



**DALLAS INDEPENDENT SCHOOL DISTRICT
PROCUREMENT SERVICES**

ADDENDUM NO. 1

CSP 207837

Org 054 – Thomas C. Marsh Preparatory Academy - Renovation

1/6/2025

The Purpose of this Addendum No. 1 is to provide questions and answers received for the noted solicitation. In addition, there may also be updates to the solicitation which should be published as important information related to the process:

Some Information may be only an Update to what was previously published, e.g. a Pre-Proposal Meeting or bid opening date has changed. These items may be labeled as Updates:

UPDATE 1: The virtual Pre-Proposal Meeting has been rescheduled to January 14th at 10:00am and the Pre-Proposal Site Walk has been rescheduled to January 14th at 3:30pm. Deadline for questions will be pushed to January 16th and the final addendum will be posted January 17th.

Google Meet Info:

meet.google.com/xnf-mrec-ggy

Phone Numbers

(US)[+1 786-618-2355](tel:+17866182355)

PIN: 179 854 466#

UPDATE 2: Table of content has been updated to remove the below section

- 22 11 23 Domestic Water Pumps
- 22 30 00 Plumbing Equipment
- 23 25 00 HVAC Water Treatment
- 23 65 13 Forced Draft Cooling Towers
- 23 74 13 Package Outdoor Central Station Air Handling Units **(This section is already included in section 23 73 13)**

UPDATE 3: The below missing specification sections have been added

- 21 05 00 Common Work Results for Fire Suppression
- 21 08 00-21 Commissioning of Fire Protection Systems
- 22 05 17 Sleeves and Sleeve Seals for Plumbing Piping



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Org 054 – Thomas C. Marsh Preparatory Academy - Renovation

Please sign this addendum # 1 and submit along with your copies of the proposal. ALL OTHER PROVISIONS, AND OTHER TERMS AND CONDITIONS REMAIN UNCHANGED. BIDDERS ARE REQUIRED TO ACKNOWLEDGE AND RETURN/SUBMIT A COPY OF THIS ADDENDUM WITH THEIR PROPOSAL.

_____ Company Name
_____ Bidder's Signature
_____ Date

END OF ADDENDUM
NO. 1



The Dallas Independent School District ("District") is soliciting Competitive Sealed Proposals ("CSP") from qualified sources relative to the provision of the following request For Competitive Sealed Proposals ("CSP"). This procurement will be managed under the Dallas ISD Construction Services department.

For information on how to obtain the CSP documents, go to the District's **Construction Services** website <http://www.dallasisd.org>. Click on "Departments;" click on "Construction Services/Bond Office;" click on "Bond Vendor Opportunities;" then click on the bid package number. Follow the Document Distribution instructions to obtain the CSP documents. The CSP documents contain the necessary information to submit a CSP to the District, including construction documents, selection criteria, estimated budget, project scope, schedule, and other information that contractors may require to respond to the request.

Please return the "Intention to Propose" form (Specification Section 00 11 17) to the Construction Services Procurement Director listed on the form.

CSP #	Description	Closing Date	Buyers Initials
207837	Org 054 – Thomas C. Marsh Preparatory Academy - Renovation	1/28/2025	DBE

A pre-proposal meeting will be held via Google Meet at 10:00 AM on ~~Thursday January 9, 2025~~ **Tuesday January 14, 2025** for all interested parties. This meeting is not mandatory, but information discussed will be extremely helpful in preparation of the proposal.

Google Meet Information

Meeting ID

meet.google.com/xnf-mrec-ggy

Phone Numbers

(US)+1 786-618-2355

PIN: 179 854 466#

All general contractors and sub-contractors are encouraged to attend this meeting. Contractors will meet A/E(s) and PM at the school to start site tour. The following is the schedule for the site tour:

School Org#	School Name	Date	Time	School Address, Location of Meeting
Org 054	Thomas C. Marsh Preparatory Academy	January 9, 2025 January 14, 2025	3:30 PM	3838 Crown Shore Dr. Dallas, TX 75244

All Construction Services procurements must be physically delivered to the Construction Services office, at the Linus D. Wright Dallas ISD Administration Building 9400 North Central Expressway, Suite 800 Dallas, TX 75231. (Call 972.925.7200 for directions). Delivery to other locations will result in rejection of a CSP.

Completed CSP Package **Part 1-A, 1-B and 1-C are due on Tuesday, 1/28/2025 at 2:00 PM** (local time).

Completed CSP Package **Part 2 is due on Wednesday, 1/29/2025 at 3:00 PM** (local time).

Any materials received after the respective closing dates / times will not be considered.

The District will open and read the names of the proposers and prices submitted in responsive CSPs beginning at 3:00 P.M. local time upon submittal of Part 2 of the Package, via Google Meet.

Google Meet Information

Meeting ID

meet.google.com/gdm-vcni-cgy

Phone Numbers

(US)+1 915-235-0095

PIN: 768 732 047#

No further information will be officially released until after the date the Agenda is publicized for the Board of Trustees briefing.

The right is reserved to reject any or all bids, proposals, CSPs or statements of qualification and to waive technicalities.

The Dallas Independent School District is committed to the ideals of equal opportunity in all its business endeavors.

The Dallas Independent School District's Construction Services projects have a 30% Minority and Women-Owned Business Enterprise (M/WBE) construction goal.

RUN TWO TIMES ONLY AS FOLLOWS:

12/15/2024 and 12/22/2024



**DALLAS INDEPENDENT SCHOOL DISTRICT
PROCUREMENT SERVICES – CONSTRUCTION SERVICES**

DOCUMENT DISTRIBUTION

CONSTRUCTION SERVICES

CSP 207837

**Org 054 – Thomas C. Marsh Preparatory Academy - Renovation
J054_P1000_1**

SOLICITATION TIMELINE:

Issue Date:	12/15/2024
First Advertisement Date	12/15/2024
Second Advertisement Date	12/22/2024
Preproposal Meeting	01/09/2025 at 10:00 AM CST 01/14/2025 at 10:00 AM CST
Question Deadline	01/13/2025 01/16/2025
Question Responses from the District	01/14/2025 01/17/2025
CSP Response Due Dates Pt 1-A and Pt 1-B	01/28/2025 at 2:00 PM CST
CSP Response Due Date Pt 2	01/29/2025 at 3:00 PM CST
CSP Evaluation	02/04/2025
Anticipated Board Approval	03/20/2025

1. DOCUMENT DISTRIBUTION:

The attached "Document Distribution" page details how documents and addenda will be distributed.

2. ESTIMATED CONSTRUCTION BUDGET INCLUDING ALLOWANCES:

Total Estimated Construction Budget (CCL + IC+ Allowances) for CSP 207837 \$8,594,265.00

3. Scope of Work. The Work consists of:

Org 054 – Thomas C. Preparatory Academy - Project consists of the following:

Architectural

1. New secure vestibule to be created including rearrangement of adjacent office spaces, inclusion of new storefront, rearrangement of doors, and inclusion of infrastructure for security equipment.
2. Replace exterior waterproofing/sealant joints, including at door and wall penetrations to eliminate leaks and condensation drainage damage.

3. Replace vinyl composite tile (VCT) flooring and base at 1st and 2nd floor corridors per District Standards. 3rd floor is new and is to remain as-is.
4. Paint all previously painted interior surfaces. Repair/patch walls prior to painting (except at areas of renovation). Scope to include all areas of school.
5. Replace outdated exterior windows with new energy-efficient window assemblies. Refer to drawings for exact locations.
6. New way-finding site signage to be installed to meet DISD standards.
7. Replace damaged center mullion between gyms 123 and 124.
8. Replace mechanical room M3 door for code compliant access.
9. Repair damaged door hardware at exterior door to chiller.

Structural

1. Misc. - Provide supplemental repairs as required for other scopes.

Mechanical

1. Replace kitchen hood and fans.
2. Replace existing condenser piping, condenser pump, controls, and cooling tower in its entirety.
3. Remove and replace AHUs. Refer to drawings for exact locations and quantity. AHU 3 & 4 to be included as Add Alternate #8.
4. Replace fans, supply, roof mount, side wall mount, downblast, etc. Refer to drawings for exact locations and quantity.
5. Replace DX split system due to age and performance of existing equipment.
6. Replace IDF/MDF air conditioning. Refer to drawings for exact location and quantity.
7. Replace RTUs, refer to drawings for exact location and quantity. Existing controls are Distech and to remain as is. Scope to be included as Add Alternate #3.

Electrical

1. Demo and replace existing fire alarm system. Scope to include entire school, including portables throughout site.
2. Install exterior lighting controls for new exterior lights. See E3 for reference.
3. Install exterior lighting with LED lighting. New lighting to be installed to meet code requirements and DISD standards.
4. Remove existing interior lighting controls and replace with new lighting controls will be installed to meet current standards in coordination with new interior LED lighting. Scope will also include occupancy sensors, dimming control of new LED lighting, and multi-zone switching. 3rd floor lighting to be listed as add alternate E4-Alt.
5. Replace interior lights with LED lighting. Scope includes approximately (1,565 fixtures) throughout school. Lighting to be replaced to meet current code requirements and DISD standards. 3rd floor listed as add alternate E5-Alt.
6. Replace intercom system.
7. Replace existing AV system for the Auditorium with a new system.

Electrical Safety & Security

1. Provide TDG compliant security system at front entry including door buzzer, card readers, door contacts, and weapon's management system to secure reception and vestibule.

Plumbing

1. Install new washer/dryer connections. Per DISD requests, the new dryer should be electric in lieu of gas.
2. Demo and replace sanitary sewer piping. Scope is limited to crawl spaces only, except at the kitchen.
3. Replace exterior hose bibs due to age and condition.
4. Inspect acid dilution tank, replace limestone media.
5. Install makeup water system for cooling tower to meet current DISD standards.
6. Install branch isolation valves for restrooms and kitchen to meet DISD requests and standards.
7. Replace (2) water fountains adjacent to the gymnasium spaces to meet current DISD standards. Includes installation of floor drains and bottle fillers. Scope to be included as Add Alternate #2.
8. Replace (2) additional water fountains throughout school, including floor drains and bottle fillers. Scope to be included as Add Alternate #5.
9. Replace piping from water meter back to the double check inside the building.
10. Replace domestic cold-water piping in the central plant with copper.

11. Replace sanitary sewer line from within the property line up to the building entrance.

4. Contact Information:

Technical questions and all other questions related to this solicitation are to be referred to:

Attention:
Email:

Dallas ISD Procurement Services
ProcurementCS@dallasisd.org

Please notate the solicitation number **CSP 207837** in the subject line of your email.

**DOCUMENT DISTRIBUTION
CSP PACKAGE 207837**

Documents will be distributed as follows:

Hard copy and file distribution are provided, beginning Monday, December 16, 2024

Printing Company Name:	Lawton Reprographics
Attention:	Greg Howard
Address:	14305 Inwood Rd.
City, State and Zip	Dallas, TX 75244
Phone:	972-980-2957
Email:	orders@lawtonrepro.com

Any addendum issued will be listed or posted at the **Dallas ISD Construction Services** website <http://www.dallasisd.org/> **Click on “Departments”**; **click on “Construction Services/Bond Office”**; **click on “Bond Vendor Opportunities”**; then click on the bid package number. Any and all addenda that are too large in size for the website will not be posted on the District website. However, all such addenda will be listed on the website with the date of issuance of each addendum, and instructions to proposers for procuring such addenda from Lawton Reprographics.

Documents are available as follows:

- **Full size sets of plans and specifications and USB drives of the same information and details are available for purchase at the Printing Company noted above. Purchase price must be obtained directly from the Printing Company.**
- **The purchases of additional USB drives of proposal documents in PDF format are available only to purchasers of at least one (1) full size plans and specifications. Purchase price must be obtained directly from the Printing Company.**
- **Addenda will be available from the Printing Company for purchase. Purchase price must be obtained directly from the Printing Company.**

Delivery pricing can be obtained from Lawton Reprographics.

The bidder or proposer is responsible for obtaining all Addenda prior to submitting a bid or proposal to the District.

A list of Plan Rooms and other entities that have documents available for viewing are as follows:

DRAWINGS AND SPECIFICATIONS ARE AVAILABLE AT THE FOLLOWING:

Dallas/Fort Worth Minority Supplier Development Council

Sha'Ron Richardson

construction@dfwmsdc.com

214-630-0747
8828 N. Stemmons Freeway, Ste. 550
Dallas, TX 75247

Regional Hispanic Contractors Association

John H. Martinez

john@regionalhca.org

972-786-0909
3918 North Hampton Rd.
Dallas, TX 75212

Regional Black Contractors Association of North Texas, Inc.

John Proctor

info@blackcontractors.org

214-565-8946
2627 Martin Luther King Jr. Blvd,
Dallas, TX 75215

Fort Worth Hispanic Chamber of Commerce

Gilbert Juarez

gilbert@pic-printing.com

<https://www.fwhccplanroom.com/>

817-625-5411
1327 N. Main Street
Fort Worth, TX 76164

Greater Dallas Hispanic Chamber of Commerce

Gabriela Carvallo

gabriela@gdhcc.com

214-521-6007
1402 N. Corinth St., Ste 225
Dallas, TX 75215

Construction Connect

Michael Stubbs

Content@ConstructConnect.com

800-364-2059
30 Technology Parkway South, Ste 100
Norcross, GA 30092

Dodge Data & Analytics formerly McGraw-Hill Construction Dodge

support@construction.com

877-784-9556
4300 Beltway Place, Ste. 180
Arlington, TX 76018

Dallas Black Chamber of Commerce

Tigist Solomon

tsolomon@dbcc.org

214-702-6652
2922 Martin Luther King Jr. Blvd., Building A, Ste. 104
Dallas, TX 75215

Fort Worth Metropolitan Black Chamber of Commerce

Jeremiah Anderson

janderson@fwmbcc.org

817-871-6558
1150 South Fwy, Ste. 211
Fort Worth, TX 76104

Virtual Builders Exchange, LLC

Heidi Shaffer

heidi@virtualbx.com

210-564-6900
4047 Naco Perrin, Ste.100
San Antonio, TX 78217

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00 41 12	Proposal Form – Alternates and Unit Pricing (Part 1-C of the CSP)
00 41 13	Technical Proposal (Part 1-B of the CSP)
00 43 13	Proposal Guarantee Bond (Part 1-A of the CSP)
00 45 00	DISD Required forms combined (Part 1-A of the CSP)
00 45 20	Certificate of Non-Discrimination (Part 1-A of the CSP)
00 45 22	Notification of Hazardous Materials Affidavit (Part 1-A of the CSP)
00 45 23	Family Conflict of Interest Questionnaire (Part 1-A of the CSP)
00 45 39	MWBE Compliance Guidelines and Forms (Part 2 of the CSP)

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00 52 10	Standard form of Agreement between Owner and Contractor
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00 73 19	Dallas Independent School District Construction Minimum Safety Program Guidelines Manual

Division 1

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**SECTION 21 05 00
COMMON WORK RESULTS FOR FIRE SUPPRESSION**

PART 1 GENERAL

1.01 SECTION INCLUDES

1.02 RELATED REQUIREMENTS

- A. Section 07 84 00 - Firestopping.
- B. Section 21 12 00 - Fire-Suppression Standpipes: Standpipe design.
- C. Section 21 13 00 - Fire-Suppression Sprinkler Systems: Sprinkler systems design.

1.03 REFERENCE STANDARDS

- A. ASME BPVC-IX - Boiler and Pressure Vessel Code, Section IX - Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators; 2021.
- B. ASTM C592 - Standard Specification for Mineral Fiber Blanket Insulation and Blanket-Type Pipe Insulation (Metal-Mesh Covered) (Industrial Type); 2022a.
- C. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2023a.
- D. NFPA 13 - Standard for the Installation of Sprinkler Systems; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. NFPA 14 - Standard for the Installation of Standpipe and Hose Systems; 2024.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturer's catalog information. Indicate valve data and ratings.
- C. Shop Drawings: Indicate pipe materials used, jointing methods, supports, and floor and wall penetration seals. Indicate installation, layout, weights, mounting and support details, and piping connections.
- D. Project Record Documents: Record actual locations of components and tag numbering.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store valves in shipping containers, with labeling in place.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Sprinkler-based System:
 - 1. Comply with NFPA 13.
- B. Standpipe and Hose System:
 - 1. Comply with NFPA 14.
- C. Welding Materials and Procedures: Comply with ASME BPVC-IX.
- D. Provide system pipes, fittings, sleeves, escutcheons, seals, and other related accessories.
- E. Provide a complete and operable wet pipe fire suppression system engineered and designed conforming to NFPA 13; all applicable city, state and national codes and the codes and ordinances of all other authorities having jurisdiction. The system shall meet all applicable requirements of the city fire department.

- F. The contractor shall coordinate with the Civil contractor prior to construction for required connection points and material connections. This includes the verification of the location of the fire department connection with respect to code required conditions (50 feet from fire lanes and 300 feet from fire hydrants).
- G. Contractor shall coordinate and attend a pre-sprinkler shop drawing submittal conference between the architect, contractor and sprinkler subcontractor during the submittal phase of construction. Purpose of the meeting shall be to locate routing of fire sprinkler piping and sprinkler head locations in the atriums, lobbies and public spaces (with emphasis on spaces with exposed structure that are exposed to public view). Final routing of sprinkler piping and locations of sprinkler heads shall be coordinated / approved by the architect prior to submitting to the authority having jurisdiction.
- H. Exposed sprinkler pipe routed in atriums and lobby(s) with exposed (finished) structure shall be painted as directed by the architect. Color samples shall be made available for the architect to review and select. Pipe routing shall be based upon the space exposed structure. Centerlines and axes to establish a pattern complimentary to each space structure.
- I. Contractor shall arrange sprinkler heads complimentary to each ceiling type. Sprinkler heads located in lay-in ceilings shall be centered in respective ceiling tiles (centered in the short axes for 2x4 ceiling tiles).
- J. All sprinkler head locations in all the atriums, lobbies, classrooms, public spaces, etc. shall be coordinated with the structure, light fixtures, HVAC elements, plumbing elements, architectural ceiling treatments. Layout shall be coordinated with and reviewed by the Architect.
- K. The fire protection area descriptions shown on the plan(s) are for reference only. The contractor shall verify with the owner and the authority having jurisdiction all space classifications, commodity types and locations of obstacles prior to providing design calculations or sprinkler shop drawings.
- L. Locations of system test and drain valves shall be coordinated with the owner by specifically calling to the owners attention the locations of these sub-systems.
- M. The fire suppression system shall conform to all applicable NFPA codes in addition to the following:
 - 1. Velocities in mains shall not exceed 15 feet per second.
 - 2. Velocites in branches and branch mains shall not exceed 20 feet per second.
 - 3. Hydraulic calculations shall show the elevations of individual heads and reference points (nodes).
 - 4. Hydraulic calculations shall describe each individual head in the zone being calculated. Hydraulic calculations using "K" factors to describe whole branch lines are not acceptable.
 - 5. Provide a safety factor of 10 psi or 10 percent of system demand (whichever is greater).
 - 6. Submittals shall be complete and include: hydraulic calculations, shop drawings and material submittal.
 - 7. Submittals shall be approved by the authority having jurisdiction prior to submitting hydraulic calculations, shop drawings and materials to the engineer for review.
- N. Submittals not conforming to the above will be rejected with no comment.
- O. Refer to architectural and civil drawings for future expansions/additions to the building. Estimated coverage requirements for future expansions/additions, factor estimates in hydraulic calculations and provide valved and capped connections for future.
- P. Provide storage cabinet painted red, sized to accommodate six sprinkler heads of each type provide on the project. Provide a properly sized wrench(s) to fit sprinkler heads (to be located in the cabinet). Fasten cabinet to wall adjacent to fire sprinkler valving at 5'-0" AFF to centerline of cabinet.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install standpipe piping, hangers, and supports in accordance with NFPA 14.
- B. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.
- C. Install piping to conserve building space, to not interfere with use of space and other work.
- D. Group piping whenever practical at common elevations.
- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- F. Pipe Hangers and Supports:
 - 1. Install hangers to provide minimum 1/2 inch (15 mm) space between finished covering and adjacent work.
 - 2. Place hangers within 12 inches (300 mm) of each horizontal elbow.
 - 3. Use hangers with 1-1/2 inch (40 mm) minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
 - 4. Support vertical piping at every other floor. Support riser piping independently of connected horizontal piping.
 - 5. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
- G. Slope piping and arrange systems to drain at low points. Use eccentric reducers to maintain top of pipe level.
- H. Prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc-rich primer to welding.
- I. Provide sleeves when penetrating footings, floors, walls, and partitions. Seal pipe including sleeve penetrations to achieve fire resistance equivalent to fire separation required.
 - 1. Underground Piping: Caulk pipe sleeve watertight with lead and oakum or mechanically expandable chloroprene inserts with bitumen sealed metal components.
 - 2. Aboveground Piping:
 - a. Pack solid using mineral fiber complying with ASTM C592.
 - b. Fill space with an elastomer caulk to a depth of 0.50 inch (15 mm) where penetrations occur between conditioned and unconditioned spaces.
 - 3. All Rated Openings: Caulk tight with firestopping material complying with ASTM E814 in accordance with Section 07 84 00 to prevent the spread of fire, smoke, and gases.
- J. Escutcheons:
 - 1. Install and firmly attach escutcheons at piping penetrations into finished spaces.
 - 2. Provide escutcheons on both sides of partitions separating finished areas through which piping passes.
 - 3. Use chrome plated escutcheons in occupied spaces and to conceal openings in construction.
- K. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, unions, and couplings for servicing are consistently provided.

3.02 CLEANING

- A. Upon completion of work, clean all parts of the installation.

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- B. Clean equipment, pipes, valves, and fittings of grease, metal cuttings, and sludge that may have accumulated from the installation and testing of the system.

END OF SECTION

**SECTION 21 08 00
COMMISSIONING OF FIRE PROTECTION SYSTEMS**

COMMISSIONING OF FIRE PROTECTION SYSTEMS

1.01 SUMMARY

- A. This Section includes commissioning process requirements for Fire Protection systems, assemblies, controls, and equipment.
- B. This project will have selected building systems commissioned. The equipment and systems to be commissioned are specified "SECTION 01 91 00 - GENERAL COMMISSIONING REQUIREMENTS".

1.02 RELATED SECTIONS

- A. SECTION 01 91 00 - COMMISSIONING GENERAL REQUIREMENTS
- B. SECTION 22 08 00 – COMMISSIONING OF PLUMBING SYSTEMS
- C. SECTION 23 08 00 – COMMISSIONING OF HVAC SYSTEMS
- D. SECTION 26 08 00 – COMMISSIONING OF ELECTRICAL SYSTEMS
- E. SECTION 28 08 00 – COMMISSIONING OF FIRE ALARM SYSTEMS

1.03 DEFINITIONS

- A. Refer to section 01 91 00 - GENERAL COMMISSIONING REQUIREMENTS

1.04 SUBMITTALS

- A. Certificate Of Readiness, signed by the Contractor, certifying that systems, assemblies, equipment, components, and associated controls are ready for testing.
- B. Manufacturer's completed start-up reports for equipment and systems.

1.05 CONTRACTOR'S RESPONSIBILITIES

- A. Reference Project Specification Section 01 91 00 GENERAL COMMISSIONING REQUIREMENTS for details of contractor's responsibilities related to commissioning.
- B. Perform commissioning tests at the direction of the CxA.
- C. Attend commissioning meetings.
- D. Provide information requested by the CxA for functional testing and for final commissioning documentation.
- E. Provide measuring instruments and logging devices to record test data, and provide data acquisition equipment to record data for the complete range of testing for the required test period.
- F. Functional testing of systems will be carried out solely by contractor's personnel, under the direction of CxA. Provide experienced personnel, familiar with the systems being installed under this project.

1.06 CXA'S RESPONSIBILITIES

- A. Reference Project Specification Section 01 91 00 GENERAL COMMISSIONING REQUIREMENTS.
- B. CxA will direct commissioning testing.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GENERAL TESTING REQUIREMENTS

- A. Equipment Testing and Acceptance Procedures: Testing requirements are specified in Division 21 Sections. Provide submittals, test data, inspector record, and certification to the CxA.
- B. Reference Project Specification Section 01 91 00 GENERAL COMMISSIONING REQUIREMENTS for detailed requirements of commissioning of Mechanical systems.
- C. Provide technicians, instrumentation, and tools to perform commissioning test at the direction of the CxA.
- D. Test all operating modes, interlocks, control responses, and responses to abnormal or emergency conditions, and verify proper response of building automation system controllers and sensors.
- E. Tests will be performed using design conditions whenever possible.

3.02 SYSTEM START-UP

- A. Contractor is solely responsible for system start-up. CxA may, at his discretion, witness start up procedures, but will not perform any Functional Testing of systems until Contractor has completed start-up and resolved all operating deficiencies, and has so certified.

3.03 TESTING PREPARATION

- A. Certify that Fire Protection systems, subsystems, and equipment have been installed, calibrated, and started and are operating according to the Contract Documents.
- B. Certify that testing, adjusting, and balancing procedures for Fire Protection systems have been completed and submitted, discrepancies corrected, and corrective work approved.
- C. Set systems, subsystems, and equipment into operating mode to be tested (e.g., normal shutdown, normal auto position, normal manual position, unoccupied cycle, emergency power, and alarm conditions).
- D. Inspect and verify the position of each device and interlock identified on checklists.
- E. Check safety cutouts, alarms, and interlocks with life-safety systems during each mode of operation.

3.04 FUNCTIONAL TESTING / GENERAL

- A. Reference Project Specification Section 01 91 00 GENERAL COMMISSIONING REQUIREMENTS for detailed requirements of commissioning of Plumbing systems.
- B. Provide measuring instruments to record test data as directed by the CxA.

3.05 PIPING SYSTEMS

- A. Pipe system cleaning, flushing, hydrostatic tests, and chemical treatment requirements are specified in Division 22 piping Sections. Plumbing Contractor shall prepare a pipe system cleaning, flushing, and hydrostatic testing plan. Provide cleaning, flushing, testing, and treating plan and final reports to the CxA. Include sequence of testing and testing procedures, description of equipment for flushing operations, drawings for each pipe sector, showing the physical location of each designated pipe test section, minimum flushing water velocity, and chemical treatment plan.

3.06 DEFERRED TESTING

- A. Initial commissioning will be done as soon as contract work is completed, though building may not be at full occupancy and equipment may not be at full loading.

- B. If adequate load may be artificially placed upon heating or cooling equipment, CxA, at his discretion, may perform functional testing during non-peak load periods. If testing cannot be carried out under these conditions to adequately verify system performance, testing will be deferred until such time as conditions are more satisfactory.
 - 1. Contractor is to provide services of personnel and participate in deferred or seasonal testing process in the same manner as he would in non-seasonal testing.
 - 2. If tests cannot be completed because of a deficiency outside the scope of the Plumbing system, document the deficiency and report it to the Owner. After deficiencies are resolved, reschedule tests.

3.07 RE-TESTING

- A. Reference Project Specification Section 01 91 00 GENERAL COMMISSIONING REQUIREMENTS for detailed requirements of re-testing of Plumbing systems.

3.08 SYSTEMS TO BE COMMISSIONED

- A. Reference Project Specification Section 01 91 00 COMMISSIONING GENERAL REQUIREMENTS for list of Plumbing systems to be commissioned.

END OF SECTION

SECTION 22 05 17
SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe sleeves.
- B. Pipe sleeve-seals.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Shop Drawings: Indicate pipe materials used, jointing methods, supports, floor and wall penetration seals. Indicate installation, layout, weights, mounting and support details, and piping connections.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing work of the type specified this section.
- B. Clean equipment, pipes, valves, and fittings of grease, metal cuttings, and sludge that may have accumulated from the installation and testing of the system.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store sleeve and sleeve seals in shipping containers, with labeling in place.
- B. Provide temporary protective coating on cast iron and steel sleeves if shipped loose.

PART 2 PRODUCTS

2.01 PIPE SLEEVES

- A. Vertical Piping:
 - 1. Sleeve Length: 1 inch (25 mm) above finished floor.
 - 2. Provide sealant for watertight joint.
- B. Pipe Passing Through Below Grade Exterior Walls:
 - 1. Zinc coated or cast iron pipe.
 - 2. Provide watertight space with link rubber or modular seal between sleeve and pipe on both pipe ends.

2.02 PIPE-SLEEVE SEALS

- A. Modular Mechanical Sleeve-Seal:
 - 1. Elastomer-based interlocking links continuously fill annular space between pipe and wall-sleeve, wall or casing opening.
 - 2. Watertight seal between pipe and wall-sleeve, wall or casing opening.
 - 3. Size and select seal component materials in accordance with service requirements.
 - 4. Glass-reinforced plastic pressure end plates.
- B. Sealing Compounds:
 - 1. Provide packing and sealing compound to fill pipe to sleeve thickness.
 - 2. Combined packing and sealing compounding to match partition fire-resistance hourly rating.
- C. Pipe Sleeve Material:
 - 1. Bearing Walls: Steel, cast iron, or terra-cotta pipe.
 - 2. Masonry Structures: Sheet metal or fiber.
- D. Wall Sleeve: PVC material with waterstop collar, and nailer end-caps.

PART 3 EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and foreign material, from inside and outside, before assembly.

3.02 INSTALLATION

- A. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.
- B. Install piping to conserve building space, to not interfere with use of space and other work.
- C. Install piping and pipe sleeves to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- D. Provide sleeves when penetrating footings, floors, walls, and partitions. Seal pipe including sleeve penetrations to achieve fire resistance equivalent to fire separation required.
- E. Manufactured Sleeve-Seal Systems:
 - 1. Install manufactured sleeve-seal systems in sleeves located in grade slabs and exterior concrete walls at piping entrances into building.
 - 2. Provide sealing elements of the size, quantity, and type required for the piping and sleeve inner diameter or penetration diameter.
 - 3. Locate piping in center of sleeve or penetration.
 - 4. Install field assembled sleeve-seal system components in annular space between sleeve and piping.
 - 5. Tighten bolting for a water-tight seal.
 - 6. Install in accordance with manufacturer's recommendations.
- F. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.

3.03 CLEANING

- A. Upon completion of work, clean all parts of the installation.
- B. Clean equipment, pipes, valves, and fittings of grease, metal cuttings, and sludge that may have accumulated from the installation and testing of the system.

END OF SECTION