

BID PROPOSAL FORM

Bid # 04 - 05

The undersigned, who hereby proposes to complete:

HVAC AND STRUCTURAL UPGRADES - PATHS

according to the Bid Specifications from the City of Portland School Department, also certifies that no person acting for or employed by the City of Portland, Maine has a direct or indirect interest in this proposal or any portion of the profits which may be derived therefrom.

The undersigned, having carefully examined the form of contract, general conditions and specifications, and having examined the work site and conditions affecting the work, proposes to furnish all labor, equipment and materials for and reasonably incidental to completion of the project in accordance with the specifications and contract for the amount of:

BASE BID - Lump Sum Amount Bid :

_____ Dollars
(Words)
_____ Dollars
(Figures)

ADD ALTERNATE BID - Lump Sum Amount Bid:

_____ Dollars
(Words)
_____ Dollars
(Figures)

Installing (3) three insulated aluminum windows into existing masonry wall.

Proposed Start Date: _____

Number of Work Days Needed to Complete (not exceeding August 1, 2005): _____

Seiple and Drane Architects

BPF - 1

CONTRACT FOR CONSTRUCTION

AGREEMENT made this _____ day of _____, 2005 by and between THE CITY OF PORTLAND SCHOOL

COMMITTEE, hereinafter called the "COMMITTEE" and _____ hereinafter called the

"CONTRACTOR."

WITNESSETH:

WHEREAS, the COMMITTEE did advertise by Bid #04- 05 entitled:

HVAC AND STRUCTURAL UPGRADES - PATHS

WHEREAS, the CONTRACTOR did under date of _____, submit a proposal for such work; and

WHEREAS, after due consideration of all the bids, the COMMITTEE did award the bid to the CONTRACTOR;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties

covenant and agree as follows:

1. CONTRACTOR will furnish the materials, supplies, equipment, and labor in accordance with the specifications contained in the Notice, Instructions to Bidders and Specifications of Bid # 04- 05 and in accordance with the CONTRACTOR'S Proposal. Copies of said Notice, Instructions to Bidders, Specifications, Request for Bid Proposal and CONTRACTOR'S proposal are attached to this Agreement and made a part thereof as exhibits A and B.

The restoration in this Agreement of any of the terms of said Notice and Specifications or Proposal shall not be deemed to waive any terms not so restated. If a discrepancy is found between the said attachments and this Agreement, then this Agreement shall govern.

2. CONTRACTOR covenants and agrees that all work performed and furnished hereunder shall be free from all defects, and that all work shall be performed in a good workman like manner. Unless a longer warranty period is specified in the attachments hereof, all work provided hereunder shall be warranted by CONTRACTOR for one (1) full year from the date of completion of all work hereunder and acceptance thereof by the Committee. Notwithstanding the foregoing, any longer period specified in the attachments shall stay in effect.

3. CONTRACTOR will supply the COMMITTEE with a performance bond and labor and materials payment bond, each in the amount of 100% of the Bid Amount, guaranteeing one hundred percent performance of this Agreement free and clear of any and all liens, attachments, and encumbrances. Prior to final payment hereunder, CONTRACTOR shall sign a waiver of lien for all work, labor, materials or supplies furnished under this Agreement and agreeing to defend and indemnify the COMMITTEE from the claims of any subcontractors or suppliers acting through or on behalf of CONTRACTOR.

4. Prior to the execution of this Agreement, CONTRACTOR will procure and maintain Public Liability Insurance coverage and Automobile Insurance coverage in amounts not less than \$3,000,000.00 combined single limit for bodily injury, death, and property damage, naming the COMMITTEE as an additional insured thereon, and also Worker's Compensation Insurance coverage. CONTRACTOR shall furnish and thereafter maintain certificates evidencing such coverage, which certificates shall guarantee thirty (30) days notice to COMMITTEE of termination of insurance from insurance company or agent. Builder's Risk Insurance, if desired by the CONTRACTOR for work performed under this agreement, is the responsibility of the CONTRACTOR. Such certificate of insurance will be provided for each contract period.

GENERAL CONDITIONS

The Owner has indicated an intention to use:

STATE OF MAINE
STANDARD GENERAL CONDITIONS
AND
CONTRACT WORK
FOR
PUBLIC SCHOOL PROJECTS

Dated November 8, 2001.

Copies of this document are available for viewing at the Office of Purchasing Manager, Portland School Department, 331 Veranda Street, Portland, ME 04103.

Section 2-B
SUPPLEMENTAL GENERAL CONDITIONS

1. These Special Provisions amend or supplement the Standard General Conditions for Construction work. Other provisions which are not so amended or supplemented remain in full force and effect.

2. Definitions:

The terms used in these Special Provisions which are defined in the Standard General Conditions have the meanings assigned to them in the General Conditions.

Delete the Definitions of Architects in Article I and replace it with the following:

Architect: The Project Architect and/or Engineer.

Delete the Definition of Bureau in Article I and replace it with the following:

Bureau: The School Committee of the City of Portland.

Delete the Definition of Director of Public Improvements in Article I and replace it with the following:

Director of Public Improvements: Facilities Manager, Portland School Department or his Designated Representative.

Delete the Definition of Owner in Article I and replace it with the following:

Owner: The School Committee of the City of Portland.

3. Delete the first paragraph of Article 2 and add the following paragraph in its place:

The intent of the Contract Documents is to describe a complete Work or Improvement. The Plans, including all revisions, the General Conditions for Contract Work, the Special Provisions, Instructions to Bidders, the Proposal, Contract, Contract Bonds, and all other sections of the Contract Documents, including all Addenda as prepared by the Architect, shall each become part of the Contract Documents, and all Proposals must be based on a full compliance therewith. Any Supplemental Agreements entered into subsequent to the Contract will also become part of said Contract.

4. Article 9, MATERIALS, APPLIANCES, EMPLOYEES

Delete entire second paragraph.

5. Add the following paragraph to Article 13.

A survey of existing conditions will be made by the Engineer, Owner and Contractor prior to the start of work. A similar survey will be made at the completion of the work to determine that existing buildings and improvements have been returned to their proper conditions.

6. Article 16, CHANGES IN THE WORK

SECTION 01040 - PROJECT COORDINATION

PART 1. GENERAL

A. RELATED DOCUMENTS

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

B. SUMMARY

- 1. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to
 - a. Coordination.
 - b. Administrative and supervisory personnel.
 - c. General installation provisions.
 - d. Cleaning and protection.

C. COORDINATION

- 1. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.

- 2. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.

- 3. Make adequate provisions to accommodate items scheduled for later installation.
- 4. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.

- 5. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.
- 6. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - a. Preparation of schedules.
 - b. Installation and removal of temporary facilities.
 - c. Delivery and processing of submittals.
 - d. Progress meetings.
 - e. Project Close-out activities.

- 7. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

D. SUBMITTALS

- 1. Staff Names: Within 5 days of Notice to Proceed, submit a list of the Contractors and all Subcontractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their Office addresses and telephone numbers.

PART 2. PRODUCTS (Not Applicable)

PART 3. EXECUTION

SECTION 01045 - CUTTING AND PATCHING

PART I. GENERAL

A. RELATED DOCUMENTS

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

B. SUMMARY

- 1. This Section specifies administrative and procedural requirements for cutting and patching.
- 2. Cutting and patching work includes all work required that involves removals, reconstruction, modification, and reinstatement of materials and systems within the facility not specifically identified within the Specification or on the Drawings, but necessary to accomplish and complete the project. It is the intent of this Section to require that all cutting and patching work result in reconstruction that matches the original conditions or meet the necessary requirements for the installation of finish materials and systems.
- 3. Systems to be cut and patched as part of the work of this Project include but are not necessarily limited to:
 - a. Existing roofing on existing decking and steel structure.
 - b. Electrical wiring.
 - c. Masonry walls (Alternate #1)
 - d. Various other building systems and envelope elements as necessary to accommodate the work of the Project defined in the Drawings and Specifications.

C. SUBMITTALS

- 1. Cutting and Patching Proposal: All cutting and patching of structural, mechanical cutting and patching not identified on Drawings, and electrical cutting and patching not identified on the Drawings, require approval of procedures for cutting and patching before proceeding.
 - a. Obtain approval of the cutting and patching proposal before cutting and patching.
 - b. Submit a proposal describing procedures well in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:
 - (1) Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.
 - (2) Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
 - (3) List products to be used and firms or entities that will perform Work.
 - (4) Indicate dates when cutting and patching is to be performed.
 - (5) List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
 - c. Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.
- 2. Approval to proceed with cutting and patching does not waive the right to later require complete removal and replacement of a part of the Work found to be unsatisfactory.

D. QUALITY ASSURANCE

- 1. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.

- with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - b. Cutting and grinding of existing conditions must meet dimensional tolerances required by manufacturers of systems installed in those areas.
 - c. To avoid marking existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - d. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.
 - e. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut-off pipe or conduit in walls or partitions that are required to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
 - 3. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
 - a. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 - b. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- D. CLEANING
- 1. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting (painting by Owner) or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 01045

3. Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size and provide Owner with copy. Bind properly indexed data in heavy-duty, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:
 - a. Emergency instructions.
 - b. Copies of warranties.
 - c. Wiring diagrams.
 - d. Inspection procedures.
 - e. Shop Drawings and Product Data.

PART 2. PRODUCTS (Not Applicable)

PART 3. EXECUTION

A. FINAL CLEANING

Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

1. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
 - a. Remove labels that are not permanent labels.
 - b. Clean transparent materials. Remove noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
 - c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave existing floors broom clean. Vacuum carpeted surfaces. Wash and wax resilient flooring.
 - d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances.

B. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition and storage of these materials at respective site as directed by the Owner's Representative.

END OF SECTION 01700

SECTION 02070 - SELECTIVE DEMOLITION

PART I - GENERAL

A. RELATED DOCUMENTS

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

B. SUMMARY

1. This Section requires the selective removal and subsequent offsite disposal of the following:
 - a. Portions of existing building indicated on Drawings and as required to accommodate new construction, including but not necessarily limited to, ceilings, existing ductwork etc.
 - b. Removal of heating system components, metal enclosures and piping indicated "remove."
 - c. Removal and protection of existing fixtures, materials, and equipment items indicated "salvage."
 - d. Cutting nonstructural masonry walls for piping, ducts, is included with the work of the respective mechanical specification section in Divisions 15.
 - e. Relocation of pipes, conduits, ducts, and other mechanical and electrical work.

C. SUBMITTALS

1. General: Submit the following in accordance with Conditions of Contract and Division I Specification Sections.
 2. Schedule indicating proposed sequence of operations for selective demolition work to Owner's Representative for review prior to start of work. Include coordination for shutoff, capping, discontinuation, and restoration of utility services as required, together with details for dust and noise control protection.
 3. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
 4. Coordinate with Owner's continuing occupation of portions of existing building and adjacent outbuildings.
 5. Prepare video tape or still photographs of existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operations. File with Owner's Representative prior to start of work.

D. JOB CONDITIONS

1. Occupancy: Owner will occupy portions of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours minimum (one calendar week preferred) advance notice to Owner of demolition activities that will affect Owner's normal operations.
2. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
- a. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable.

3. Partial Demolition and Removal: Items indicated to be removed but of salvageable value Contractor shall return to the Owner.

4. Protections: Provide temporary barricades and other forms of protection to protect Owner's personnel and general public from injury due to selective demolition work.
- a. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to occupied portions of building.

HVAC AND STRUCTURAL UPGRADES - PATHS

Structural Steel

3.3 FIELD CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds. Field welds will be visually inspected according to AWS D1.1.

3.5 REPAIRS AND PROTECTION

- A. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists and accessories and abutting structural steel.

END OF SECTION 05120

SECTION 05210 - STEEL JOISTS

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 the following:
 - 1. Open-web K-series steel joists.
 - 2. KCS-type, open-web K-series steel joists.
 - B. Related Sections include the following:
 - 1. Division 5 Section 05120 Structural Steel
- 1.3 DEFINITIONS
 - A. Special Joists: Joists requiring modification by the manufacturer to support nonuniform, unequal, or special loading conditions that invalidate SJI's "Standard Specifications Load Tables and Weight Tables for Steel Joists and Joist Girders."
- 1.4 PERFORMANCE REQUIREMENTS
 - A. Structural Performance: Provide special joists and connections capable of withstanding design loads within limits and under conditions indicated. Joist will need to be installed into existing conditions. Joists will be installed in sections and welded together to form a continuous, structural joist.
- 1.5 SUBMITTALS
 - A. Product Data: For each type of joist, accessory, and product indicated.
 - B. Shop Drawings: Show layout, mark, number, type, location, and spacings of joists. Include joining and anchorage details, bracing, bridging, accessories, splice and connection locations and details; and attachments to other construction.
 - C. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project

- A. Manufacture steel joists according to "Standard Specifications for Open Web Steel Joists, K-Series," in SJI's "Specifications," with steel-angle top- and bottom-chord members, underslung ends, and parallel top chord; of joist type indicated.
 - 1. Joist Type: K-series steel joists or KCS-type K-series steel joists.
 - B. Comply with AWS requirements and procedures for shop welding; appearance, quality of welds, and methods used in correcting welding work.
 - C. Provide holes in chord members for connecting and securing other construction to joists.
- 2.4 JOIST ACCESSORIES
- A. Bridging: Provide bridging anchors and number of rows of horizontal or diagonal bridging of material, size, and type required by SJI's "Specifications" for type of joist, chord size, spacing, and span.
- 2.5 CLEANING AND SHOP PAINTING
- A. Clean and prime steel joists, steel joist substitutes, joist girders in accordance with SSPC-PS 14.01, Steel Joist Shop Paint System, except that paint shall conform to SJI specifications and shall be suitable for top coating.
- PART 3 - EXECUTION

3.1 EXAMINATION

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

A. RELATED DOCUMENTS

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

B. SUMMARY

1. This Section includes but is not necessarily limited to the following:

- a. Wood nailers and blocking;
- b. Plywood backer-panels for mechanical and electrical devices.
- c. Preservative wood treatment by pressure process.

C. DEFINITIONS

1. Rough carpentry includes carpentry work not specified as part of other Sections and generally not exposed, unless otherwise specified.

D. DELIVERY, STORAGE, AND HANDLING

1. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.
2. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

PART 2 - PRODUCTS

A. LUMBER, GENERAL

1. Lumber Standards: Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
2. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
- a. For exposed lumber furnish pieces with grade stamps applied to ends or back of each piece; or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.
3. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
4. Provide dressed lumber, S4S, unless otherwise indicated.
5. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

B. DIMENSION LUMBER

1. For structural framing provide the following grade and species:

- a. "Construction" grade.
- b. Any species of specified grade meeting NEMA standards for structural framing.

C. MISCELLANEOUS LUMBER

A. INSTALLATION, GENERAL

1. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement.
 2. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
 3. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, and similar supports to allow attachment of other construction.
 4. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
 5. Countersink nail heads on exposed carpentry work and fill holes.
 6. Use common wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
- B. WOOD NAILERS, BLOCKING, AND SLEEPERS
1. Install wood nailers, blocking, and sleepers where shown and where required for securing or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
 2. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Where possible, anchor to formwork before concrete placement.

END OF SECTION 06100

SECTION 08520 - ALUMINUM WINDOWS - ALTERNATE #1

PART 1 - GENERAL

A. RELATED DOCUMENTS

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

B. SUMMARY

- 1. This Section includes commercial-grade aluminum, thermally-broken window units of the performance class indicated. Window types and associated work required includes but is not necessarily limited to:
 - a. Fixed window-wall system, glazed with insulating glass units
 - b. Sealants

C. DEFINITIONS

- 1. Performance class number included as part of the window designation system is the actual design pressure in pounds per sq. ft. used to determine the structural test pressure and water test pressure.
- 2. Structural test pressure, wind load test, is equivalent to 150 percent of the design pressure.
- 3. Water leakage resistance test pressure is equivalent to 15 percent of the design pressure with 2.86 psf as a minimum.

D. SYSTEM PERFORMANCE REQUIREMENTS

- 1. General: Provide aluminum window units that comply with performance requirements specified, as demonstrated by testing manufacturer's corresponding stock systems according to test methods indicated.
- 2. Design Requirements: Comply with structural performance, air infiltration, and water penetration requirements indicated in AAMA 101-97 for type, grade, and performance class of window units required.
- 3. Design wind velocity at the project site is 90 mph or as defined by BOCA 1999, which ever is more stringent.
- 4. Testing: Test each type and size of required window unit through a recognized independent testing laboratory or agency, in accordance with ASTM E 330 for structural performance, with ASTM E 283 for air infiltration, and with both ASTM E 331 and ASTM E 547 for water penetration. Provide certified test results.
- a. Tests shall have been performed on window unit 60" x 36" minimum and passed as indicated.
- 5. Structural Performance:
 - a. Uniform Deflection - ASTM E330-90: no more than L/175 when tested at a static air pressure difference of 50 psf.
 - b. Uniform Structural - ASTM E 330-90: Window to be operable and maximum 0.2% permanent deformation per member at a static air pressure difference of 75 psf.
- 6. Air Infiltration: Provide units with air infiltration rate of not more than 0.1 cfm/ft. of vent pressure at a static air pressure difference of 6.24 psf.

2. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit of window units.

PART 2. - PRODUCTS

A. MANUFACTURERS AND PRODUCT SERIES

1. Available Manufacturers: Subject to compliance with requirements, manufacturers and products offered that may be incorporated in the work include, but are not limited to, the following:
 - a. Projected Fixed Windows:
 - (1) Graham Architectural Products; Series 2200
 - (2) EFCO Corporation; Commercial Series 2500; Monett, MO.
 - (3) Kawneer Corporation; Norcross, GA
 - (4) Traco, Inc.; Pittsburg, PA
 - (5) VistaWall Architectural Products; 2000-T Series; Lincoln, RI.

B. MATERIALS

1. Aluminum Extrusions: Provide alloy and temper recommended by the window manufacturer for the strength, corrosion resistance, and application of required finish, but not less than 22,000-psi ultimate tensile strength and not less than 0.062 inch thick at any location for main frame and sash members.
2. Fasteners: Provide aluminum, nonmagnetic stainless steel, epoxy adhesive, or other materials warranted by the manufacturer to be noncorrosive and compatible with aluminum window members, trim, hardware, anchors, and other components of window units.
3. Reinforcement: Where fasteners screw-anchor into aluminum less than 0.125 inch thick, reinforce the interior with aluminum or nonmagnetic stainless steel to receive screw threads or provide standard non-corrosive pressed-in splined grommet nuts.
4. Compression-Type Glazing Strips and Weather Striping: Unless otherwise indicated, and at the manufacturer's option, provide compressible striping for glazing and weather striping such as molded EPDM or neoprene gaskets complying with AAMA SG-1 or with ASTM D 2000 Designation 2B/C415 to 3B/C620, or molded PVC gaskets complying with ASTM D 2287, or molded expanded EPDM or neoprene gaskets complying with ASTM C 509, Grade 4.
5. Sealant: For sealants required within fabricated window units, provide type recommended by the manufacturer for joint size and movement. Sealant shall remain permanently elastic, non-shrinking, and non-migrating.

C. GLAZING

1. Available Products: Manufacturer's standard glazing manufacturer
2. Insulating Glass:
 - a. Sealed Insulating Glass Units: Preassembled units consisting of organically sealed lites of glass separated by dehydrated air spaces complying with ASTM E 774 and with other requirements indicated.
3. Provide heat-treated, coated float glass FT (fully tempered) where designated or required.
4. Glazing Types:

1. Comply with manufacturer's specifications and recommendations for installation of window units, hardware, operators, and other components of the work.
2. Field measure finish openings after all removals are completed.
3. Set window units plumb, level, and true to line, without warp or rack of frames or sash. Provide proper support and anchor securely in place.
4. Separate aluminum and other corrosion sources from sources of corrosion or electrolytic action at points of contact with other materials by complying with the requirements specified under paragraph "Dissimilar Materials" in the Appendix to AAMA 101.
5. Set sill members and other members in a bed of sealant or with joint fillers or gaskets, as shown, to provide weather tight construction. Coordinate installation with wall flashings and other components of the work.

C. CLEANING

1. Clean aluminum surfaces promptly after installation of windows. Exercise care to avoid damage to protective coatings and finishes. Remove excess glazing and sealant compounds, dirt, and other substances. Lubricate hardware and other moving parts.
2. Clean glass of pre-glazed units promptly after installation of windows. Remove all labels and protective films, coatings or pads. Comply with recommendations and requirements of the glass manufacturer/fabricator for cleaning and maintenance.

D. PROTECTION

1. Initiate and maintain protection and other precautions required through the remainder of the construction period, to ensure that, except for normal weathering, window units will be free of damage or deterioration at the time of Substantial Completion.

END OF SECTION 08520

SECTION 13900 - SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 WORK TO BE PERFORMED

A. Work includes, but is not limited to:

1. Design, fabricate and install modifications to the existing sprinkler system to facilitate renovations as outlined in the contract documents. Coverage and installation shall be in strict accordance with the requirements of NFPA 13. Provide modification and extension to the current system as required to facilitate the tenant fit up within the areas and as otherwise indicated on the architectural plans. Coordinate with all other trades to facilitate harmonious installation of all systems. Renovations shall include but not necessarily be limited to demolition and installation of separating partitions, space usage changes, and ceiling height modifications.
2. Drawings of the system shall be reviewed by and acceptable to the State Fire Marshal's Office and the local fire department.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has designed and installed fire-suppression piping similar to that indicated for this Project and obtained design approval and inspection approval from authorities having jurisdiction.

B. Codes and Standards: In addition to complying with all pertinent codes and regulations, comply with:

1. All pertinent requirements of National Fire Codes - National Fire Protection Association.
2. All pertinent requirements of the State Fire Marshal's Office and local jurisdiction.

1.5 PRODUCT HANDLING

- A. Protection: Use all means necessary to protect fire sprinkler system materials before, during, and after installation and to protect the installed work of all other trades.
- B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect/Engineer and at no additional cost to the Owner.

1.6 GUARANTEE

- A. This Contractor shall guarantee all materials and workmanship furnished by him or his Subcontractors to be free from all defects for a period of one year from date of final acceptance of completed systems and shall make good, repair or replace any defective work which may develop within that time at his own expense and without expense to the Owner.

- a. All fittings shall be the products of an approved manufacturer's standard weight and shall be designed for pressure suitable for the duties to be imposed upon them in the system.

- b. Screwed fittings shall have clean cut tapered threads.
- c. Fittings shall conform to the requirements of NFPA 2 - Chapter 3.

5. Pipe Hangers:

- a. All horizontal piping shall be supported at intervals required by NFPA #13. Piping in the computer rooms running perpendicular to the hollow metal framing system shall be supported at the crossing of each channel.

- b. All vertical piping shall be securely anchored and provided with alignment guides where necessary.

- c. Pipe hangers shall be of the type approved and listed in NFPA Pamphlet #13.

- d. Pipe shall not be supported from piping of other trades.

6. Steeves and Escutcheons:

- a. Contractor shall set steeves for all piping penetrating walls. Steeves through masonry shall be steel pipe steeves two sizes larger than the pipe. Piping passing through walls other than masonry shall be provided with #24 gauge galvanized steel tubes with wired or hemmed edges.

- b. Steeves set in partitions shall finish flush with each side.

- c. Where piping passes through finish walls, ceilings and partitions, provide and set two piece nickel plated steel floor and ceiling plates.

- d. Space between steeves and pipes shall be caulked with high temperature rope to make smoke and water tight.

2.3 EXPANSION AND CONTRACTION

- A. Long runs of pipe shall be provided with suitable means to permit free movement resulting from expansion and contraction of the pipe.

PART 3 - EXECUTION

3.1 SCOPE

- A. It is the intent of these specifications that the Contractor design and install the fire protection system to meet the specifications contained herein, including the various design and performance

3.4 INSTALLATION

A. Install the complete fire sprinkler system in strict accordance with all pertinent codes and regulations and the requirements of the Fire Rating Bureau having jurisdiction.

B. No construction work shall be done without hydraulic calculations and working plans approved by the Authority having jurisdiction.

C. Install sprinkler heads to be in the center of ceiling tile, both directions. Coordinate with other trades to avoid conflict with lighting and air device layouts.

C. Sprinkler Systems:

1. Shall include all piping.
2. All exposed and concealed horizontal lines of pipe shall be carried on specified hangers properly spaced and set to allow the pipe to adjust for expansion and contraction. Trapeze hangers shall be used for supporting groups of pipes. Piping in parallel shall be evenly spaced and supported.

3. All piping shall be concealed in ceilings, turned walls and partitions, and pipe spaces, except where specifically noted otherwise. Piping shall run within framing above ceilings wherever possible. Coordinate with Structural for penetrating joist webbing. All piping runs shall be checked before hand and with all other trades to ensure clearance. Provide maximum head room and run piping to maintain proper clearance for maintenance and to clear openings in exposed areas. Piping shall be run in strict coordination with mechanical ducts and equipment, structural, and architectural conditions. When other work prevents installation of the piping, the Contractor shall reroute piping as directed by the Architect/Engineer at no increase in contract price. The Contractor shall verify all inverts and pitched lines of other trades before starting work.

4. Piping shall be installed parallel to or at right angles with the building's walls and shall be tight to walls or columns wherever possible, except where otherwise shown on the drawings. Piping exposed on walls or columns shall be secured with Super Strut, Unistrut, or approved equal.

5. No valve and no piece of equipment or trim shall support the weight of any pipe. All valves and other trim shall be installed in accessible locations.

6. Coordination and Clearances: The installation shall fit into the spaces provided. It is the essence of this contract that all work be completely coordinated with all other trades and that all lines, grades, slopes, and vertical and horizontal locations of pipes be exactly determined in the field and cleared with all other trades before installation of these items is begun. Install all piping and equipment allowing for work by other trades.

DIVISION IS MECHANICAL

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. The purpose of this outline specification is to obtain competitive design build quotations from contractors. The contractor shall assume full responsibility for the concept, design, and construction of their proposed system. Contractor shall have design drawings and specifications produced and stamped by a state licensed professional engineer.

- B. The contractor shall include, as part of his proposal, a schematic layout of the proposed mechanical system, showing configuration and general parameters for the proposed system. This schematic layout shall be considered by the owner in his final selection of a contractor.

- C. The intention of these contract documents is to call for finished work, fully tested and ready for operation. Any components or labor not mentioned in the contract documents but required for functioning systems shall be provided. Should there appear to be any discrepancies or questions of intent, the contractor shall refer the matter to the architect for decision before start of any related work.

- D. All work, materials, and equipment shall comply with the rules and regulations of all codes and ordinances of the local, state, and federal authorities.
- E. All wiring shall be in accordance with the latest issue of the National Electrical Code. Where the edition enforced by the local authority contains more stringent requirements, the more stringent shall apply.

- F. All work shall be scheduled and coordinated with the Construction Manager and other contractors to prevent delays to the work.
- G. Secure and pay for all permits, fees, licenses, approvals, inspections, etc., required for the work.
- H. Provide Certificates of Inspection and Approval from all regulatory authorities having jurisdiction.

1.3 DESIGN SPECIFICATION INTENT

- A. The purpose of this outline specification is to obtain competitive design-build quotations from qualified contractors. The contractor shall assume full responsibility for the concept, design, and construction of their proposed system.

2. Heating: Steam heating coils shall be utilized to provide the main heating duties and shall be served by the existing steam heating plan. Provide all required steam and condensate piping to connect the new equipment to the existing plan.
3. Zone Requirements: The contractor shall be required to provide a minimum of 3 zones of heating and cooling for each of the rooftop units. Additionally, zoning shall be adequate to provide individual control for each similar occupancy, based upon exposure to the exterior, interior exposure only, equipment loading, occupant loading. Zoning for cooling shall be provided by zone dampers to modulate airflow from design max. to 70% of design (minimum). Zone control for heating shall be via the zone dampers and either steam reheat coils or perimeter steam radiation.
4. Humidification: None.
5. Dehumidification: None.
6. Overall Building Pressurization: positive.
7. Final Filtration : 30%
8. Max. Acceptable Indoor CO2 level : 850 ppm
9. Max. Acceptable Noise level for occupied spaces: Nc 30.
10. Local exhaust to be provided at all copiers.
11. Ductwork will be furnished installed in accordance with SMACNA requirements. Both the supply and return system shall be ducted-no plenums. Central return locations are acceptable.
12. Insulation shall be provided at all new steam and condensate piping in accordance with ASHRAE 90.1 requirements.
13. Insulation shall be provided at all supply and return ductwork; Supply="2", Return="1 1/2". Provide vapor retarder at all duct insulation.
14. Steam and Condensate return Piping:

(a) Steam Piping, NPS 2 and Smaller: Schedule 40 steel pipe, with threaded joints using Class 125 cast-iron fittings.

(b) Steam Piping, NPS 2-1/2 through NPS 12: Schedule 40 steel pipe, with welded joints using Schedule 40 wrought-steel welding fittings and Class 150 wrought-steel flanges.

(c) Condensate Piping, NPS 2 and Smaller: Schedule 80 steel pipe, with threaded joints using Class 125 malleable-iron fittings.

(d) Condensate Piping, NPS 2-1/2 through NPS 12: Schedule 80 steel pipe, with welded joints using Schedule 80 wrought-steel welding fittings and Class 150 wrought-steel flanges.

(e) All piping shall comply with the requirements of ASTM B 16.4.

(a) Pipe Hanger and Support Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.

(b) The material in contact with the pipe shall be compatible with the piping material so that neither will have a deteriorating action on the other. Provide means of preventing dissimilar metal contact such as plastic

HVAC AND STRUCTURAL UPGRADES - PATHS

time period programmable through the DDC system), with daytime heating / cooling set points.

C. Exhaust

1. Photocopier areas to be exhausted during occupied hours, energized by the DDC system in accordance with the occupancy schedule of the adjacent air system. Exhaust fans will be ducted to the exterior roof.

END OF DIVISION IS MECHANICAL.

Semple and Drane Architects

DIV 15 -5