# SECTION 01120 - MULTIPLE CONTRACT SUMMARY

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

A. Description of Contracts.

B. General Coordination and distribution of work between prime contracts.

C. Refer to other Sections and Drawings for further descriptions of work and coordination.

### 1.2 RELATED SECTIONS

A. Section 01110 - SUMMARY OF WORK

B. Section 01320 - PROGRESS DOCUMENTATION

C. Section 01510 - TEMPORARY UTILITIES AND FACILITIES

### 1.3 SAFETY - LEAD CONTRACTOR DESIGNATION

The General Trades Contractor shall be designated as the “Lead Contractor” with respect to jobsite safety. Responsibilities and authority of the Contractor shall be as follows:

A. The lead Contractor will be responsible to inspect and maintain safe working conditions on the jobsite.

B. Where the work of one (1) Contractor places another Contractor’s workers in jeopardy, the “Lead Contractor” shall direct and coordinate the effort of the Contractors to ensure that jobsite safety is maintained.

C. The lead Contractor will maintain a “competent person” on site at all times designated to make safety inspections and to serve as the designated representative in charge of safety during inspection by OSHA employees.

D. The lead Contractor may direct another Contractor to make corrections in the event of a safety violation. Failure of another Contractor to take prompt action (within 24 hours following written notice) to correct a safety violation shall empower the lead Contractor to make the necessary corrections and to receive full compensation for such corrections directly from the Owner. The Construction Manager will verify and provide documentation of time and material expended to make corrections. The Owner in turn will recover the amount of the expense from the offending Contractor through deduct Change Order.

E. The lead Contractor’s responsibilities and corresponding authority shall be as defined in the General Conditions of the Contract for Construction.

F. The individual Prime Contractors will maintain primary responsibility for the safety of their workers. The “Lead Contractor” will serve to identify areas of concern and will endeavor to accomplish required corrections through cooperation of other

Prime Contractors. In the event this effort is unsuccessful, the "Lead Contractor" will take action as defined above.

G. The Owner will support the decisions and action taken by the "Lead Contractor" to maintain jobsite safety. The Owner will promptly make payment to the "Lead Contractor" when corrective action has been taken on behalf of an offending Contractor and the "Lead Contractor" has provided appropriate documentation.

H. Lead Safety Contractor shall provide regular and periodic safety inspections and reports by an independent safety consultant. Inspections and reports shall be performed at least once each month.

I. Each contractor shall provide a safety representative who is trained in first aid and CPR.

## 1.4 DESCRIPTION OF CONTRACTS

A. The work of this project shall be performed under 10 Prime Contracts as defined in this Section.

B. The following is a list of the Prime Contracts to be bid for this project:

*Contract 1..... General Trades Construction*
*Contract 2..... Plumbing & Fire Protection Construction*
*Contract 3 ..... HVAC Construction*
*Contract 4..... Electrical Construction*

C. The General Conditions and Division 1 - General Requirements shall apply to all Prime Contracts and Subcontracts for this Project. Each Prime Contract Package Description is to include all Work in accordance with the Contract Documents, except Work covered by other Prime Contract Package Descriptions. Collectively, these Prime Construction Contracts include all materials, labor, supervision, transportation, tools, equipment and services for the Project as shown or implied on the drawings and specified herein, or as may be required or necessary for a complete and satisfactory job.

D. If there is a conflict on a specific item with regards to assignment of work to a specific contractor between the Contract Documents and the Prime Contract Package Description as stated herein, the Prime Contract Package Description will govern; however, if an item is covered in the Contract Documents, but not reiterated in the Prime Contract Package Description, the Bidder will be responsible for that item of work.

If an item is covered in two or more contract package descriptions, each Contractor shall include the item at the time of bid. After Contract award, a credit will be solicited for work in question.

E. Each Contractor shall supervise his Work, using his best skills and attention. He shall be solely responsible for construction means, methods, techniques, sequences, dimensions and procedures and/or coordinating all portions of their Work, with all Work to be performed under separate contracts and/or other Bid Packages. Refer to the General Conditions Article 6 on work by Separate Contractors or by owner.

F. All items of work listed under the Prime Contract Package Descriptions shall be provided by the Prime Contractor unless specifically noted as furnished or installed only.

G. All Prime Contractors shall maintain site conduct in accordance with the rules and procedures specified under the General Conditions.

H. All Prime Contractors shall maintain, contribute to and coordinate the schedule as required in the Construction Progress Documentation Specification Section 01320.

I. If a Contractor encounters materials suspected to contain asbestos that contractor should immediately bring this discovery to the attention of the Construction Manager and any work that could disturb the asbestos should be curtailed.

J. Contract Documents include all Drawings, Specifications, Contract Descriptions, etc. for the work of the Project. Each Prime Contractor shall review all Documents in their entirety.

K. The Construction Manager will secure and the Owner will pay for the Building Permit. The Owner shall pay all utility tap-in fees for the permanent structure. All other fees, including utility connection fees for temporary facilities and all other permits are the responsibility of the appropriate Prime Contractors. The Owner will provide builder's risk insurance.

L. The Installing Prime Contractors will provide testing services all work as indicated in the technical specifications and in Quality Control Section 01450 unless specifically indicated in the specifications as the testing being provided by the Owner.

M. Each Prime Contractor shall be responsible to return all laydown, storage and work areas to their original condition except areas designated on the site utilization plan, which shall be the responsibility of the Sitework Contractor. Confirmation of completion of this requirement shall be necessary prior to release of final payment.

N. <u>Definitions</u>:

Coordinate: The term "coordinate" means "to cooperate with related trades to furnish and install all connections between the trades in correct sequence size and location to create a complete system ready for intended use."

Verify: The term "verify" means "to measure, investigate, review, test, check the accuracy or correctness of and prove by demonstration, evidence, or testimony the location, size, dimension and condition of an item."

Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation and similar operations."

Install: The term "install" is used to describe operations at the project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, performing, coordinating with other trades, protecting, cleaning, and similar activities".

Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."

O. This is a phased project. Multiple trips to the site will be required to complete this project.

P. The following items are to be included in each Prime Contractor's Scope of Work:

1. Coordinate all work with other Prime Contractors.

2. Coordinate work with other Contractors contracted separately by the Owner.

3. Submit shop drawings, samples, schedules, data, manuals, as-built drawings, etc., required by the Contract Documents. Update, on a weekly basis, a record set of drawings in the Construction Manager's field office. A final set of drawings of this Contractor's work shall be submitted to the Construction Manager upon the completion of the work.

4. Observe and comply with at all times all Federal and State laws and regulations, and local bylaws, ordinances and regulations in any manner affecting the conduct of the work or applying to employees on the project, as well as all safety precautions and orders or decrees which have been promulgated or enacted, or which may be promulgated or enacted, by legal bodies or tribunals having authority or jurisdiction over the work, materials, equipment, employees, such observance and compliance shall be solely and without qualification the responsibility of this Trades Contractor without reliance on superintendence or direction by the Owner or their Representative. The duty of enforcement of all of said laws, ordinances, regulations, orders or decrees lies with the body of agency promulgating them, not with the Owner or their Representatives.

5. Perform all work in accordance with the project schedule as prepared by the Construction Manager and updated as the project progresses.

6. Provide protection of existing structure, finishes and landscaping from damage resulting from the work of this contract. Repair any damage promptly to the satisfaction of the Owner.

7. The General Trades Contractor shall provide all engineering and layout for his work. In addition, the General Trades Contractor shall provide and maintain throughout the project all building corners and column centerlines. The General Trades Contractor shall provide floor control lines for each floor consisting of at least two perpendicular control lines per area and finish floor elevations. The General Trades Contractor will

provide layout for all walls and partitions. Each Trade Contractor shall be responsible for all other survey, engineering, layout, etc. required to execute their work. Each Trades Contractor, at his own expense is to provide all stakes, templates and labor required in laying out their work and is responsible for proper execution of the work to the lines and grades shown on the drawings or as indicated by the Architect/Engineer.

8. Provide all dewatering required to perform the work of their contract.

9. Provide all scaffolding, hoisting, shoring, barricades, ramps, etc., as necessary to perform the work of this contract.

10. Provide safety and protection of persons and property per OSHA, local and state requirements. Provide maintenance of all safety precautions throughout the work of this Contract. Each Contractor is to return the safety cables to an OSHA approved condition without slack. Provide protection at floor and roof penetrations not shown on the drawings, but required for work of this Contract. Provide all safety signage required by OSHA for the work of this Contract. Furnish Company Safety Plan, Hazard Communication Plan, MSDS information and other OSHA required documents to the “Lead Contractor” prior to the start of work.

11. Promptly address the recommendations made by the “Lead Contractor” for jobsite safety.

12. If the applicable Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be tested, inspected, or approved by someone other than this Trades Contractor, the Contractor will give the Owner and their Representative timely notice of readiness. The Contractor will then furnish the Owner the required certificates of inspection, testing or approval.

13. Inspection, tests, or approvals by the Owner or their Representative shall not relieve this Trades Contractor from his obligation to perform the work in accordance with the requirements of the Contract Documents.

14. Provide all fees, Federal, State and Local taxes, special permits, inspections, etc. as required to perform the work of this Contract unless item is specifically identified as being provided by the Owner.

15. When working in existing areas identified as having potential lead paint, caution should be used to protect workers, Owner’s personnel and students. Utilize protective measures as required by law.

16. All submittals, shop drawings and product samples must be received no later than forty five (45) days following the date of Notice to Proceed. Those submittals for critical schedule activities must be submitted and approved in time to make required deliveries. Contractors are responsible to make material deliveries to accomplish phase completions.

17. No guns, tobacco products or alcoholic beverages will be allowed on this

project or Community College of Philadelphia property.

18. The Owner and their Representatives will at all times have access to the work. In addition, authorized representatives and agents of any participating State, County or Local Municipal representative shall be permitted to inspect all work, materials, and other relevant data and records. This Trades Contractor will provide proper facilities for such access and observation of the work and also for any inspection or testing thereof.

19. Verify existing conditions prior to start of work and notify Construction Manager of any discrepancies.

20. Each Contractor shall provide holes in structural steel as required for the installation of their work with the approval of the Architect and Engineer. The structural reinforcing must be in accordance with the requirements of Structural Steel specification section.

21. Each Contractor shall provide sealants in accordance with Joint Sealant specification section 07920 in any and all conditions where materials installed by the Contractor abut dissimilar materials (vertical and horizontal joints). Each contractor is also responsible for sealing penetrations required for the scope of that trade.

22. All Contractors are responsible to clean their construction vehicle's wheels with the intent of keeping all mud off paved surfaces.

23. Each Prime Contractor is responsible for general clean-up and trash removal resulting from the work or employees of that contract. The General Contractor shall provide construction dumpster(s) as required for the purpose of trash removal for all Prime Contractors. Removal of demolition debris from site will be by the Contractor performing the demolition. Hazardous materials shall not be placed in the dumpster, but should be removed from site by Prime Contractor responsible for material. The Construction Manager will also periodically organize a project clean up by all Contractors. Those Contractors on site shall provide labor to assist in this cleanup. The General Trades Contractor shall also provide a laborer a minimum of 8 hours a week for 36 total weeks to broom sweep the project's interior floor areas with approved sweeping compound to control dust. General Trades Contractor shall provide a separate line item on the schedule of values for this laborer to broom sweep these areas.

24. All Contractors are responsible to provide dust, toxic fume and noise control for their own work.

25. Cutting and Patching:

    a. Exposed finished materials, structural elements, watertight assemblies, HVAC, plumbing, and electrical equipment and systems.

i. Newly Installed Materials: A Contractor, requiring the cutting of openings in new work shall have such openings cut and patched by the trade which installed the work and such cutting and patching shall be at the expense of the Contractor, requiring the opening, unless specified otherwise.

ii. Existing Materials: A Contractor requiring the cutting of openings in existing materials shall have such openings cut and patched by a contractor specializing in that trade and the cost shall be at the expense of the Contractor requiring the opening.

iii. Approval to do such cutting and patching shall be received from the architect prior to proceeding with the work and shall include installation of such reinforcement of the work as the Architect may Direct.

b. Other locations: Cutting and sealing of penetrations in other locations including firestopping shall be by the Contractor requiring the cutting of such openings.

c. All blocking, bracing, reinforcement or structural enhancement required due to cutting and patching shall be provided at no additional cost to the owner. All patching work shall match adjacent existing work unless otherwise noted.

26. Provide firesafing and firestopping at all locations that are required to maintain a fire rating at floor and wall penetrations as a result of work of each prime contract. All new and/or existing penetrations at walls or ceilings related to a prime contractor's scope of work shall be firestopped by that contractor as per the specifications.

27. Provide Steel and Aluminum product certifications as required under the Steel Products Procurement and Trade Practice Acts otherwise known collectively as the "Buy American" requirements of all Public Works Construction Contracts funded in part by the State of Pennsylvania.

28. **Coordination Drawings:** Coordination drawings among the HVAC, Plumbing, Fire Protection, Electrical and General Trades Contractors are required with the lead role assigned to the HVAC Contractor. The HVAC Contractor shall prepare ¼" scale CADD drawings with ductwork & piping layout for review by the other Trade Contractors. The other Trade Contractors shall then prepare and provide CADD additions/modifications representing their work to the HVAC Contractor, who will then prepare final layout and coordination drawings illustrating work by all Trades on one set of coordination drawings for the project as a part of his Contract price. The HVAC Contractor shall conduct coordination meetings with all Trade Contractors to discuss and resolve interference problems. Once each Trade Contractor has initialed with approval the coordination drawings, the HVAC Contractor shall submit the coordination drawings to the Construction Manager for review. The other Trade Contractors should finalize their shop drawings in accordance with the coordination drawings

and submit to the Construction Manager.

Schedule: The HVAC Contractor shall prepare and distribute ductwork & piping drawings within 15 days after start of construction. The other Trade Contractors shall than prepare and distribute to the HVAC Contractor their CADD input within 15 days. Final coordination drawings to be completed and distributed by the HVAC Contractor within 30 days after start of construction.

PART II - SEPARATE CONTRACT DESCRIPTIONS

1.0 CONTRACT No. 1 - GENERAL TRADES CONSTRUCTION

A. The work of this Prime Contract Package Description includes, but is not limited to, the Work detailed by the following Specification Sections and as shown or implied and indicated on the Drawings and as described in the narrative Contract Description. The work is not restricted by division of Drawings or Specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and whatever is necessary to complete the work in accordance with the Specifications and applicable Codes. The use of the wording "General Contractor" shall mean the same as the "General Trades Contractor".

B. SPECIFICATION SECTIONS:

INTRODUCTORY INFORMATION
All Sections

BIDDING REQUIREMENTS
All Sections

CONTRACTING REQUIREMENTS
All Sections

DIVISION 1 – GENERAL REQUIREMENTS
All Sections

DIVISION 3 – CONCRETE
All Sections

DIVISION 4 - MASONRY
All Sections

DIVISION 5 – METALS
All Sections

DIVISION 6 – WOOD AND PLASTIC
All Sections

DIVISION 7 – THERMAL AND MOISTURE
All Sections

DIVISION 8 – DOORS AND WINDOWS
All Sections

DIVISION 9 – FINISHES
All Sections

DIVISION 10 – SPECIALTIES
All Sections

DIVISION 11 – EQUIPMENT
All Sections

DIVISION 12 – FURNISHINGS
All Sections

C. Narrative Description of Contract No. 1 - GENERAL TRADES CONSTRUCTION. The work of this Contract includes, but shall not be limited to the following items:

1. Provide all fees, Federal, State and Local taxes, inspections, as required to perform the work of this contract unless identified as being provided by owner. The building permit will be paid for by the Owner..

2. Provide temporary railings and protection at all floor openings, stairs, elevated floor perimeters, roof openings, roof perimeters, etc., as required by OSHA that is not identified as being provided by another Prime Contractor.

3. Provide temporary partitions as required to separate construction from college activities. Temporary partitions shall be constructed as indicated in Specification Section 01510 and the Architectural Drawings. Remove all temporary partitions as directed by the Construction Manager.

4. Provide temporary toilet facilities as per specification section 01510.

5. Perform all final cleaning except work specified to be by another trade.

6. Provide construction identification sign per specification section 01510.

7. Salvage and turn over to the Owner any items identified by the owner to be salvaged.

8. The General Trades Contractor shall perform select interior and exterior demolition with the exception of work assigned to the Plumbing, HVAC and Electrical Contractors. Mechanical, Plumbing and Electrical demolition will be provided by their respective trades in select demolition areas where the existing structure is to remain.

9. Provide all concrete work.

10. Provide all interior glass and glazing.

11. Clean, tooth and patch all masonry openings created by demolition by the General Trades Contractor as indicated in the Contract Documents and as indicated on all Architectural plans. All other Prime Contractors shall provide interior masonry patching as required for their work.

12. Provide grouting of all new hollow metal frames.

13. Install any access panels furnished by other Prime Contractors. Coordinate location and openings with Prime Contractors.

14. Provide all loose metal lintels as noted for masonry openings shown on Architectural or Structural drawings. All loose lintels required, but not clearly shown, scheduled or dimensioned on either Architectural or Structural Drawings shall be furnished by the trade requiring the opening. Install loose steel lintels furnished by other trades. The prime contractor requiring the opening shall provide lay out for lintel installations in a timely manner.

15. Provide all light gage metal framing.

16. Provide rough carpentry including but not limited to interior wood blocking shown or required.

17. Provide all finish carpentry including but not limited to, paneling, custom millwork, casework, plastic laminate cabinets, countertops and solid surface materials. All Architectural Wood Casework supplied under this contract that has exposed wood elements shall have these elements shop finished prior to delivery to the project site. Shop finish shall be as approved by the Architect during the shop drawing process.

18. Provide all concealed building and sound attenuation insulation.

19. Provide Firestopping for work of this contract and general firestopping not provided for under the other prime contracts. Refer to remainder of prime contract descriptions for work of the other prime contracts.

20. Provide all Fire Resistive Joint Systems.

21. Provide all joint sealants related to the work of this Trades Contractor.

22. Provide all hollow metal frames, doors and borrowed lite frames.

23. Provide all access panels as shown on Architectural drawings. Install all indicated access panels in this contractor's work furnished by other trades. All access panels required but not shown shall be provided by the contractor requiring the same.

24. Provide finish hardware for all doors provided as part of this contract as well as cylinders for all doors.

25. Provide all interior metal studs, gypsum wallboard and shaft wall systems.

26. Provide all wall, floor, ceiling and base finishes.

27. Provide extra material per the specifications.

28. Participate in the coordination drawing process as defined in this specification section Part 1.4.P.

29. Provide all adhesives, mastics, edgings, nails, binding, tape, floor filer, primers, cleaners, etc. for a complete finish flooring product.

30. Provide assurance/guarantee of compatibility of adhesive with existing floor conditions and with leveling/patching material provided as work of this contract.

31. Provide the required floor preparation, flash patching, leveling agent etc, identified in the specification section for each type of flooring over the entire square footage of substrate scheduled to receive that flooring.

32. Provide cutting and patching of floors and walls, etc. for installation of new work by this contract in the existing facilities. Patch flooring and base at new door openings in existing structure.

33. Provide floor and/or wall preparation prior to installation of the materials of this contract, to include normal flash patching, final scraping and sweeping.

34. Provide all reducer strips and transition strips to dissimilar floor finishes and floor transitions.

35. Clean and polish floors upon completion of installation.

36. Provide painting, staining, clear finish, etc. of all walls, ceilings, doors, wood surfaces, etc. as scheduled.

37. Provide painting of exposed mechanical, plumbing, fire protection and electrical systems and equipment in finished spaces (except factory-finished equipment).

38. Provide extra stock of each color and type of paint as defined in Spec Section 09912.

39. Provide primer touch-up and paint finish for all hollow metal frames, doors, steel lintels or other metal surfaces indicating finish.

40. Provide surface preparation as specified.

41. Provide field finishing of new and existing architectural woodwork as shown or specified unless noted to be prefinished.

42. Disposal of all hazardous materials shall be done in accordance with Federal, State, County and Local requirements. No hazardous materials shall be placed in the General Trades Contractor's, Owner's or other parties waste containers or dumpster.

43. This Trade Contractor shall include an additional 40 man-hours and 15

gallons of paint to be used as directed by the Construction Manager for final touch-up. This Trades Contractor shall provide a separate line item for this item on the schedule of values. This item will not be used by the Painting Trades Contractor for normal touch-up of this Trade Contractor's work.

44. Provide all incidental caulking required for this contract including caulking of interior cracks in the existing building in rooms that indicated to be repainted.

45. Patch, clean and paint existing walls as shown or specified.

46. Paint all structural and miscellaneous metals exposed to public view or scheduled to be finished.

47. Provide for protection of all finished installations under this contract until acceptance by the owner.

48. Provide all Division 10 specialty items.

49. Provide all Laboratory Fume Hoods and Wood Laboratory Casework including all laboratory accessories, countertops and sinks. Provide all water, gas and electrical service fittings specified. Provide devices and wiring within casework for Laboratory Casework as provided for in the Contract Documents, final connections of power and data wiring shall be made by the Electrical Contractor.

50. Provide Laboratory Equipment as specified unless noted as NIC.

51. Remove and relocate the existing equipment scheduled to be relocated, which is not being relocated by other Primes. Schedule preinstallation meeting with the Architect, the Construction Manager and any other affected trades contractors to review existing equipment and to tag and identify individual items to be relocated prior to start of the work.

52. The General Trades Contractor shall provide all new roof openings through the concrete "waffle" roof deck identified on the Demolition, Architectural and HVAC Plans. The HVAC contractor shall provide the layout of the openings. The General Trades contractor shall dispose of all demolition debris and provide a temporary weather tight temporary enclosure for the openings. The General Trades Contractor shall provide the structural steel required for each opening as identified in the Contract Documents. The General Trades Contractor shall provide all the pressure treated blocking required for the roof curb installation. The HVAC contractor shall provide the roof curb. Following roof curb installation the General Trades Contractor shall flash the curb and patch the existing roofing as required to maintain the existing Owner's warranty of the roof.

53. This Trade Contractor shall include an additional 80 hours of Journeyman Carpenter Hours in his bid for use at the Owner's, Construction Manager's or Architect's discretion. The value shall be represented as a line item on the Contractors schedule of values.

54. This Trade Contractor shall include an additional 80 hours of General Laborer Hours in his bid for use at the Owner's, Construction Manager's or Architect's discretion. The value shall be represented as a line item on the Contractors schedule of values.

55. Prior to demolition in Phase A the General Trades Contractor shall meet with the Owner, Architect and Construction Manager to identify the existing casework that is to be salvaged and reinstalled in Storage W4-29 in Phase B. Once removed, the contractor shall store the material in Existing Arch Lab W4-37 for re-installation in Phase B. The General Trades Contractor will be responsible for temporary protection of the material during storage and demolition of Phase B and any additional handling of the material till its re-installation.

56. The General Trades Contractor shall provide all LS, LS1, DS, BS and CS sinks and tail pieces identified in the Plumbing Fixture Runout Schedule on Drawing CLP-000. The General Trades Contractor shall cut the opening in the counter top. The Plumbing Contractor will be responsible for the setting and final connections of the sinks and fixtures.

Construction Phasing Requirements:

1. In areas that this contractor requires above ceiling access for his work, ceilings in areas not designated as getting new ceilings in occupied portions of the building shall be removed and replaced on second shift by this contractor.

2. Work must be complete and tested to meet the requirements of PA L&I and local code inspections for each phase.

## 2.0 CONTRACT NO. 2 - PLUMBING & FIRE PROTECTION CONSTRUCTION

A. The work of this Prime Contract Package Description includes, but is not limited to, the Work detailed by the following Specification Sections and as shown or implied and indicated on the Drawings and as described in the narrative Contract Description. The work is not restricted by the division of Drawings or Specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and whatever is necessary to complete the work in accordance with the Specifications and applicable Codes. The use of the term Plumbing Contractor or Plumber shall mean the same as Plumbing and Fire Protection Contractor.

B. SPECIFICATION SECTIONS:

INTRODUCTORY INFORMATION
All Sections

BIDDING REQUIREMENTS
All Sections

CONTRACTING REQUIREMENTS
All Sections

DIVISION 1 – GENERAL REQUIREMENTS
All Sections

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
Section 07920 – Joint Sealants (as applicable)

DIVISION 08 – DOOR AND WINDOWS
Section 08311– Access Doors and Frames

DIVISION 12 – FURNISHINGS
Section 12363 – Wood Laboratory Casework (as applicable)

C. Narrative Description of Bid Package Contract No. 2 – PLUMBING AND FIRE PROTECTION CONSTRUCTION: The work of this Contract includes, but shall not be limited to the following items:

General Requirements:

1. Participate in the coordination drawing process as defined in this specification section Part 1.4.P.

2. Provide Operation and Maintenance manuals and instructions to Owner as specified.

3. See Architectural drawings for additional plumbing related notes.

4. Provide layout for the General Trades Contractor indicating all openings in

the new and existing floor and roof decks that have any dimension larger than 12". Openings required as a result of the work of this contract with both dimensions smaller than 12" shall be provided by the Plumbing Contractor, who shall also provide support steel at these openings as required. All other framing, lintels, miscellaneous supports, etc., required but not specifically shown on the Architectural shall be by the Contractor requiring the opening.

5. Verify existing services prior to start of work in existing facility and notify the Construction Manager of any discrepancies.

6. General Contractor to provide all miscellaneous metal, including loose lintels, required for the existing building as shown or specified on the architectural or structural Drawings. If not indicated on Architectural or Structural Drawings, the Plumbing Contractor will provide supports for his work as required.

7. All patching required as a result of work being disturbed by this trade, in areas not indicated as having new finishes, will be the responsibility of this trade.

8. Contractor needing the opening is responsible for demolition and patching required for Mechanical and Electrical openings. Lintels not indicated on the architectural or structural drawings will be provided by Contractor requiring the opening.

9. Maintain operation of existing facility during construction and system interfacing. Provide painting for “touch up” required to restore “factory finished” equipment and material to its original condition.

Project Requirements:

1. Provide all plumbing work including sanitary sewer and vent piping, chemical waste system, domestic water piping and equipment, gas piping, pipe insulation, roof and floor drains, plumbing fixtures, trim, accessories, supports unless shown or specified by others, anchorage, etc., as shown and/or specified.

2. HVAC Contractor to provide Condensate drains, including final connections to HVAC units.

3. Provide complete building gas services as noted on documents.

4. Provide demolition of existing Plumbing equipment and accessories, including removal of demolition debris off site. Provide demolition of Plumbing Contractor’s trade items as indicated throughout demolition drawings. HVAC Contractor shall provide complete demolition and removal of existing mechanical room equipment above grade. Disconnect and cap all plumbing lines to HVAC items. The Electrical Contractor will disconnect electrical power to equipment which is to be demolished. Coordinate all phases of demolition with Phasing Plan, General Trades

Contractor and Construction Manager.

5. Provide all sprinkler work including sprinkler piping, heads, flow and tamper switches, trim, accessories, supports unless shown or specified by others, anchorage, etc., as shown and/or specified in order to have 100% sprinkler coverage throughout the buildings.

6. Provide color-coding and identification of valves and lines as indicated.

7. Provide cleaning, disinfecting and testing of lines and equipment, and final inspection.

8. Provide wall sleeves, flashing, pipe hangers, supports, blocking, etc. as required for installation of fixtures and equipment.

9. Provide insulation required for the scope of this Contract.

10. Provide removal and capping of existing services as shown or required by the work of this Contract.

11. Identify to General Trades Contractor equipment and materials to be demolished and those to remain. Plumbing Contractor is to provide demolition of all plumbing items and piping as noted on Mechanical Drawings. Disconnect and cap all utilities to plumbing item. Coordinate with General Trades Contractor to maintain operation of existing systems required in occupied areas.

12. Provide cutting and patching of all floors, walls, ceilings, etc. for installation of new work by this Contract in the existing facilities. Refer to 1.4, P of this specification section for additional information. Provide concrete patching. Provide for replacement of all finishes including tile removed by Plumbing Contractor in areas not scheduled to receive new finishes (see finish schedule). Exterior masonry patching will be provided by the General Trades Contractor in areas noted on Architectural Drawings.

13. General Trades Contractor shall provide all floor and roof opening frames, cutting of openings in roof deck and floors including modifications to existing steel for new floor and roof openings shown on architectural or structural drawings in the existing structure. Any additional floor and roof opening frames required in the existing structure, but not indicated on the architectural or structural drawings, shall be provided by the contractor requiring the opening.

14. General Trades Contractor shall clean and tooth all openings created by demolition by the General Trades Contractor as indicated on all Architectural or Structural plans. All other prime contractors shall provide interior masonry patching as required for their work but not shown on architectural or structural plans.

15. Verify existing services prior to start of work in existing facility and notify the Construction Manager of any discrepancies.

16. Provide fire-safing and fire-stopping at all locations that are required to maintain a fire rating at floor and wall penetrations required as a result of the work of this Contract.

17. Furnish any access panels, which are required for access to the work by this Contract. Coordinate opening requirements with the General Trades Contractor.. Provide floor access boxes as specified.

18. Provide final plumbing connection of Owner Furnished Equipment, as shown and/or specified.

19. Provide final plumbing connection of all casework and equipment as required.

20. Provide final cleaning of all fixtures.

21. Review Wood Laboratory Specifications and coordinate plumbing work with Construction Manager and General Trades Contractor. General Trades Contractor to provide all sinks, sink outlets, faucets, bubblers, overflows, plugs, strainers, fittings, gas turrets, etc., as shown or specified in Wood Laboratory Casework Specification. Plumbing Contractor will be responsible for final connections of these items. Plumbing Contractor shall furnish and install all traps, stops, and other fittings not listed above for Wood Laboratory Casework equipment, as specified in plumbing sections and shall make all final connections.

22. Plumbing Contractor will provide relocation of all existing utilities within building to allow for new construction and phasing requirements. All utilities must be maintained.

23. Electrical starters for Plumbing Equipment shall be provided under the Plumbing Contract. Fused disconnect and safety switches will be furnished and installed by Electrical Contractor.

24. Provide warranty for all penetrations of existing roof membrane (if any).

25. This Trade Contractor shall include an additional 40 hours of Journeyman Plumber Hours in his bid for use at the Owner's, Construction Manager's or Architect's discretion. The value shall be represented as a line item on the Contractors schedule of values.

57. The General Trades Contractor shall provide all LS, LS1, DS, BS and CS sinks and tail pieces identified in the Plumbing Fixture Runout Schedule on Drawing CLP-000. The General Trades Contractor shall cut the opening in the counter top. The Plumbing Contractor will be responsible for the setting and final connections of the sinks and fixtures.

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Construction Phasing Requirements:

3. Contractor shall review construction phasing plan and include temporary feeds (including additional piping and valves) and/or connection to the permanent system in order to maintain service to existing or new occupied areas throughout the construction period.

4. In areas that this contractor requires above ceiling access for his work, ceilings in areas not designated as getting new ceilings in occupied portions of the building shall be removed and replaced on second shift by this contractor.

5. Verify existing services prior to start of work in existing facility and notify the Construction Manager of any discrepancies.

6. Provide temporary water service for construction purposes.

7. All plumbing work, tie-ins or rough-ins located in occupied areas of the building will be constructed on 2nd shift, following acceptance of coordination drawings, to accommodate overall schedule. Coordinate with Construction Manager.

8. All utilities must remain in service during construction. Notify the Owner through the Construction Manager of any interruptions of service.

9. Work must be complete and tested to meet the requirements of PA L&I and local code inspections for each phase.

## 3.0 CONTRACT NO. 3 – HVAC CONSTRUCTION

A. The work of this Prime Contract Package Description includes, but is not limited to, the Work detailed by the following Specification Sections and as shown or implied and indicated on the Drawings and as described in the narrative Contract Description. The work is not restricted by the division of Drawings or Specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and whatever is necessary to complete the work in accordance with the Specifications and applicable Codes. The use of the wording "Mechanical Contractor" or "Heating Contractor" shall mean the same as the "HVAC Contractor".

B. SPECIFICATION SECTIONS:

INTRODUCTORY INFORMATION
All Sections

BIDDING REQUIREMENTS
All Sections

CONTRACTING REQUIREMENTS
All Sections

DIVISION 1 – GENERAL REQUIREMENTS
All Sections

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
Section 07920 – Joint Sealants (as applicable)

DIVISION 08 – DOOR AND WINDOWS
Section 08311– Access Doors and Frames

DIVISION 12 – FURNISHINGS
Section 12363 – Wood Laboratory Casework (as applicable)

C. Narrative Description of Contract No. 3 for HVAC CONSTRUCTION:
The work of this Contract includes, but shall not be limited to the following items:

General Requirements:

1. Participate in the coordination drawing process as defined in this specification section Part 1.4.P.

2. Maintain operation of existing facility during construction and system interfacing. Provide temporary heat and cooling, if necessary, for portions of the existing facility still in use during construction if a portion of the permanent HVAC system is temporarily out of operation while college is in session.

3. Provide Operation and Maintenance instruction manuals and specified training to the Owner.

4. Openings required as a result of the work shall be provided by the HVAC Contractor, who shall also provide support steel at these openings as required.

5. All framing, lintels, miscellaneous supports, etc., required but not specifically shown on the Architectural or Structural drawings shall be by HVAC Contractor.

6. Verify existing services prior to start of work in existing facility and notify the Construction Manager of any discrepancies.

7. The trade requiring a lintel, which is not clearly indicated on either the Architectural or Structural drawings, will provide those lintels required to install his work.

8. Contractor needing the opening is responsible for demolition and patching required for Mechanical & Electrical openings.

9. Provide painting for “touch up” required to restore “factory finished” equipment and material to its original condition.

10. The General Trades Contractor shall provide all new roof openings through the concrete “waffle” roof deck identified on the Demolition, Architectural and HVAC Plans. The HVAC contractor shall provide the layout of the openings. The General Trades contractor shall dispose of all demolition debris and provide a temporary weather tight temporary enclosure for the openings. The General Trades Contractor shall provide the structural steel required for each opening as identified in the Contract Documents. The General Trades Contractor shall provide all the pressure treated blocking required for the roof curb installation. The HVAC contractor shall provide the roof curb. Following roof curb installation the General Trades Contractor shall flash the curb and patch the existing roofing as required to maintain the existing Owner’s warranty of the roof.

11. This Trade Contractor shall include an additional 40 hours of Journeyman Sheet Metal Worker in his bid for use at the Owner’s, Construction Manager’s or Architect’s discretion. The value shall be represented as a line item on the Contractors schedule of values.

12. This Trade Contractor shall include an additional 60 hours of ATC Technician Labor in his bid for use at the Owner’s, Construction Manager’s or Architect’s discretion. The value shall be represented as a line item on the Contractors schedule of values.

Project Requirements:

1. Provide all Heating, Ventilation, Air Conditioning (HVAC) work as shown or specified including but not limited to vibration isolation, HVAC equipment, ductwork, duct insulation, condensing units, pipe, piping systems, pipe insulation, condensers and accessories, air distribution outlets and inlets; instrumentation; test and balance of systems; valving and coil connections; fire and smoke dampers; inspections; identification; terminal equipment; hangers; blocking; support pipe anchors; supports (unless designated specifically by the General Trades Contractor), wall sleeves and flashing, etc. as shown and/or specified.

2. Install ductwork in accordance with the latest recommendations of ASHRAE and SMACNA.

3. HVAC Contractor to provide all condensate piping, connections, and pumps at locations where condensate lines can not be gravity drained

4. Provide testing and cleaning of distribution systems and equipment and final inspection.

5. Coordinate connections of equipment, dampers etc. as required to the fire alarm system with the Electrical Contractor.

6. Provide identification of equipment, valves, piping and ductwork as required.

7. Provide cutting and patching of all floors, walls, ceilings, etc. for installation of new work by this contract in the existing facilities.

8. This Contractor shall provide all beam penetrations as required to install work of this Contract.

9. Provide patching and repairs to existing walls and floors as required as a result of demolition by this contract including finishes in areas that are not scheduled to get new finishes.

10. Provide firesafing/firestopping at all locations that are required to maintain a fire rating at floor and wall penetrations required as a result of the work of this Contract.

11. Provide all insulation required for the scope of this Contract.

12. Furnish and install any access panels, which are required for, access to the work by this Contract. Coordinate opening requirements with the General Trades Contractor.

13. Provide all exterior louvers and vents that are not indicated as “by General

Contractor". Remove existing louvers shown to be removed and/or replaced.

14. Provide final HVAC connections of Owner Furnished Equipment, as shown or specified. Provide relocation of existing equipment as shown or specified.

15. Provide final HVAC connection of Wood Laboratory Casework and Fume Hoods. Provide all ductwork components which are not indicated to be provided by another trade, but are required to provide a complete and functional project.

16. Motor starters for HVAC equipment shall be provided by the HVAC Contractor. Fused disconnect and safety switches will be furnished and installed by Electrical Contractor.

17. Provide heat tracing for own work.

18. Provide demolition of existing HVAC equipment and accessories, including removal of demolition debris off site. Provide demolition of this Contractor's trade items as indicated throughout demolition drawings. HVAC Contractor shall provide complete demolition and removal of existing mechanical room equipment above grade. Disconnect and cap all HVAC lines to HVAC items. The Electrical Contractor will disconnect electrical power to equipment which is to be demolished. Coordinate all phases of demolition with General Trades Contractor and Construction Manager.

19. Install duct smoke detectors furnished by the Electrical Contractor.

20. HVAC Contractor will provide relocation of all existing HVAC Systems to allow for new construction.

Construction Phasing Requirements:

1. The disconnection and/or re-connection of existing equipment shall be by the HVAC, Plumbing, and Electrical Contractors. All equipment not designated to be reused or salvaged shall become the property of the Contractor.

2. In areas that this contractor requires above ceiling access for his work, ceilings in areas not designated as getting new ceilings in occupied portions of the building shall be removed and replaced on second shift by this contractor.

3. All HVAC work, tie-ins or rough-ins in the occupied areas of the building shall be conducted on 2nd shift, following acceptance of coordination drawings, to accommodate overall schedule. Coordinate with Construction Manager.

4. All existing utilities must remain in service during construction.

5. Provide temporary relocation and connection of existing HVAC systems as required or indicated in order to maintain HVAC systems throughout the occupied building.

6. Systems must be complete, operational and tested to meet the requirements of PA L&I and local code for each phase.

7. HVAC Contractor shall review the construction schedule and provide for temporary feed and/or connection to the permanent system in order to maintain service to the existing or new occupied areas throughout the construction period. Including temporary piping and valving indicated and other measures required but not indicated.

8. Verify existing services prior to start of work in the existing facility and notify the Construction Manager of any discrepancies.

## 4.0 CONTRACT NO. 4 - ELECTRICAL CONSTRUCTION

A. The work of this Prime Contract Package Description includes, but is not limited to, the Work detailed by the following Specification Sections and as shown or implied and indicated on the Drawings and as described in the narrative Contract Description. The work is not restricted by the division of Drawings or Specification. Unless otherwise specifically noted, all work to be performed shall consist of providing all labor, materials, equipment and whatever is necessary to complete the work in accordance with the Specifications and applicable Codes.

B. SPECIFICATION SECTIONS:

INTRODUCTORY INFORMATION
All Sections

BIDDING REQUIREMENTS
All Sections

CONTRACTING REQUIREMENTS
All Sections

DIVISION 1 – GENERAL REQUIREMENTS
All Sections

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
Section 07920 – Joint Sealants (as applicable)

DIVISION 08 – DOOR AND WINDOWS
Section 08311– Access Doors and Frames (as applicable)

DIVISION 11 – EQUIPMENT
Section 11610 – Laboratory Fume Hoods (as applicable)

DIVISION 12 – FURNISHINGS
Section 12363 – Wood Laboratory Casework

C. Narrative Description of Contract No.4 – ELECTRICAL CONSTRUCTION: The working of this Contract includes, but shall not be limited to the following items:

General Requirements

1. Participate in the coordination drawing process as defined in this specification section Part 1.4.P.

2. Provide de-watering of excavations for work of this Contract.

3. Maintain operation of all existing electrical systems in the existing facility during construction and system interfacing.

4. Provide Operation and Maintenance instruction manuals and specified training to the Owner.

5. Verify existing services prior to start of work in existing facility and notify the Construction Manager of any discrepancies.

6. General Contractor to provide all miscellaneous metal, including loose lintels, required for the existing building as shown or specified on the Architectural or Structural Drawings. The trade requiring a lintel, which is not clearly indicated on either the Architectural or Structural drawings, will furnish those lintels required to install his work.

7. Contractor needing the opening not specifically shown on the architectural or structural drawings is responsible for demolition and patching required for Mechanical & Electrical openings.

8. Provide start up and training as required by the Contract Documents.

9. Provide painting for “touch up” required torestore “factory finished” equipment and material to its original condition.

10. Provide temporary power and lighting as indicated in specification section 01510 Temporary Facilities and Controls.

Project Requirements

1. Provide all electrical work including but not limited to testing, conduit, wiring and cable, boxes, wiring devices, enclosures, equipment final connections, support devices, identification, disconnect switches, primary and secondary grounding, panel boards, lighting fixtures, emergency power and lighting, fire alarm and smoke detection, final HVAC electrical, fire protection electrical and plumbing electrical connections, hangers, supports (unless specifically designated by the General Trades Contractor), blocking, wall sleeves, flashing, etc. as shown and/or specified.

2. Provide equipment and wiring necessary for installation of the following systems:
   A. Fire Alarm System
   B. Intercommunications,
   C. Integrated Communications System
   D. Computer Network Cabling

3. Provide equipment and wiring necessary for interfacing with the following systems:
   A. HVAC Equipment
   B. Temperature Control
   C. Plumbing Equipment
   D. Fire Protection Equipment
   E. Sump Pumps
   F. Fume hoods

G. Wood Laboratory Equipment

4. It is the intent of the Contract for the Electrical Contractor to provide a complete system for all systems above including conduit, wire, fiber optics, patch panels, connectors, terminations, patch controls, jacks, UTP cabling, testing, equipment, brackets, hardware, layout, check out, training, etc.

5. Provide identification of equipment as required.

6. Provide all cutting, patching, excavation, and backfill, including work for new incoming service, etc. as necessary to install the work of this Contract.

7. Provide fire rated backboards for electrical and telephone equipment as shown or specified.

8. Provide firesafing at all locations that are required to maintain a fire rating at floor and wall penetrations made as a result of the work of this Contract.

9. Furnish any access panels, which are required for access to the work of this Contract but not shown on the Architectural Drawings. Coordinate openings with General Trades Contractor. Provide under floor boxes as shown or specified.

10. Provide power wiring to all HVAC, electrical, plumbing equipment, etc. as required or shown.

11. Verify existing services prior to start of work in existing facilities and notify the Construction Manager of any discrepancies.

12. Provide final electrical power and data connection of Wood Laboratory Casework and fume hoods as per the Contract Documents and Specifications. Casework Contractor to provide interconnecting wiring and devices for their work as indicated on architectural drawings or specifications.

13. Wire loose motor starters furnished by HVAC and Plumbing Contractors and miscellaneous equipment providers. Motor starters for HVAC equipment shall be provided by the HVAC Contractor. Fused disconnect and safety switches will be furnished and installed by Electrical Contractor.

14. The Electrical Contractor shall furnish and install the Variable Frequency Drives, Startup, conduit and wire.

15. The Electrical Contractor shall furnish and install the conduit and wire for all systems using 120 Volts A.C. and above.

16. Provide testing and documentation of test results for electrical and telecommunications systems as per the Contract Documents.

17. The disconnection and/or re-connection of existing equipment shall be by

the HVAC, Plumbing, and Electrical Contractors if applicable.

18. Provide selective demolition of existing electrical systems, fixtures and accessories, including removal of demolition debris off site. Include demolition of site electrical items as indicated on Contract Drawings.

19. Furnish and wire duct smoke detectors, installation shall be by Mechanical Contractor.

20. Provide patching and repairs to existing walls and floors as required as a result of demolition by this contract including finishes.

21. Maintain and restore all circuits including fire alarm, security, CCTV, CATV, telephone, intercom, clock, sound, etc., if interrupted by demolition, including areas scheduled for partial demolition, if work is shown or not shown.

22. Electrical Contractor shall provide conduit and back boxes, surface metal raceway, pull strings, sleeves to communication closets, and device boxes as required for installation of all communication systems as per the Contract Documents.

23. Electrical Contractor to provide and install telephone and data cables for connection to the fire alarm panel, security panel, ATC panels, etc. As per the Contract Documents.

24. Electrical Contractor shall provide temporary electrical per job requirements.

25. Electrical Contractor shall provide fire alarm wiring to fire sprinkler flow and tamper switches as required.

26. Provide 80 additional journeymen electrician's hours to be used at the Construction Managers discretion. This labor is not to be used for Contractor's punch list items. Provide a separate line item for this labor on the initial schedule of values.

27. Provide 40 additional fire alarm technician hours to be used at the Construction Managers discretion. This labor is not to be used for Contractor's punch list items. Provide a separate line item for this labor on the initial schedule of values.

Construction Phasing Requirements

1. Disconnect equipment to remain from equipment to be demolished. Disconnect electrical power to equipment which is to be demolished.

Coordinate all phases of demolition with General Trades Contractor and Construction Manager.

2. In areas that this contractor requires above ceiling access for his work, ceilings in areas not designated as getting new ceilings in occupied portions of the building shall be removed and replaced on second shift by this contractor.

3. Electrical Contractor will be responsible for securing temporary lighting, and/or electrical systems for temporary use while ceilings are not in place.

4. Corridor electrical rough-ins within occupied areas may be constructed on second shift, following acceptance of coordination drawings, to accommodate overall schedule.

5. Coordinate with Mechanical Contractor for electrical hook-up of mechanical equipment in order to complete all construction-phasing requirements.

END OF SECTION