys:
 - 1. Change Keys per Cylinder: Two (2)
 - 2. Master Keys (per Master Key Level/Group): Five (5).
 - 3. Construction Keys (where required): Ten (10).
- F. Construction Keying: Provide construction master keyed cylinders.
- G. Key Registration List (Bitting List):
 - 1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 - 2. Provide transcript list in writing or electronic file as directed by the Owner.

2.6 MORTISE LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all functions and features as specified herein.
 - 1. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ML2000 Series.
 - b. Sargent Manufacturing (SA) - 8200 Series.
 - c. Schlage (SC) - L9000 Series.

2.7 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
 - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 - 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
 - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 2. Strikes for Bored Locks and Latches: BHMA A156.2.
 - 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
 - 4. Dustproof Strikes: BHMA A156.16.

2.8 ELECTRIC STRIKES

- A. Surface Mounted Rim Electric Strikes: Surface mounted rim exit device electric strikes conforming to ANSI/BHMA A156.31, Grade 1, and UL Listed for both Burglary Resistance and

for use on fire rated door assemblies. Construction includes internally mounted solenoid with two heavy-duty, stainless steel locking mechanisms operating independently to provide tamper resistance. Strikes tested for a minimum of 500,000 operating cycles. Provide strikes with 12 or 24 VDC capability supplied standard as fail-secure unless otherwise specified. Option available for latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike. Strike requires no cutting to the jamb prior to installation.

1. Manufacturers:

- a. Folger Adam (FO) - 310-4 Series.
- b. HES (HS) - 9400/9500/9600/9700/9800 Series.
- c. Von Duprin (VD) - VD3146/6200/6300 Series.

- B. Provide electric strikes with in-line power controller and surge suppressor by the same manufacturer as the strike with the combined products having a five year warranty.

2.9 CONVENTIONAL EXIT DEVICES

- A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

- 1. Exit devices shall have a five-year warranty.
- 2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
- 3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
- 4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
- 5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
- 6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
- 7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
- 8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
- 9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
- 10. Rail Sizing: Provide exit device rails factory sized for proper door width application.
- 11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed exit devices. Listed manufacturers shall meet all functions and features as specified herein.

1. Provide exit devices with functions and features as follows:

- a. Where required by code, provide knurling or abrasive coating on all levers leading to hazardous areas.
- b. Meets UL and CUL Standard 10C Positive Pressure, Fire Test of Door Assemblies with levers that meet A117.1 Accessibility Code.
- c. No catch points: addition of applied deflectors or other added components are not allowed.
- d. No visible plastic.
- e. Heavy duty end caps with flush and overlapping options made of stainless steel, brass, or bronze with architectural finishes.
- f. Constructed of all stainless steel.
- g. Stainless steel pullman type latch with deadlock feature.
- h. Narrow or wide style exterior trim as specified in the hardware sets.
- i. Center case adjustability on concealed vertical rod exit devices; single operation with hex key individually adjusts top or bottom latches. No retainer screws or clips required to maintain adjustment.
- j. Ten-year limited warranty for mechanical features.

2. Manufacturers:

- a. Corbin Russwin Hardware (RU) - PED4000 / PED5000 Series.
- b. Sargent Manufacturing (SA) - PE80 Series.
- c. Von Duprin (VD) - 35A/98 XP Series.

2.10 SURFACE DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

- B. Door Closers, Surface Mounted (Large Body Cast Iron): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring

power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.

1. Large body cast iron surface mounted door closers shall have a 30-year warranty.
2. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - DC8000 Series.
 - b. Norton Rixson (NO) - 9500 Series.
 - c. Sargent Manufacturing (SA) - 281 Series.

C. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.
2. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - DC6000 Series.
 - b. Norton Rixson (NO) - 7500 Series.
 - c. Sargent Manufacturing (SA) - 351 Series.

2.11 ARCHITECTURAL TRIM AND ACCESSORIES

A. Door Protective Trim:

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, .050-inch thick.
5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:
 - a. Hiawatha, Inc. (HI).
 - b. Rockwood (RO).

- c. Trimco (TC).

2.12 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 1. Manufacturers:
 - a. Hiawatha, Inc. (HI).
 - b. Rockwood (RO).
 - c. Trimco (TC).

2.13 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
 1. Pemko (PE).
 2. Reese Enterprises, Inc. (RE).
 3. Zero (ZE).

2.14 ELECTRONIC ACCESSORIES

- A. Request to Exit Motion Sensor: Passive infrared request to exit (REX) motion sensor designed for detecting exiting through a door from the secure area to a non-secure area.
1. Provide devices with functions and features as follows:
 - a. Adjustable infrared beam and relock time.
 - b. UL listed.
 - c. 12VDC or 24VDC power.
 - d. Single pole, double throw (SPDT) switch.
 2. Manufacturers:
 - a. Alarm Controls (AK) - SREX Series.
 - b. Security Door Controls (SD) - MD-31D Series.
 - c. Securitron (SU) - XMS2 Series.
- B. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.
1. Manufacturers:
 - a. Alarm Controls (AK) - CP1-1026 Series.
 - b. Sargent Manufacturing (SA) - 3280 Series.
 - c. Securitron (SU) - DPS Series.
- C. Intelligent Switching Power Supplies: Provide the least number of power supplies at the appropriate amperage level sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.
1. Power supplies shall meet all functions and features as specified herein.
 - a. UL listed dual voltage 12 or 24 VDC field selectable continuous output.
 - b. Dedicated fast charger to prolong battery life with low battery cutoff to protect batteries from deep discharge.
 - c. Enhanced surge immunity for input/output protection
 - d. Separate, dedicated battery charging circuit to keep locks cooler.
 - e. Dual-color LED visual notification to prevent applying incorrect voltages to the power supply.
 - f. Instant auto-switch to battery on AC loss.
 - g. Expandable up to 16 outputs in the standard enclosure
 - h. Integrated fire alarm interface to allow main output shutdown or disconnect on a per output basis when using an R8 output module.
 - i. Network ready and remotely manage locks and connected devices when using an M8 managed output module on network models.
 - j. Lifetime replacement, no-fault, no questions asked warranty.
 2. Manufacturers:

- a. Securitron (SU) - AQL Series.

2.15 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.16 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Push Plates and Door Pulls: When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
- E. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- F. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

PART 4 - DOOR HARDWARE SETS

4.1 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 - 1. Quantities listed are for each pair of doors, or for each single door.
 - 2. The supplier is responsible for handling and sizing all products.
 - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
 - 4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.
- B. Manufacturer's Abbreviations:
 - 1. MK - McKinney
 - 2. PE - Pemko
 - 3. SU - Securitron
 - 4. SA - SARGENT
 - 5. BE - BEST Locks & Closers
 - 6. HS - HES
 - 7. RO - Rockwood
 - 8. OT - Other
 - 9. DR – DoorBird

Hardware Sets

Set: 1.0

Doors: 165A

1 Continuous Hinge	CFM__HD1 x DOOR HEIGHT	PE	087100	
1 Rim Exit Device, Storeroom	70 PE8804 NEB	US32D	SA	087100
1 Keyed Core	Cormax - SFIC	626	BE	087100
1 Bridge Rectifier	2005M3		HS	087100 ⚡
1 ElectroLynx Adaptor	2004M		HS	087100 ⚡
1 Electric Strike	9600	630	HS	087100 ⚡
1 Surface Closer	281 P10	EN	SA	087100
1 Kick Plate	K1050 10" CSK BEV	US32D	RO	087100
1 Door Stop	400 (or) 441CU (As Required)	US26D	RO	087100
1 Gasketing	303CV TKSP x Head & Jambs		PE	087100
1 Door Sweep (w/drip edge)	3452CNB x Width of Door		PE	087100
1 Threshold	278x292AFGPK MSES25SS x Length as Required		PE	087100
1 Frame Harness	QC-C1500P		MK	087100 ⚡
1 Wiring Diagram	WD-SYSPK (Point to Point & Riser)		SA	087100
1 Remote Release	BY DIVISION 28		OT	
1 Video Door Station	D2101V		DR	281523 ⚡
1 Card Reader	BY DIVISION 28		OT	⚡
1 Door Position Switch	DPS-M-BK		SU	087100 ⚡
1 Motion Sensor (REX)	XMS		SU	087100 ⚡
1 Power Supply	AQL4-R8E1		SU	087100 ⚡

Notes: Operational Narrative:

1. Door normally closed and secure.
2. Authorized access by card reader releasing electric strike. Strike can remain released for open access.
3. Egress free for immediate exit.
4. Door position switch monitors door open/closed status.
5. Electric strike remains locked (fail secure) in event of power loss. Keyed cylinder override for emergency access.
6. Doorbird Intercom system allows for remote release of the electric strike to gain entry.

Set: 2.0

Doors: 169B

1 Continuous Hinge	CFM__HD1 PT x DOOR HEIGHT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Storeroom (W/Alarm)	AL 55 70 PE8804 NEB	US32D	SA	087100	⚡
2 Keyed Core	Cormax - SFIC	626	BE	087100	
1 Surface Closer	281 CPS	EN	SA	087100	
1 Kick Plate	K1050 10" CSK BEV	US32D	RO	087100	
1 Gasketing	303CV TKSP x Head & Jambs		PE	087100	
1 Door Sweep (w/drip edge)	3452CNB x Width of Door		PE	087100	
1 Threshold	278x292AFGPK MSES25SS x Length as Required		PE	087100	
1 Frame Harness	QC-C1500P		MK	087100	⚡
1 Door Harness	QC-C__ x LENGTH TO SUIT		MK	087100	⚡
1 Door Position Switch	DPS-M-BK		SU	087100	⚡
1 Power Supply	AQL4-R8E1		SU	087100	⚡

Notes: The exit device contains an internal battery and the alarm is integrated in the push rail to discourage the unauthorized use of emergency exit. The alarm inside the rail sounds immediately upon exit.

Warning Decal "EMERGENCY EXIT-ALARM WILL SOUND" provided.

Set: 3.0

Doors: 166A

2 Continuous Hinge	CFM__HD1 PT x DOOR HEIGHT		PE	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Surface Vert Rod Exit	55 56 70 NBPE8706 NEL	US32D	SA	087100	⚡
1 Surface Vert Rod Exit, Exit Only	55 NBPE8710 EO	US32D	SA	087100	
1 Keyed Core	Cormax - SFIC	626	BE	087100	
2 Surface Closer	281 P10	EN	SA	087100	
2 Kick Plate	K1050 10" CSK BEV	US32D	RO	087100	
2 Door Stop	400 (or) 441CU (As Required)	US26D	RO	087100	
1 Astragal (split)	297AS		PE	087100	
1 Gasketing	303CV TKSP x Head & Jambs		PE	087100	
2 Door Sweep	315CN x Width of Door		PE	087100	
1 Threshold	278x292AFGPK MSES25SS x Length as Required		PE	087100	
2 Frame Harness	QC-C1500P		MK	087100	⚡
2 Door Harness	QC-C__ x LENGTH TO SUIT		MK	087100	⚡
1 Wiring Diagram	WD-SYSPK (Point to Point & Riser)		SA	087100	
1 Video Door Station	D2101V		DR	281523	⚡
1 Card Reader	BY DIVISION 28		OT		⚡
1 Door Position Switch	DPS-M-BK		SU	087100	⚡

Notes: Operational Narrative:

1. Doors normally closed and secure.
2. Authorized access by card reader retracting exit device latches for predetermined time limit. Exit device latches can be electrically held retracted for open access.
3. Egress free for immediate exit.
4. REX switch in push rail allows authorized exit without alarm condition.
5. Door position switches monitor open/closed status.
6. Exit device latches release (fail secure) in event of power loss. Keyed cylinder override for emergency access.
7. Doorbird Intercom system allows for remote release of the electric exit device to gain entry.

Set: 4.0

Doors: 161A, 162A, 169A, B21, B23, B24, S02

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Office/Entry Lock	70 8205 WTB	US26D	SA	087100
1 Keyed Core	Cormax - SFIC	626	BE	087100
1 Surface Closer	351 P9 (or) 351 O (As Required)	EN	SA	087100
1 Kick Plate	K1050 10" CSK BEV	US32D	RO	087100
1 Door Stop	400 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608-RKW		RO	087100

Set: 5.0

Doors: 160A

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Privacy Lock (W/Indicator)	V21 8265 VN1B	US26D	SA	087100
1 Surface Closer	351 O	EN	SA	087100
1 Mop Plate	K1050 4" CSK BEV	US32D	RO	087100
1 Kick Plate	K1050 10" CSK BEV	US32D	RO	087100
1 Door Stop	400 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608-RKW		RO	087100

Set: 6.0

Doors: 161B, 170A

1 All Hardware	BY DOOR SUPPLIER		OT	
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Set: 7.0

Doors: 167A

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Office/Entry Lock	70 8205 WTB	US26D	SA	087100
1 Keyed Core	Cormax - SFIC	626	BE	087100
1 Door Stop	400 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608-RKW		RO	087100

END OF SECTION 087100

SECTION 284621.11 - ADDRESSABLE FIRE-ALARM SYSTEMS

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:

1. Existing fire-alarm system to be modified.
2. Manual fire-alarm boxes.
3. System smoke detectors.
4. Duct smoke detectors.
5. Carbon monoxide detectors.
6. Heat detectors.
7. Fire-alarm notification appliances.
8. Fire-alarm addressable interface devices.

- B. Related Requirements:

1. Section 087100 "Door Hardware" for magnetic door holders that release in response to fire-alarm outputs.
2. Section 260519 "Low-Voltage Electrical Power Conductors and Cables" or Section 260523 "Control Voltage Electrical Power Cables" for cables and conductors for fire-alarm systems.
3. Section 284700 "Mass Notification" for mass notification features that are required in addition to fire-alarm system and equipment requirements specified in this Section.

1.3 DEFINITIONS

- A. DACT: Digital alarm communicator transmitter.
- B. EMT: Electrical metallic tubing.
- C. FACU: Fire-alarm control unit.
- D. High-Performance Building: A building that integrates and optimizes on a life-cycle basis all major high-performance attributes, including energy conservation, environment, safety, security, durability, accessibility, cost-benefit, productivity, sustainability, functionality, and operational considerations.

- E. Mode: The terms "Active Mode," "Off Mode," and "Standby Mode" are used as defined in the 2007 Energy Independence and Security Act (EISA).
- F. NICET: National Institute for Certification in Engineering Technologies.
- G. PC: Personal computer.
- H. Voltage Class: For specified circuits and equipment, voltage classes are defined as follows:
 - 1. Control Voltage: Listed and labeled for use in remote-control, signaling, and power-limited circuits supplied by a Class 2 or Class 3 power supply having rated output not greater than 150 V and 5 A, allowing use of alternate wiring methods complying with NFPA 70, Article 725.
 - 2. Low Voltage: Listed and labeled for use in circuits supplied by a Class 1 or other power supply having rated output not greater than 1000 V, requiring use of wiring methods complying with NFPA 70, Article 300, Part I.

1.4 SEQUENCING AND SCHEDULING

- A. Existing Fire-Alarm Equipment: Maintain existing equipment fully operational until new equipment has been tested and accepted. When new equipment is installed, label it "NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into service, and label existing fire-alarm equipment "NOT IN SERVICE" until removed from building.
- B. Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring.

1.5 ACTION SUBMITTALS

- A. Approved Permit Submittal: Submittals must be approved by authorities having jurisdiction prior to submitting them to Architect.
- B. Product Data: For each type of product, including furnished options and accessories.
 - 1. Include construction details, material descriptions, dimensions, profiles, and finishes.
 - 2. Include rated capacities, operating characteristics, and electrical characteristics.
- C. Shop Drawings: For fire-alarm system.
 - 1. Comply with recommendations and requirements in "Documentation" section of "Fundamentals" chapter in NFPA 72.
 - 2. Include plans, elevations, sections, and details, including details of attachments to other Work.
 - 3. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
 - 4. Graphic Annunciator panel details as required by authorities having jurisdiction.
 - 5. Detail assembly and support requirements.

6. Include voltage drop calculations for notification-appliance circuits.
7. Include battery-size calculations.
8. Include input/output matrix.
9. Include written statement from manufacturer that equipment and components have been tested as a system and comply with requirements in this Section and in NFPA 72.
10. Include performance parameters and installation details for each detector.
11. Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
12. Provide program report showing that air-sampling detector pipe layout balances pneumatically within airflow range of air-sampling detector.
13. Provide control wiring diagrams for fire-alarm interface to HVAC; coordinate location of duct smoke detectors and access to them.
 - a. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.
 - b. Show field wiring and equipment required for HVAC unit shutdown on alarm and override by firefighters' smoke-evacuation system.
 - c. Locate detectors in accordance with manufacturer's written instructions.
 - d. Show air-sampling detector pipe routing.
14. Include voice/alarm signaling-service equipment rack or console layout, grounding schematic, amplifier power calculation, and single-line connection diagram.

1.6 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Qualification Statements: For Installer.
- C. Sample Warranty: Submittal must include line item pricing for replacement parts and labor.

1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.
 1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
 - a. Comply with "Records" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - b. Provide "Fire-Alarm and Emergency Communications System Record of Completion Documents" in accordance with "Completion Documents" Article in "Documentation" section of "Fundamentals" chapter in NFPA 72.
 - c. Complete wiring diagrams showing connections between devices and equipment. Each conductor must be numbered at every junction point with indication of origination and termination points.

- d. Riser diagram.
- e. Device addresses.
- f. Air-sampling system sample port locations and modeling program report showing layout meets performance criteria.
- g. Record copy of site-specific software.
- h. Provide "Inspection and Testing Form" in accordance with "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:
 - 1) Equipment tested.
 - 2) Frequency of testing of installed components.
 - 3) Frequency of inspection of installed components.
 - 4) Requirements and recommendations related to results of maintenance.
 - 5) Manufacturer's user training manuals.
- i. Manufacturer's required maintenance related to system warranty requirements.
- j. Abbreviated operating instructions for mounting at FACU and each annunciator unit.

1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
 - 2. Lamps for Strobe Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
 - 3. Smoke Detectors: Quantity equal to 10 percent of amount of each type installed, but no fewer than one unit of each type.
 - 4. Detector Bases: Quantity equal to two percent of amount of each type installed, but no fewer than one unit of each type.
 - 5. Keys and Tools: One extra set for access to locked or tamperproofed components.
 - 6. Audible and Visual Notification Appliances: One of each type installed.
 - 7. Fuses: Two of each type installed in system. Provide in box or cabinet with compartments marked with fuse types and sizes.
 - 8. Filters for Air-Sampling Detectors: Quantity equal to two percent of amount of each type installed, but no fewer than one unit of each type.
 - 9. Air-Sampling Fan: Quantity equal to one for every five detectors, but no fewer than one unit of each type.

1.9 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Personnel must be trained and certified by manufacturer for installation of units required for this Project.
 - 2. Installation must be by personnel certified by NICET as fire-alarm Level II technician.
 - 3. Obtain certification by NRTL in accordance with NFPA 72.

4. Licensed or certified by authorities having jurisdiction.

1.10 FIELD CONDITIONS

1.11 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail because of defects in materials or workmanship within specified warranty period.

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

PART 2 - PRODUCTS

2.1 EXISTING FIRE-ALARM SYSTEM TO BE MODIFIED

- A. Basis for Pricing and Design: JCI.
- B. Source Limitations for Fire-Alarm System and Components: Components must be compatible with, and operate as extension of, existing system. Provide system manufacturer's certification that components provided have been tested as, and will operate as, a system.

2.2 ADDRESSABLE FIRE-ALARM SYSTEM

- A. Performance Criteria:

1. Regulatory Requirements:

- a. Fire-Alarm Components, Devices, and Accessories: Listed and labeled by a NRTL in accordance with NFPA 70 for use with selected fire-alarm system and marked for intended location and application.

2. General Characteristics:

- a. Automatic sensitivity control of certain smoke detectors.
- b. Fire-alarm signal initiation must be by one or more of the following devices:

- 1) Manual stations.
- 2) Heat detectors.
- 3) Smoke detectors.
- 4) Duct smoke detectors.
- 5) Carbon monoxide detectors.

- c. Fire-alarm signal must initiate the following actions:

- 1) Continuously operate alarm notification appliances.

Kitchen & Dining Room Addition

DASNY Project No.: 374120

DASNY Term Contract No.: 226747

Bergmann No. 24001978A

- 2) Transmit alarm signal to remote alarm receiving station.
 - 3) Unlock electric door locks in designated egress paths.
 - 4) Release fire and smoke doors held open by magnetic door holders.
 - 5) Activate voice/alarm communication system.
 - 6) Switch HVAC equipment controls to fire-alarm mode.
 - 7) Activate smoke-control system (smoke management) at firefighters' smoke-control system panel.
 - 8) Activate stairwell and elevator-shaft pressurization systems.
 - 9) Close smoke dampers in air ducts of designated air-conditioning duct systems.
 - 10) Activate preaction system.
 - 11) Recall elevators to primary or alternate recall floors.
 - 12) Activate elevator power shunt trip.
 - 13) Activate emergency lighting control.
 - 14) Activate emergency shutoffs for gas and fuel supplies.
 - 15) Record events in system memory.
 - 16) Record events by system printer.
 - 17) Indicate device in alarm on graphic annunciator.
- d. Supervisory signal initiation must be by one or more of the following devices and actions:
- 1) Alert and Action signals of air-sampling detector system.
 - 2) Independent fire-detection and -suppression systems.
 - 3) Zones or individual devices have been disabled.
 - 4) FACU has lost communication with network.
- e. System trouble signal initiation must be by one or more of the following devices and actions:
- 1) Open circuits, shorts, and grounds in designated circuits.
 - 2) Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
 - 3) Loss of communication with addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
 - 4) Loss of primary power at FACU.
 - 5) Ground or single break in internal circuits of FACU.
 - 6) Abnormal ac voltage at FACU.
 - 7) Break in standby battery circuitry.
 - 8) Failure of battery charging.
 - 9) Abnormal position of switch at FACU or annunciator.
 - 10) Voice signal amplifier failure.
- f. System Supervisory Signal Actions:
- 1) Initiate notification appliances.
 - 2) Identify specific device initiating event at FACU.
 - 3) Record event on system printer.
 - 4) After time delay of 200 seconds, transmit trouble or supervisory signal to remote alarm receiving station.

- 5) Transmit system status to building management system.
- 6) Display system status on graphic annunciator.

g. Device Guards:

- 1) Description: Welded wire mesh of size and shape for manual station, smoke detector, gong, or other device requiring protection.
 - a) Factory fabricated and furnished by device manufacturer.
 - b) Finish: Paint of color to match protected device.

2.3 MANUAL FIRE-ALARM BOXES

A. General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes must be finished in red with molded, raised-letter operating instructions in contrasting color; must show visible indication of operation; and must be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box. Match existing devices in building.

B. Photoelectric Smoke Detectors:

1. Performance Criteria:

a. Regulatory Requirements:

- 1) NFPA 72.
- 2) UL 268.

b. General Characteristics:

- 1) Match existing devices in building.
- 2) Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACU.
- 3) Base Mounting: Detector and associated electronic components must be mounted in twist-lock module that connects to fixed base. Provide terminals in fixed base for connection to building wiring.
- 4) Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
- 5) Integral Visual-Indicating Light: LED type, indicating detector has operated.
- 6) Detector address must be accessible from FACU and must be able to identify detector's location within system and its sensitivity setting.
- 7) Operator at FACU, having designated access level, must be able to manually access the following for each detector:
 - a) Primary status.
 - b) Device type.
 - c) Present average value.
 - d) Present sensitivity selected.
 - e) Sensor range (normal, dirty, etc.).

- 8) Detector must have functional humidity range within [10 to 90] <Insert numbers> percent relative humidity.

2.4 DUCT SMOKE DETECTORS

A. Description: Photoelectric-type, duct-mounted smoke detector.

B. Performance Criteria:

1. Regulatory Requirements:

- a. NFPA 72.
- b. UL 268A.

2. General Characteristics:

- a. Detectors must be [four] [two]-wire type.
- b. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACU.
- c. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
- d. Integral Visual-Indicating Light: LED type, indicating detector has operated[and power-on status].
- e. Detector address must be accessible from FACU and must be able to identify detector's location within system and its sensitivity setting.
- f. Operator at FACU, having designated access level, must be able to manually access the following for each detector:
 - 1) Primary status.
 - 2) Device type.
 - 3) Present average value.
 - 4) Present sensitivity selected.
 - 5) Sensor range (normal, dirty, etc.).
- g. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with supplied detector for smoke detection in HVAC system ducts.
- h. Each sensor must have multiple levels of detection sensitivity.
- i. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
- j. Relay Fan Shutdown: Fully programmable relay rated to interrupt fan motor-control circuit.

2.5 CARBON MONOXIDE DETECTORS

A. Description: Carbon monoxide detector listed for connection to fire-alarm system.

B. Performance Criteria:

1. Regulatory Requirements:

- a. NFPA 72
- b. NFPA 720.
- c. UL 2075.

2. General Characteristics:

- a. Mounting: Adapter plate for outlet box mounting.
- b. Testable by introducing test carbon monoxide into sensing cell.
- c. Detector must provide alarm contacts and trouble contacts.
- d. Detector must send trouble alarm when nearing end-of-life, power supply problems, or internal faults.
- e. Locate, mount, and wire in accordance with manufacturer's written instructions.
- f. Provide means for addressable connection to fire-alarm system.
- g. Test button simulates alarm condition.

2.6 HEAT DETECTORS

A. Combination-Type Heat Detectors:

1. Performance Criteria:

a. Regulatory Requirements:

- 1) NFPA 72.
- 2) UL 521.

b. General Characteristics:

- 1) Temperature sensors must test for and communicate sensitivity range of device.

- c. Actuated by fixed temperature of 135 deg F or rate of rise that exceeds 15 deg F per minute unless otherwise indicated.
- d. Mounting: Adapter plate for outlet box mounting.
- e. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACU.
- f. Detector must have functional humidity range of 10 to 90 percent relative humidity.

B. Fixed-Temperature-Type Heat Detectors:

1. Performance Criteria:

a. Regulatory Requirements:

- 1) NFPA 72.
- 2) UL 521.

b. General Characteristics:

- 1) Actuated by temperature that exceeds fixed temperature of 190 deg F.
- 2) Mounting: Adapter plate for outlet box mounting.

- 3) Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACU.
- 4) Detector must have functional humidity range of 10 to 90 percent.

2.7 AIR-SAMPLING SMOKE DETECTORS

A. Performance Criteria:

1. Regulatory Requirements:

- a. NFPA 72.
- b. UL 1887.

2. General Characteristics:

- a. Air-sampling smoke detector must be laser based using piping system and fan to transport particles of combustion to detector.
- b. Provide two levels of alarm from each zone covered by detector and two supervisory levels of alarm from each detector.
- c. Air being sampled must pass through filters to remove dust particulates greater than 20 microns before entering detection chamber.
- d. Detectors must have capability via RS 485 to connect up to 100 detectors in network.
- e. Detectors must communicate with FACU via addressable, monitored dry contact closures, RS 485, and interface modules. Provide minimum of six relays, individually programmable remotely for any function.
- f. Pipe airflow balancing calculations must be performed using approved calculation software.
- g. Detector, Filter, Aspirator, and Relays: Housed in mounting box and arranged such that air is drawn from detection area and sample passes through dual-stage filter and detector by aspirator.
- h. Obscuration Sensitivity Range: **[0.005 to 6 percent obs/ft.] <Insert range.>**
- i. Four independent, field-programmable, smoke-alarm thresholds per sensor pipe and programmable scan time delay. Threshold set points must be programmable.

1) Four alarm thresholds may be used as follows:

- a) Alarm Level 1 (Alert): Activate visual and audible supervisory alarm.
- b) Alarm Level 2 (Action): Activate shutdown of electrical/HVAC equipment and activate visual and audible supervisory alarm.
- c) Alarm Level 3 (Fire 1): Activate building alarm systems and initiate call to fire response unit.
- d) Alarm Level 4 (Fire 2): Activate suppression system or other countermeasures.

2) Final Detection System Settings: Approved by Owner.

3) Initial Detection Alarm Settings:

- a) Alarm Level 1 (Alert): 0.08 percent obs/ft.
- b) Alarm Level 2 (Action): 1.0 percent obs/ft.

- c) Alarm Level 3 (Fire 1): 2.0 percent obs/ft.
- d) Alarm Level 4 (Fire 2): 4.0 percent obs/ft.

j. Power Supply:

- 1) Regulated 24 V(dc), monitored by FACU, with battery backup.
- 2) Battery backup must provide 24 hours' standby, followed by 30 minutes at maximum connected load.

k. Detector must also transmit the following faults:

- 1) Detector.
- 2) Airflow.
- 3) Filter.
- 4) System.
- 5) Zone.
- 6) Network.
- 7) Power.

- l. Provide four in-line sample pipe inlets that must contain flow sensor for each pipe inlet. Detector must be capable of identifying pipe from which smoke was detected.
- m. Aspirator: Air pump capable of allowing for multiple sampling pipe runs up to **650 ft. (200 m)** in total, (four pipe runs per detector) with transport time of less than 120 seconds from farthest sample port.
- n. Air-Sampling Flow Rates Outside Manufacturer's Specified Range: Result in trouble alarm.
- o. Provide software-programmable relays rated at 2 A at 30 V(dc) for alarm and fault conditions.
- p. Provide built-in event and smoke logging; store smoke levels, alarm conditions, operator actions, and faults with date and time of each event. Each detector (zone) must be capable of storing up to 18,000 events.
- q. Urgent and Minor Faults. Minor faults must be designated as trouble alarms. Urgent faults, which indicate unit may not be able to detect smoke, must be designated as supervisory alarms.

3. Displays:

- a. Include display module within each detector.
- b. Each display must include the following features:
 - 1) Bar-graph display.
 - 2) Four independent, high-intensity alarm indicators (Alert, Action, Fire 1, and Fire 2), corresponding to four alarm thresholds of indicated sector.
 - 3) Alarm threshold indicators for Alert, Action, and Fire 1.
 - 4) LED indication that first alarm sector is established.
 - 5) Detector fault and airflow fault indicators.
 - 6) LED indicators must be provided for faults originating in particular zone (Zone Fault), faults produced by overall smoke-detection system, and faults resulting from network wiring errors (Network Fault).

- 7) Minor and urgent LED fault indicators.

4. Sampling Tubes:

- a. Smooth bore with nominal 1 inch OD and 7/8 inch ID. Sampling pipe with between 5/8 and 1 inch ID can be used in specifically approved locations when recommended by manufacturer.
- b. Pipe Material: CPVC and complying with UL 1887.
- c. Joints in sampling pipe must be airtight. Use solvent cement approved by pipe manufacturer on joints except at entry to detector.
- d. Identify piping with labels reading: "Aspirating Smoke Detector Pipe - Do Not Paint or Disturb" along its entire length at regular intervals in accordance with NFPA 72.
- e. Support pipes at not more than 60 inch centers.
- f. Fit end of each trunk or branch pipe with end cap and drilled with hole appropriately sized to achieve performance as specified and as calculated by system design.

5. Sampling Holes:

- a. Sampling holes of 5/64 inch, or other sized holes per manufacturer's written instructions, must be separated by not more than maximum distance allowable for conventional smoke detectors. Intervals may vary in accordance with calculations.
- b. Follow manufacturer's written instructions to determine number and spacing of sampling points and distance from sampling points to ceiling or roof structure and to forced ventilation systems.
- c. Each sampling point must be identified by applied decal.

2.8 FIRE-ALARM NOTIFICATION APPLIANCES

A. Fire-Alarm Audible Notification Appliances:

1. Description: Horns, bells, or other notification devices that cannot output voice messages.
2. Performance Criteria:
 - a. Regulatory Requirements:
 - 1) NFPA 72.
 - b. General Characteristics:
 - 1) Individually addressed, connected to signaling-line circuit, equipped for mounting as indicated, and with screw terminals for system connections.
 - 2) Connected to notification-appliance signal circuits, zoned as indicated, equipped for mounting as indicated, and with screw terminals for system connections.
 - 3) Chimes, Low-Level Output: Vibrating type, 75 dB(A-weighted) minimum rated output.
 - 4) Chimes, High-Level Output: Vibrating type, 81 dB(A-weighted) minimum rated output.
 - 5) Sounders, High Volume 24 V(dc): Less than 6 mA of alarm current.

Kitchen & Dining Room Addition

DASNY Project No.: 374120

DASNY Term Contract No.: 226747

Bergmann No. 24001978A

- 6) Sounders, Low Volume 24 V(dc): Less than 4 mA of alarm current.
- 7) Audible notification appliances must have functional humidity range of 10 to 95 percent relative humidity.
- 8) ISO Temporal 3 Evacuation Tone: 90 plus or minus 4 dB(A-weighted) at 24 V.
- 9) ISO Temporal 3 Alert Tone: 95 plus or minus 5 dB(A-weighted) at 24 V.
- 10) AS2220 Evacuation Tone: 93 plus or minus 4 dB(A-weighted) at 24 V.
- 11) AS2220 Alert Tone: 93 plus or minus 5 dB(A-weighted) at 24 V.
- 12) Horns: Electric-vibrating-polarized type, 24 V(dc); with provision for housing operating mechanism behind grille. Comply with UL 464. Horns must produce sound-pressure level of 90 dB(A-weighted), measured 10 ft. (3 m) from horn, using coded signal prescribed in UL 464 test protocol.
- 13) Combination Devices: Factory-integrated audible and visible devices in single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.

B. Fire-Alarm Visible Notification Appliances:

1. Performance Criteria:

a. Regulatory Requirements:

- 1) NFPA 72.
- 2) UL 1971.

b. General Characteristics:

- 1) Rated Light Output:
 - a) 15/30/75/110 cd, selectable in field.
- 2) Clear or nominal white polycarbonate lens mounted on aluminum faceplate.
- 3) Mounting: Wall mounted unless otherwise indicated.
- 4) For units with guards to prevent physical damage, light output ratings must be determined with guards in place.
- 5) Flashing must be in temporal pattern, synchronized with other units.
- 6) Strobe Leads: Factory connected to screw terminals.
- 7) Mounting Faceplate: Factory finished, **red**.

2.9 FIRE-ALARM ADDRESSABLE INTERFACE DEVICES

A. Performance Criteria:

1. Regulatory Requirements:

- a. NFPA 72.

2. General Characteristics:

- a. Include address-setting means on module.
- b. Store internal identifying code for control panel use to identify module type.
- c. Listed for controlling HVAC fan motor controllers.

- d. Monitor Module: Microelectronic module providing system address for alarm-initiating devices for wired applications with normally open contacts.
- e. Integral Relay: Capable of providing direct signal **to circuit-breaker shunt trip for power shutdown.**
 - 1) Allow control panel to switch relay contacts on command.
 - 2) Have minimum of two normally open and two normally closed contacts available for field wiring.
- f. Control Module:
 - 1) Operate notification devices.
 - 2) Operate solenoids for use in sprinkler service.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.
 - 1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.
- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Preinstallation Testing: Perform verification of functionality of installed components of existing system prior to starting work. Document equipment or components not functioning as designed.
- B. Interruption of Existing Fire-Alarm Service: Do not interrupt fire-alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service in accordance with requirements indicated:
 - 1. Notify **Owner** no fewer than **seven** days in advance of proposed interruption of fire-alarm service.
 - 2. Do not proceed with interruption of fire-alarm service without **Owner's** written permission.
- C. Protection of In-Place Conditions: Protect devices during construction unless devices are placed in service to protect facility during construction.

3.3 INSTALLATION OF EQUIPMENT

- A. Comply with NECA 305, NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
 - 1. Devices placed in service before other trades have completed cleanup must be replaced.
 - 2. Devices installed, but not yet placed, in service must be protected from construction dust, debris, dirt, moisture, and damage in accordance with manufacturer's written storage instructions.
- B. Connecting to Existing Equipment: Verify that existing fire-alarm system is operational before making changes or connections.
 - 1. Connect new equipment to existing control panel in existing part of building.
 - 2. Connect new equipment to existing monitoring equipment at supervising station.
 - 3. Expand, modify, and supplement existing **control monitoring** equipment as necessary to extend existing **control monitoring** functions to new points. New components must be capable of merging with existing configuration without degrading performance of either system.
- C. Install wall-mounted equipment, with tops of cabinets not more than 78 inch above finished floor.
- D. Manual Fire-Alarm Boxes:
 - 1. Install manual fire-alarm box in normal path of egress within 60 inch of exit doorway.
 - 2. Mount manual fire-alarm box on background of contrasting color.
 - 3. Operable part of manual fire-alarm box must be between 42 and 48 inch above floor level. Devices must be mounted at same height unless otherwise indicated.
- E. Smoke- and Heat-Detector Spacing:
 - 1. Comply with "Smoke-Sensing Fire Detectors" section in "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
 - 2. Comply with "Heat-Sensing Fire Detectors" section in "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
 - 3. Smooth ceiling spacing must not exceed 30 ft..
 - 4. Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas must be determined in accordance with Annex A in NFPA 72.
 - 5. HVAC: Locate detectors not closer than 36 inch from air-supply diffuser or return-air opening.
 - 6. Lighting Fixtures: Locate detectors not closer than 12 inch from lighting fixture and not directly above pendant mounted or indirect lighting.
- F. Install cover on each smoke detector that is not placed in service during construction. Cover must remain in place except during system testing. Remove cover prior to system turnover.
- G. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend full width of duct. Tubes more than 36 inch long must be supported at both ends.

1. Do not install smoke detector in duct smoke-detector housing during construction. Install detector only during system testing and prior to system turnover.
- H. Remote Status and Alarm Indicators: Install in visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.
- I. Audible Alarm-Indicating Devices: Install not less than 6 inch below ceiling. Install bells and horns on flush-mounted back boxes with device-operating mechanism concealed behind grille. Install devices at same height unless otherwise indicated.
- J. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inch below ceiling. Install devices at same height unless otherwise indicated.
- K. Device Location-Indicating Lights: Locate in public space near device they monitor.

3.4 ELECTRICAL CONNECTIONS

- A. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."
- C. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.
- D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.
 1. Nameplate must be laminated acrylic or melamine plastic signs, as specified in Section 260553 "Identification for Electrical Systems."

3.5 CONTROL CONNECTIONS

- A. Install control and electrical power wiring to field-mounted control devices.
- B. Install nameplate for each control connection, indicating field control panel designation and I/O control designation feeding connection.

3.6 PATHWAYS

- A. Pathways above recessed ceilings and in inaccessible locations may be routed exposed.
 1. Exposed pathways located less than 96 inch above floor must be installed in EMT.
- B. Exposed EMT must be painted red enamel.

3.7 CONNECTIONS

- A. For fire-protection systems related to doors in fire-rated walls and partitions and to doors in smoke partitions, comply with requirements in Section 087100 "Door Hardware." Connect hardware and devices to fire-alarm system.
 - 1. Verify that hardware and devices are listed for use with installed fire-alarm system before making connections.
- B. Make addressable connections with supervised interface device to the following devices and systems. Install interface device less than 36 inch from device controlled. Make addressable confirmation connection when such feedback is available at device or system being controlled.
 - 1. Alarm-initiating connection to smoke-control system (smoke management) at firefighters' smoke-control system panel.
 - 2. Alarm-initiating connection to stairwell and elevator-shaft pressurization systems.
 - 3. Smoke dampers in air ducts of designated HVAC duct systems.
 - 4. Magnetically held-open doors.
 - 5. Electronically locked doors and access gates.
 - 6. Alarm-initiating connection to elevator recall system and components.
 - 7. Alarm-initiating connection to activate emergency lighting control.
 - 8. Alarm-initiating connection to activate emergency shutoffs for gas and fuel supplies.
 - 9. Supervisory connections at valve supervisory switches.
 - 10. Supervisory connections at low-air-pressure switch of each dry-pipe sprinkler system.
 - 11. Supervisory connections at elevator shunt-trip breaker.
 - 12. Data communication circuits for connection to building management system.
 - 13. Data communication circuits for connection to mass notification system.
 - 14. Supervisory connections at fire-extinguisher locations.
 - 15. Supervisory connections at fire-pump power failure including dead-phase or phase-reversal condition.
 - 16. Supervisory connections at fire-pump engine control panel.

3.8 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 270553 "Identification for Communications Systems."
- B. Install framed instructions in location visible from FACU.

3.9 GROUNDING

- A. Ground FACU and associated circuits in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."
- B. Ground shielded cables at control panel location only. Insulate shield at device location.

3.10 FIELD QUALITY CONTROL.

- A. Field tests must be witnessed by authorities having jurisdiction.
- B. Administrant for Tests and Inspections:
 - 1. Engage factory-authorized service representative to administer and perform tests and inspections on components, assemblies, and equipment installations, including connections.
- C. Tests and Inspections:
 - 1. Visual Inspection: Conduct visual inspection prior to testing.
 - a. Inspection must be based on completed record Drawings and system documentation that is required by "Completion Documents, Preparation" table in "Documentation" section of "Fundamentals" chapter in NFPA 72.
 - b. Comply with "Visual Inspection Frequencies" table in "Inspection" section of "Inspection, Testing and Maintenance" chapter in NFPA 72; retain "Initial/Reacceptance" column and list only installed components.
 - 2. System Testing: Comply with "Test Methods" table in "Testing" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - 3. Test audible appliances for public operating mode in accordance with manufacturer's written instructions. Perform test using portable sound-level meter complying with Type 2 requirements in ASA S1.4 Part 1/IEC 61672-1.
 - 4. Test audible appliances for private operating mode in accordance with manufacturer's written instructions.
 - 5. Test visible appliances for public operating mode in accordance with manufacturer's written instructions.
 - 6. Factory-authorized service representative must prepare "Fire Alarm System Record of Completion" in "Documentation" section of "Fundamentals" chapter in NFPA 72 and "Inspection and Testing Form" in "Records" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.
- D. Reacceptance Testing: Perform reacceptance testing to verify proper operation of added or replaced devices and appliances.
- E. Fire-alarm system will be considered defective if it does not pass tests and inspections.
- F. Prepare test and inspection reports.

3.11 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire-alarm system. Allow Owner to record training.

END OF SECTION 284621.11