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WCPSS Swift Creek (Cost of Work)

01 Building Procurement 04.15.24:
Addendum 2

Owner

WAKE COUNTY PUBLIC SCHOOL SYSTEMS
110 CORNING RD, STE 190
CARY, NC 27518

Architect

LS3P ASSOCIATES LTD
205 1/2 KING ST
CHARLESTON, SC

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SCOPE OF WORK 01C - FINAL CLEANING

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

FINAL CLEANING - Including, but not limited to, Specification Section(s):

000000 Division 0

010000 Division 01

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Attendance at all jobsite meetings, including but not limited to, progress meetings, foremen's meetings, pre-installation and Method of Procedure is mandatory, for the duration of the Work or as long as Work within this Scope is pertinent to planning and coordination of other trades.
- 1.2. All vehicular traffic must enter and exit the site through the primary construction entrance unless approved otherwise by the contractor. All vehicles must be cleaned of debris before exiting the site. Any dirt or mud generated from the Work that is deposited onto any areas, walks or streets outside the construction limits must be cleaned immediately.
- 1.3. Rigging, scaffolding, staging, temporary safety protection, personnel and material hoisting and small tools necessary to perform this Work.
- 1.4. Quality control of Scope of Work.
- 1.5. Final cleaning is to be completed in three phases as follows:
 - 1.5.1. PHASE ONE:
 - 1.5.1.1. Remove construction debris and trash to a designated waste receptacle.
 - 1.5.1.2. Remove labels and stickers on all fixture's appliances, walls, windows, mirrors not required to remain.
 - 1.5.1.3. Removal of any protective floor covering limited to what is not removed by general trades and/or the trade partner that installed it.
 - 1.5.1.4. Broom sweep all floor (using approved sweeping compound)
 - 1.5.1.5. Vacuum all carpet floors.
 - 1.5.2. PHASE TWO:
 - 1.5.2.1. Ceiling fans, floor and ceiling vents and return diffusers to be wiped clean.

- 1.5.2.2. Sawdust and drywall dust to be wiped from walls and ceilings.
- 1.5.2.3. All light fixtures including scone fixtures to be cleaned inside and out.
- 1.5.2.4. Woodwork including doors, frames, trim, cabinets, drawers, shelves, handrails and moldings to be wiped clean.
- 1.5.2.5. All interior glass to be cleaned including interior glass handrails.
- 1.5.2.6. Mirrors, porcelain surfaces and chrome fixtures to be cleaned and polished.
- 1.5.2.7. Window, door and elevator tracts to be vacuumed and thoroughly cleaned.
- 1.5.2.8. Baseboards, ledges, electrical outlet covers and light switches to be cleaned.
- 1.5.2.9. Sinks, counter tops to be cleaned.
- 1.5.2.10. Clean all laboratory equipment items.
- 1.5.2.11. Toilets to be cleaned.
- 1.5.2.12. Remove cardboard, tape, film, Styrofoam, from all fixtures and appliances not required to remain. Equipment installers to remove tape around restroom mirrors before installing. Installers need to remove tape from kitchen equipment that will be screwed or hard to remove before installing.
- 1.5.2.13. Hard floors to be swept and wet mopped.
- 1.5.2.14. Carpets to be vacuumed.

1.5.3. PHASE THREE:

- 1.5.3.1. All areas to be touched-up and dusted to create a move-in ready to show environment.
- 1.5.3.2. Restrooms to be cleaned.
- 1.5.3.3. All flat surfaces to be wiped clean.
- 1.5.3.4. Floor to be wet mopped.
- 1.5.3.5. Resilient Tile Flooring and Vinyl Composit Tile flooring to be polished in accordance with the Subcontract Documents.
- 1.5.3.6. Carpets to be vacuumed.
- 1.5.3.7. Exterior of Buildings are to be cleaned and areas swept, including but not limited general exterior building clean, general trash pick-up, window washing, wipe down of all site furnishings, railings, and select pressure washing as required (with the exception of brick cleaning). General trades and each trade partner will be responsible for their own

trash removal throughout the site. Any miscellaneous items left behind must be cleaned. Exterior of windows are cleaned once during phase 3, however, all interior of window tracks be cleaned during phase 2. Remove dirt from site furnishings and railings. Pressure wash as required.

1.5.3.8. Pressure wash all exterior sidewalk and paver areas.

- 1.6. Remove all dust, dirt, films, adhesives, and marks from interior surfaces, including, but not limited to, flooring, walls, ceilings, stair wells, doors, door frames, hardware, fixtures, coiling doors, sectional doors, wall-hung boxes and devices, storage racks, tops of mechanical and electrical equipment where exposed, and lockers.
- 1.7. Clean interior glazing systems including, but not limited to, glass, decorative glass, framing system, sills, storefront, and sidelights.
- 1.8. Clean exterior glazing systems including, but not limited to, glass, framing system, sills, and aluminum storefront.
- 1.9. Clean interior and exterior of casework and millwork.
- 1.10. Clean restroom surfaces including, but not limited to, flooring, walls, toilet partitions, fixtures, vanities, toilets, accessories, and mirrors.
- 1.11. Remove labels that are not permanent or required by code.
- 1.12. Coordinate and comply with manufacturers' cleaning instructions for all surfaces.
 - 1.12.1. Clean floor finishes and exposed concrete floors per the manufacturers' recommended methods and procedures.
- 1.13. Dispose of trash and construction debris as necessary per the waste management plan.
- 1.14. Multiple mobilizations may be required as per the three cleaning phases. Each phase will be identified by the Contractor. Each phase will constitute at least one separate mobilization.

The following work is excluded:

1. N/A

SCOPE OF WORK 02B - STRUCTURE DEMOLITION

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

STRUCTURE DEMOLITION - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
024116	Structure Demolition

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Determine materials to be salvaged, recycled, re-used, or re-installed.
- 1.2. Deliver salvaged material to the specified location. Provide location if not indicated in Documents.
- 1.3. Convey and remove debris from the Project site, including, but not limited to, carts, chutes, buggies, dumpsters, dump trucks, and forklifts.
- 1.4. Protection of buildings and structures adjacent to the Project site.
- 1.5. Protection of trees / vegetation to remain on site as noted in the Subcontract Documents.
- 1.6. Sound and dust control.
- 1.7. Obtain structural engineer's signed approval for any equipment that will be used on existing floors and roof. Observe maximum loads that may be imposed on floors and do not exceed these loads at any time. Lay down plywood to spread load over high traffic areas.
- 1.8. Notify Contractor of any planned interruption of service to others, including but not limited to Owner, at least fourteen (14) days prior to such interruption, or as otherwise required by the Subcontract Documents.
- 1.9. Comply with Contractor's policy for Floor Holes and Openings at all times. Openings in floors shall be fully decked and capable to withstand two times (2x) the intended load.
- 1.10. Combustible fueled equipment shall not be used in interior and/or enclosed areas.
- 1.11. Lifts, scaffolding, hoisting, and rigging.
- 1.12. Remove interior and/or exterior mock-up when directed by Contractor.
- 1.13. Remove demolition material from the site and dispose of in a proper location and method as designated by the local authority having jurisdiction.

- 1.14. Maintain gravel as indicated in Subcontract Documents through completion of Work.
- 1.15. Provide site fencing to remain during the course of construction and shall be maintained during this Work. Fencing to be turned over to Sitework subcontractor after the completion of this Work.
- 1.16. Solid waste handling as per Subcontract Documents.

2. SELECTIVE DEMOLITION

- 2.1. Demolition and off-site removal of all architectural finishes, including but not limited to, floor and wall finishes, interior partitions, ceilings, millwork, and miscellaneous fixtures / furnishings, and all other demolition required for new build-back.
- 2.2. Haul-off only of mechanical, electrical, and plumbing (MEP), and fire protection systems. Make-safe and disconnect shall be provided by others.
- 2.3. Remove finishes to building structure and/or building skin.
- 2.4. Removal of flag poles, signs, and the foundations as indicated in the Subcontract Documents.
- 2.5. Handling of asbestos containing materials (ACM) and/or other hazardous materials in demolition waste in accordance with any and all local, state, and federal regulations and guidelines as indicated in the Subcontract Documents.

3. SELECTIVE STRUCTURAL DEMOLITION

- 3.1. Structural demolition of indicated buildings as indicated by the Subcontract Documents.
- 3.1.1. Gymnasium, school building, mobile classrooms, amphitheater building adjacent amphitheater, picnic area.
- 3.2. Complete demolition of concrete slabs and footings.
- 3.3. Utilize ground-penetrating radar (GPR) at slab areas of concrete demolition to identify any underslab utilities. If utilities are present, ensure the proper steps have been taken to disconnect before demolition begins.

The following work is excluded:

1. Disconnect, and make-safe of MEP and fire protection systems.
2. Removal of ballasts, capacitors, and transformers that contain Polychlorinated biphenyls (PCBs).
3. Non-Toxicity Characteristic Leaching Procedure (TCLP) fluorescent lamps.
4. Core drilling for MEP piping and/or conduit.
5. MEP equipment salvaging.
6. Repositioning of existing drainage structures along curb.
7. Covering existing drainage structures to junction box.

8. Backfilling existing storm structures with flowable fill.

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SCOPE OF WORK 03C - CONCRETE STRUCTURE

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

CONCRETE STRUCTURE - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
033000	Cast In Place Concrete For Bldgs
051200	Structural Steel Framing
055113	Metal Pan Stairs
072100	Thermal Insulation
079200	Joint Sealants
079500	Expansion Control
313116	Termite Control

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. No trailers allowed on site unless approved by Contractor in writing.
- 1.2. ACI qualified personnel per the Subcontract Documents.
- 1.3. Personnel and provisions for after-hours, night time, and weekend concrete pours.
- 1.4. Protect adjacent finishes prior to placing concrete. Remove protection after placement of concrete and clean adjacent finishes of splatter or slurry.
- 1.5. Clean roads surrounding Project site from debris resulting from this Work as directed by Contractor. Clean roads surrounding Project site during the duration of this Scope of Work.
- 1.6. Daily broom swept clean-up and removal to a designated dumpster of debris generated by this Work as required to keep the jobsite safe and clean. Clean up includes residual films, caused by the concrete, concrete sawing, curing.
- 1.7. Remove concrete spoils and washouts weekly. Wash out should not be placed in dumpsters.
 - 1.7.1. Haul-off or on-site wasting as per the Subcontract Documents.
- 1.8. Snow, ice, and water removal while performing the Work of this Scope.
- 1.9. Provide temporary dewatering of trenches and holes created by the Work. Do not permit rain or surface water to deteriorate trenches, footings, and foundations.
- 1.10. Hoisting and lifting required to complete the Work.

1.11. Layout and Field Engineering as required to complete this Scope of Work. Reference Specification Section 017300 – Execution. Leave control lines on non-exposed concrete for subsequent subcontractors to verify. Include layout and control lines on elevated concrete slabs from grid lines (one in each direction) and benchmark provided by the Contractor. Line shall be sprayed with clear paint to protect integrity of lines. At locations with exposed concrete, ensure that lines can be removed and concrete will not be stained. Subcontractor shall transfer vertical control point to each floor and protect. Detailed information confirming that all slab openings, edges, anchor bolts, embeds have been checked to confirm they are installed per Subcontractor Documents.

1.11.1. Layout concrete foundations for use by rammed aggregate pier subcontractor.

1.12. Cover holes in concrete decks/slabs. Hole covers to be maintained through the completion of the Scope of Work while Subcontractor is mobilized on site.

1.13. Temporary fall protection and safety railings on horizontal formwork at perimeter of structure and interior openings. After formwork is removed, provide, maintain, and remove temporary railings at perimeter of structure and interior openings. Safety railings to be compliant with OSHA requirements and include toe boards and debris netting. Coordinate with Steel Scope, and adjacent existing or forthcoming work.

1.14. Secure material daily to ensure material does not blow off structure or around project site.

1.15. Traffic control including lane closures, lane closure permits, flagmen, barricades, signage, and locating pump in public right of way.

1.16. Cold-Weather Placement of concrete requirements of the Specifications and American Concrete Institute (ACI) guidelines, whichever is the most stringent to ensure successful cold weather concrete placement. Winter heating, tarps, fire watch, as required to place concrete in cold weather.

1.16.1. Submit cold-weather procedures for review by Contractor.

1.17. Hot weather concrete placement requirements of the Specifications and ACI guidelines.

1.17.1. Submit hot-weather procedures for review by Contractor.

1.18. Pre-Pour checklists and Quality control measures to ensure that slabs are ready for placement.

1.19. Mockups including coordination of location and removal when directed by Contractor.

1.20. Field cure box for Owner's Testing Agent for curing of concrete cylinders. Assist testing agency in moving cylinders.

1.21. Coordinate special inspections with the Contractor.

1.22. Reinforcing steel in concrete Work, including welding of reinforcing when required.

- 1.23. Reveals, drips, form liners, rustification, chamfered corners, and architectural elements/details.
- 1.24. Ensure rebar, embeds, anchor bolts, inserts, and splice sleeves are not displaced during concrete pours.
- 1.25. Concrete pumping and placement per the Subcontract Documents.
- 1.26. Install anchors, bolts, blockouts, sleeves, weeps, plates, and other items embedded in concrete. Embedded items furnished by others. Coordinate location of embedded items with others. After placement of concrete, provide detailed drawing confirming the accuracy of installation for elevation and location within twenty-four (24) hours.
- 1.27. Protect sediment and erosion control devices installed on site during the performance of the Work. Any damage to sediment and erosion control devices shall be promptly repaired or replaced by this Subcontractor.
- 1.28. Coordinate and schedule all Work with other subcontractors to ensure all predecessor activities are completed prior to placement of concrete.
- 1.29. Coordination with testing agency for Floor Flatness (FF) & Floor Levelness (FL) testing.
- 1.29.1. Following the placement of concrete slabs and subsequent Floor Flatness and Levelness testing, correct deficiencies.
 - 1.29.2. Floor Flatness (FF) and Floor Levelness (FL) deviations that are not per the Subcontract Documents or industry standards, will be remediated at the expense of this subcontractor.
 - 1.29.3. Reference the Subcontract Documents for flooring to be installed over concrete slabs and adhere to FF and FL tolerances for those finishes.
- 1.30. Prevent edge curl.
- 1.31. Cleaning of decks prior to placement of concrete.
- 1.31.1. Remove rust stains from deck prior to concrete placement.
- 1.32. Provide the required slopes to drains and ramps per the Subcontract Documents.
- 1.33. Excavation and temporary shoring.
- 1.34. Fine grading/prep prior to placement of slabs on grade.
- 1.35. Porous fill below slab on grade, footings and foundations as required by Subcontract Documents.
- 1.36. Coordination with all trades prior to placement of any slab on grades, to ensure that all underground rough-in is installed, sleeves are installed.
- 1.37. Interior backfill within the outline of the building's exterior walls. Furnish suitable fill material. Material shall be classified as acceptable material based on the Subcontract Documents.
- 1.38. Delegated design per Subcontract Documents.

1.39. Temporary generators for this Work as required until temporary power is available.

2. BUILDING CONCRETE

2.1. Horizontal and vertical concrete Work including concrete materials, formwork, placement and finish, expansion joints, bond breakers, control joints, keyways, waterstops, and miscellaneous accessories required to complete the Work.

2.2. Shop Drawings showing suggested saw cut, tool locations, construction joints and bulkheads for walls and slab-on-grade.

2.2.1. Coordinate sawcut at slab on grade with finish flooring subcontractors for final locations.

2.3. Submit detailed concrete pour schedule.

2.4. Complete forming Drawing submitted to the Structural Engineer and Contractor before beginning any formwork showing type of forms being used, and methods of pours, lineal footages and pour sequences.

2.5. Foundation wall forming drawings stamped by a registered professional engineer. Submit formwork drawings within 14 days of notice to proceed.

2.6. All formwork with appropriate finish. Rub and patch to required finish per the Subcontract Documents, including removing all wall ties and thru wall form connectors, removal of any rust, patching of concrete pock marks/honeycombs, form line repairs.

2.7. Patch tie holes.

2.8. All formwork shall be set plumb, straight, square, or by design, unless otherwise agreed upon by the Architect, Engineer, or Contractor's superintendent, and/or stated in the Subcontract Documents.

2.9. Edge forms must extend six inches (6") above the concrete surface if riding trowels are used.

2.10. All bracing to perform the formwork, including an approved bracing plan for all pours, and any re-bracing of walls after forms are removed until braces are no longer required.

2.11. Forms shall be staged upon delivery per the Contractor's direction.

2.12. Keep forming materials organized. Daily clean-up of the forming areas.

2.13. Diamond block-outs at interior columns at slab on grade and block-outs at perimeter columns at slab on grade.

2.14. Concrete infill at steel column isolation locations.

2.15. Non-shrink grout at steel base plates.

2.16. Fine grading and hand excavation at thickened slabs.

2.17. Mud slabs as indicated (or required by Field Conditions to maintain Project Schedule)

- to be used as subbase for footings and wall forms as may be applicable.
- 2.18. Slab on grade.
- 2.18.1. Concrete slabs at loading dock.
- 2.19. Vapor barrier under slab on grade.
- 2.20. Control joints.
- 2.21. Slab on metal deck.
- 2.21.1. Provide temporary walking platform at expansion joint gaps at Level 2 slab.
- 2.22. Seal slab on metal deck against excessive leakage. Clean underside of structure after pours as necessary.
- 2.23. Concrete slabs to receive adhesive applied flooring. Follow Specification guidelines for curing and sealing of concrete slabs. Chemical cure is not allowed on any surfaces to received floor products.
- 2.24. Wet curing will be required at all slabs to receive flooring.
- 2.25. Utilize Water-Reducing Admixture in concrete slabs as per the Subcontract documents.
- 2.26. Protect concrete slabs that will be a finished surface. Coordinate proper floor protection with manufacturer's representatives and others installing special flooring systems.
- 2.27. Clean saw cut residue on surfaces to be left exposed, receive stain, sealed concrete finish or epoxy floor finish, to ensure finished concrete surface remains consistent and that the saw cut residue does not clog the concrete pores.
- 2.28. Interior concrete pads and curbs. Layout by others.
- 2.28.1. Concrete pad for lockers.
- 2.29. Interior concrete stairs.
- 2.29.1. Stair nosing at concrete stairs and metal pan stairs per the Subcontract Documents.
- 2.29.2. Concrete stair on grade.
- 2.30. Interior concrete ramps.
- 2.31. Structural foam, as required, for buildup of concrete ramps, stairs, and topping slabs.
- 2.32. Insulation at foundation walls, footings and slab at below grade locations.
- 2.33. Extra concrete caused by over excavation or due to deck deflection.
- 2.34. Soil treatment at slab on grade.
- 2.34.1. Termite spray/protection for the building footprint area. Proper documentation should be furnished within 30 days of treatment application

per the Subcontract Documents.

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- 2.35. Shoring and reshoring as necessary for slab on metal deck.
 - 2.36. Coordination and installation of any brick anchorage systems and brick ledges.
 - 2.37. Masonry dowels at foundation, slab on grade and elevated slabs.
 - 2.38. Wall bracing for backfill as required to facilitate backfill operations. Include any engineering required. Patch tie holes and bracing holes.
 - 2.39. Bulkheads as necessary to facilitate Project schedule.
 - 2.40. Rebar splices or form savers either called for or needed for constructability purposes.
 - 2.41. Protect rebar immediately after placement.
 - 2.42. Bar supports at any formed surface and for all reinforcing on metal deck. Supports for earth formed elements.
 - 2.43. Standees, "Z" bar supports and/or chairs for all double mats.
 - 2.44. Void forms as required. Temporary protection of void forms from weather.
 - 2.45. Elevator pit per Subcontract Documents.
 - 2.45.1. Sump pit.
 - 2.46. Grout elevator sills. Coordinate with Elevator Work.
 - 2.47. Coordinate subdrainage installation (by others) during foundations with installing trade.
 - 2.48. Submit Shop Drawings showing all suggested saw cut or tool locations to the Architect for approval prior to placing concrete to minimize the potential for cracked concrete.
 - 2.49. Coordinate slab construction joints within all areas to receive finish flooring. Furnish Shop Drawings, to be reviewed and approved by the Architect prior to placement of these slabs.
 - 2.50. Concrete at pan stairs including temporary infill for pan stairs until permanent stairs are placed as required to meet OSHA requirements.
 - 2.50.1. Remove and discard temporary infill before pouring concrete.
 - 2.51. Ensure that the metal pan stairs have appropriate rise/run prior to placement of concrete. Any demolition of concrete, resulting from steel deficiencies and correction, is the responsibility of this Subcontractor.
 - 2.52. Ensure that all floor rough-ins are installed at proper elevations prior to slab placement. Notify Contractor immediately of any deficient installation prior to placement of concrete.
 - 2.53. Cast in place pits indicated on the Subcontract Documents. Excavation and backfill of

- pits from sub grades.
- 2.54. Depressed slabs, thickened slabs including excavation and granular fill.
- 2.55. Anchor bolts.
- 2.56. As-Built survey of anchor bolt placement in accordance with the Steel Shop Drawings.
- 2.57. Anchor bolts shall be set in templates. The steel subcontractor will provide required information for anchor bolt templates. Produce wood anchor bolt setting templates from the steel master template(s) as required.
- 2.58. Coatings on base plate, anchor bolts and columns below slab on grade with an approved asphalt paint as per Subcontract Documents.
- 2.59. Grout base plates.
- 2.60. Smooth dowels, plate dowels and/or dowel baskets as indicated in the Subcontract Documents.
- 2.61. Drilled dowels, with / without epoxy adhesives as indicated in the Subcontract Documents.
- 2.62. Added reinforcing for corners, openings as per the Subcontract.
- 2.63. Coordinate footings and slabs with masonry Subcontractor as necessary.
- 2.64. Coordinate all thickened slab locations with adjacent scopes of work.
- 2.65. Trench drains, area drains, and floor drains per the Subcontract Documents within building pad footprint.
- 2.65.1. Grout in-fill at floor drains per Subcontract Documents.
- 2.65.2. Grate for trench drains.
- 2.66. Footings with a top of footing elevation below -3'-0" shall have a minimum 4'-0" x 4'-0" column box out to allow structural steel subcontractor adequate space to set steel.
- 2.66.1. Brace column box out and maintain brace until steel is set and column box outs are poured.
- 2.67. Canopy footings that are tied in to the building perimeter foundation.
- 2.68. Fill minor voids with non-shrink grout at areas where vertical rebar dowels protrude through slab.
- 2.69. Repair building pad after installation of foundations and underslab mechanical, electrical, and/or plumbing (MEP).
- 2.70. Joint sealants and expansion control for this Work.

The following work is excluded:

1. Furnishing embeds.
2. Permanent handrails.
3. Subdrainage.
4. Lightweight insulating concrete for roofing.
5. 32B Site Concrete.

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SCOPE OF WORK 04A - MASONRY**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

MASONRY - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
042000	Unit Masonry
071113	Bituminous Dampproofing
071326	Self-adhering Sheet Waterproofing
072100	Thermal Insulation
072726	Fluid-applied Membrane Air Barriers
078446	Fire-resistive Joint Systems
079200	Joint Sealants
079500	Expansion Control

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Platforms, scaffolding, lifts, and small tools as required to complete the Work.
- 1.2. Hoisting and lifting required to complete the Work. Reference the Front End for personnel and material hoisting provided by Contractor, if any.
- 1.3. Traffic control, barricades, and flagmen both on-site and off-site for the movement of materials and equipment included in this Work. Reference Front End for any traffic control provided by others.
- 1.4. Submit a detailed scaffolding plan showing the scaffold type anticipated and tie back details. Scaffold plan shall be sealed by an engineer licensed in the state where the Project is located, when required by OSHA regulations. If the scaffold must bear on existing structure, provide reshoring or engineering indicating loads are acceptable. All tie-backs that penetrate the masonry skin either permanently or temporarily shall be stainless steel grade 304. Overhead protection as required for Subcontractor's workforce.
 - 1.4.1. Scaffolding installed on elevated slabs will require verifying the slabs will support the weight of the scaffolding and engineer and install any shoring required.
- 1.5. Coordinate unloading, delivery, lay-down area, and masonry batch area with Contractor. Relocation may be required for coordination with the overall construction as directed by Contractor.
- 1.6. Mixing area including a gravel pad under the mixer area. Provide an earth berm around

the mixing area in accordance with storm water runoff requirements. Line basin under the mixing area with impervious liner to prevent groundwater contamination in accordance with EPA requirements.

- 1.7. Hose and fittings to run from the temporary hose bib to the mixing area. Provide extension cords to connect to temporary power. Temporary power provided by others.
- 1.8. Layout as required. Reference Front End for layout by others, if applicable.
- 1.9. Clean roads surrounding Project site from debris resulting from this Work.
- 1.10. Furnish a full-time Quality Control/Safety person with no other responsibilities for the duration of the Work.
- 1.11. Clean masonry per the Subcontract Documents and manufacturer's recommendations.
- 1.12. Protect all exposed hardware, windows, doors, metal panels, and adjacent finishes when cleaning masonry.
- 1.13. Exterior windows and/or curtain wall may be installed prior to the masonry installation. Protection of those systems are required.
- 1.14. Temporary protection at top of completed masonry walls, masonry cavities and/or stone cavities. Keep in place and remove when directed by Contractor.
- 1.15. Floor protection. Remove and clean mortar and mortar stains from exposed surfaces.
- 1.16. Manufacturer site visits. If manufacturer waives the requirement, acceptance must be provided in writing.
- 1.17. Mockups per the Subcontract Documents.
- 1.18. Samples per the Subcontract Documents.
- 1.19. Daily Log per the Specifications.
- 1.20. Waste removal from site for all waste associated with this Work. Location of waste removal container is to be coordinated with Contractor.
- 1.21. Dust and silica control measures.
- 1.22. Pre-punch in masonry systems. Prior to the scheduled masonry inspection, a formal written inspection will be done by a competent person noting all deficiencies, correction of deficiencies, and subsequent notification to the Contractor verifying that the systems are in compliance and are ready for the installation of drywall, ceiling grid, soffits, hard ceilings.
- 1.23. Coordinate with Owner's Representative, or Architect for masonry special inspections to confirm design standards as per Subcontract Documents. Facilitate inspections as required, including usage of lifts, harnesses, and safety equipment.

2. MASONRY

- 2.1. Masonry Scope of Work includes salvage of existing brick on current building. Reference the Demolition plans and notes within the Subcontract Documents for

salvage requirements.

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- 2.2. CMU and brick masonry per Subcontract Documents.
 - 2.3. CMU/Masonry screen walls per Subcontract Documents.
 - 2.4. Brick colors and patterns per Subcontract Documents.
 - 2.5. Site masonry including, but not limited to, monumental sign.
 - 2.6. Masonry accessories, anchors, brick ties, weeps, vents, clips, shims, fasteners, anchors, flashing, welding, and other items as required.
 - 2.7. Mortar and grout as required for complete masonry installation. Materials to be provided per the Specifications.
 - 2.7.1. Masonry cement not permitted.
 - 2.8. Clean and remove excess mortar inside air cavity, at weep locations, and outside walls. Include rubbing and washing of walls and slab edges exposed to view upon work completion. Cleaning agents as per the Subcontract Documents. Coordinate timing of brick washing as required.
 - 2.9. Temporary bracing of masonry walls (over eight feet (8') tall) designed by an engineer licensed in the state where the Project is located. The bracing plan should be designed incorporating Project-specific conditions for walls in progress and until final structural connections are made.
 - 2.10. Install anchors, bolts, blockouts, sleeves, plates, and other items embedded in masonry. Embedded items furnished by others. Coordinate location of embedded items with others.
 - 2.11. Reinforcing steel within masonry walls. Drill and epoxy dowels into substrate where indicated.
 - 2.12. All reinforcement shall be placed prior to pouring of grout: "wet setting" reinforcing bars is not permitted unless written notice is provided by Contractor.
 - 2.13. Rebar caps.
 - 2.14. Grout and cavity fill within CMU (concrete masonry units) walls and behind brick veneer as required. Coordinate with special inspections. Ensure that footings and substrates are properly prepped and ready for grout fill. Grout cavity solid below grade.
 - 2.15. Install and grout hollow metal frames within masonry and concrete assemblies. Coordinate delivery of frames provided by others and store in designated spot on site.
 - 2.16. Core fill insulation within masonry walls.
 - 2.17. Masonry cavity insulation and cavity drainage material.
 - 2.18. Rigid insulation behind veneer masonry and within masonry cavity walls. Ensure that air and weather barrier is maintained.

- DRAFT
- 2.19. Coordinate with air and weather barrier Subcontractor for all flashings and penetrations.
 - 2.20. Weeps and mortar nets per the Subcontract Documents.
 - 2.21. Masonry patching, salvage, toothing, and in-fills.
 - 2.22. Patching, grouting and laying of masonry around wall penetrations.
 - 2.23. Control and expansion joints within masonry assemblies. Strike clean caulk joints and expansion joints. Include flashing per Subcontract Documents.
 - 2.24. Joint sealants as required for the Work, including but not limited to joint sealants at expansion joints in masonry partitions. Verify sealant will not stain masonry.
 - 2.24.1. Caulking at all exterior masonry conditions.
 - 2.25. Integral water repellants in concrete masonry unit (CMU), grout and mortar at locations indicated.
 - 2.26. Install access doors within masonry walls. Doors furnished by others.
 - 2.27. Install counter-flashing folds, reglets, and receivers. Material furnished by others.
 - 2.28. Flashing as required at windows, doors, vents, lintels, at bottom of wall.
 - 2.29. Flashing required within masonry assemblies.
 - 2.30. Top of wall fire treatment on masonry walls, including top of wall insulations, caulking, and/or fire-retardant spray.
 - 2.31. Install loose steel lintels. Lintels furnished by others.
 - 2.32. Coordinate with Signage Scope of Work to install signage within Masonry.
 - 2.33. Expansion joints for this Work.

The following work is excluded:

- 1. Waterproofing and air/weather barriers.
- 2. Furnishing of access doors, loose lintels, and door frames.

SCOPE OF WORK 05A - STRUCTURAL STEEL AND MISCELLANEOUS METAL

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

STRUCTURAL STEEL AND MISCELLANEOUS METAL - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
051200	Structural Steel Framing
052100	Steel Joist Framing
053100	Steel Decking
055000	Metal Fabrications
055113	Metal Pan Stairs
055213	Pipe And Tube Railings
102226	Operable Panel Partitions

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Delegated design for connection calculations and metal fabrications and miscellaneous steel, including seal of professional engineer licensed in the state where the Project is located, on Shop Drawings and calculations. Delegated design per Subcontract Documents including, but not limited to, braced frames, collector beams, moment frames, shear connections, lintel and wind girts.
- 1.2. Provide welding certificates per Subcontract Documents.
- 1.3. Coordinate requirements of the Work, including, but not limited to, reviewing of all Subcontract Documents for size and locations of openings in floor and roof framing, including support framing at openings as required by typical details.
- 1.4. Coordinate with all special inspections. Passing special inspections should be accounted for in erection durations. Failed inspections will not result in a pushed erection schedule.
- 1.5. Coordinate deliveries with the Contractor. Ensure that laydown yard is properly managed and inventoried. Ensure that laydown yard remains clean and orderly.
- 1.6. Clean streets where Work produces dirt, mud, debris onto street.
- 1.7. Fasteners (bolts, nuts, washers, tension control fasteners, anchors, and epoxy adhesives) necessary to complete this Scope of Work.
- 1.8. Coatings and surface preparation per the Specifications. Where steel fabrications are scheduled for shop primer to receive field coatings, provide shop primer that is

compatible with specified field applied finish systems. Coordinate priming requirements with fireproofing and Specification requirements.

- 1.9. Connections to concrete, masonry, or other non-steel substrates where installation of steel must occur after substrate is already in place.
- 1.10. Welding of masonry ties to steel columns and beams as indicated.
- 1.11. Welding of reinforcing steel to steel member at steel lintel locations as indicated.
- 1.12. Field measurements and surveying of embedded steel items (projection, concrete elevation, location, alignment, and damage), including multiple trips to Project as necessary to accomplish these tasks. Submit findings two (2) weeks prior to mobilizing for start of steel erection. Notify Contractor of any discrepancies identified among field measurements, the Subcontract Documents, and American Institute of Steel Construction (AISC) standards.
- 1.13. Shop visual and non-destructive testing in accordance with American Welding Society (AWS) and AISC procedures.
- 1.14. Grind welds flush at handrails and other similar finish steel products that are exposed to view in accordance with the Specifications.
- 1.15. Any exposed steel elements should have temporary welds, run off tabs, and backing strips removed.
- 1.16. Field touch up of shop finish primer, paint, and galvanizing at locations where shop finish is damaged during delivery, handling, or erection, including, but not limited to, field connection points, bolts, handrails, and hoisting pick points.
- 1.17. Clean steel of dirt, mud, dust, labels, masking tape, and piece mark identifications prior to completion of erection.
- 1.18. Lifts and any other accommodations necessary to facilitate performance of special inspections of the Work as required by the testing agency.
- 1.19. Arrange for temporary power for welders and equipment as needed for completion of this Scope of Work and/or provide fuel powered welders and equipment. When fuel powered equipment is used, protect concrete slabs and finishes from fuel spills or leakage and properly ventilate when performing Work within confined spaces as required per OSHA guidelines. Provide protection of other trades and pedestrians from welding arc flash exposure as necessary.
- 1.20. Fire extinguishers, fire watch, and burn permits for welding and cutting.
- 1.21. OSHA-approved temporary scaffold stairs to access all floors, roof elevations, etc. until the metal pan stairs are installed and accepted as safe to use. Scaffold stairs to roof elevations shall remain until all activities on roof areas is complete. Scaffold stair rental not to exceed a length of time of 6 months. Ensure that installation of permanent stair is able to fall within this 6 month duration.
- 1.22. Temporary wire rope guardrail protection at edge of each floor and roof perimeter in accordance with OSHA and Contractor's Safety and Health Manual, including temporary posts between columns. Temporary guardrail cable shall be placed on the

interior side of exterior columns to allow erection of exterior skin prior to removal of temporary safety cables. Provide a ten (10) foot wide loading area on each floor with hook and turnbuckle for adjustment. Maintain guardrails while Subcontractor's Work is being performed on each respective level of the building. Coordinate temporary guardrail system with floor slab and roof system thickness to ensure that guardrail system complies with OSHA requirements before and after installation of slab and roof systems. Temporary guardrail system shall be left in place at completion of this Work for use by Contractor and others. Dismantle and discard temporary guard rail as instructed by Contractor.

- 1.23. Core drilling and grouting of concrete for guardrail posts. Grouting at embedded post sleeves as required for level and plumb installations of guardrails installation of guardrails. Grout at exposed conditions shall meet requirements of materials designed for exterior applications.
- 1.24. If the building pad is rutted up/damaged due to installation of this Work, from use of lifts, Subcontractor shall re-establish grade where necessary prior to placement of the slab on grade.

2. STRUCTURAL STEEL

- 2.1. Structural Steel per Subcontract Documents.
- 2.2. Structural steel items, including, but not limited to, beams, columns, loose bearing plates, slide bearings, anchor bolts, leveling plates, girders, metal deck, deck joists, joist reinforcing, steel trusses, shear studs, deformed bar anchors, metal pan stairs, platform stairs, pipe and tube railings, elevator shaft separator beams, guide rails supports, elevator hoist beams, elevator counter weight support, elevator embeds, machine room framing, bracing, bridging, trusses, purlins, girts, roof framing ledge angles, lintels, CMU wall angles, bent plate, operable wall track steel, and connection material for all of the previously mentioned items.
- 2.3. Fabricate and deliver to site all steel items scheduled for embedment in concrete and masonry. Where embeds are provided for support / connection of miscellaneous / structural steel items, provide embed layout Drawings as necessary for proper installation by concrete subcontractor.
- 2.4. Furnish one template for each base plate to Contractor for use in setting anchor bolts.
- 2.5. Pour stops and closure plates as required at slab on deck locations to create a fully sealed and edge formed assembly for others.
- 2.6. Cut holes in deck assemblies for openings identified on Subcontract Documents, when directed by Contractor. Coordinate hole sizes and locations with other Trades.
- 2.7. Column layout and elevations, including leveling nuts and shooting shim packs. Building offset work lines and benchmarks for use by others.
- 2.8. Includes temporary bracing and shoring as required for stability during erection.
- 2.9. Remove temporary erection aids, welds, run off tabs, and backing strips. Grind removal area to a flush finish at exposed steel surfaces.
- 2.10. Submit site-specific erection plan two (2) weeks prior to the steel erection pre-

installation meeting. Plan shall include all items outlined in the Steel Erection Standards located in the Safety and Health Manual.

- 2.11. Participate in the steel erection pre-installation meeting, steel erection pre-start meeting, and daily routine meeting per the Steel Erection Standards located in the Safety and Health Manual.
- 2.12. Site-specific erection stability analysis, including stamped and sealed design by a professional engineer licensed in the state where the Project is located. Analysis shall include loads imposed by follow-on trades if erection is not scheduled for completion before work of other trades is scheduled to commence, per Contractor's schedule. Provide and remove temporary bracing and shoring as required for stability during erection.
- 2.13. Steel bracing of walls and partitions including seismic clip angles including additional mobilization as required to perform work after installation of walls and partitions by other trades. Openings for beam penetrations as outlined on the Structural Drawings.
- 2.14. Canopy support framing.
- 2.15. Brick relief framing.
- 2.16. Mechanical Mezzanine access, stair, and guardrail steel per Subcontract Documents.
- 2.17. Louver or damper support framing.
- 2.18. Projection screen support steel as required by Subcontract Documents.
- 2.19. Steel bracing and steel fabrications at storefront and curtainwall assemblies per the Subcontract Documents as required to complete the glazing installations.
- 2.20. Provide as-built survey of structural steel plumb conditions and edge of slab locations, per allowable tolerances as specified.
- 2.21. Coordinate and verify elevations of steel support framing with other trades (masonry, MEP).
- 2.22. Shear studs and clean ferrules off metal deck.
- 2.23. Steel finish as required per the Specifications and at all locations where structural elements are exposed to weather.
- 2.24. Structural steel support for the operable partition per Subcontract Documents and design loads from operable partition Trade.
 - 2.24.1. Delegated design of structural support for the operable partition.
 - 2.24.2. Drill holes in structural support per the layout provided by operable partition Trade.
 - 2.24.3. Coordinate with operable partition trade to provide complete structural support necessary for installation of operable partition.

3. MISCELLANEOUS STEEL

- 3.1. Miscellaneous steel items, including, but not limited to, stairs, ladders, decking for landings, rails, gates and hardware, mechanical unit opening framing, bollards, pipe protection, countertop millwork supports, miscellaneous steel for plumbing fixtures, any metal grating, support framing for doors as required, and other metal fabrications.
- 3.2. Metal grates and frames.
- 3.3. Furnish anchor bolts, lintels, brick relief, and all steel items scheduled for embedment in concrete and/or masonry.
- 3.4. Where embeds are required for support or connection of miscellaneous steel or structural steel items, provide embed layout drawings as necessary for proper installation by others. All embeds scheduled to be cast in place to include nail holes coordinated with Contractor's field staff.
- 3.5. Framed openings between floors and at roof for Mechanical, Electrical and Plumbing penetrations.
- 3.6. Decking for stage platforms.

The following work is excluded:

1. Concrete fill for pan stairs and landings.
2. Steel support and hangers for mechanical equipment, piping, and duct work, unless specifically denoted on the Structural Drawings.
3. Anchor bolts and fasteners for wood sills and nailers.
4. Masonry ties for welded connection to steel columns and beams.
5. Chain link fencing.
6. Grout for column base plates, beam pockets, and beam bearing plates.

SCOPE OF WORK 06E - ~~MILLWORK AND FINISH CARPENTRY~~

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

MILLWORK AND FINISH CARPENTRY - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
061053	Miscellaneous Rough Carpentry
064023	Interior Architectural Woodwork
064219	Plastic-laminate-faced Wood Paneling
079200	Joint Sealants
123216	Manufactured Plastic-laminate Clad Casework
123661	Solid Surfacing Countertops And Sills

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Miscellaneous clips, shims, fasteners, anchors, accessories, expansion anchors, and adhesives as required to complete Scope of Work.
- 1.2. Shop Drawings within four (4) weeks of receipt of executed Agreement.
- 1.3. Receive, unload, and distribute materials. Include inventory, quantity verification, and damage inspection.
- 1.4. Multiple deliveries, as necessary, per Schedule. Material must be protected from weather/ humidity.
- 1.5. Control temperature and humidity of rooms to be monitored by trade partner after material is delivered. Notify general contractor about any irregular conditions that could damage material.
- 1.6. Field measure prior to fabrication and adjust Shop Drawings accordingly.
- 1.7. Detail in-wall blocking showing exact locations, elevations, sections, details, and attachments of blocking requirements in Shop Drawings. Coordinate cut-out sizes for fixtures provided by others.
- 1.8. Furnish and install out of wall blocking as required for this scope of work
- 1.9. Develop a coordinated piece mark system for materials to ensure accurate and coordinated installation. Review with Contractor.
- 1.10. Layout as required for the Work of this Scope.

1.11. Joint sealants for the Work of this Scope, including sealants to dissimilar materials.

2. MILLWORK AND FINISH CARPENTRY

- 2.1. Interior finish carpentry, including, but not limited to, standing and running trim, maple corner trim (example: A2/A05.62), wood base, wood paneling, other wood trim, and miscellaneous materials required for a complete installation.
- 2.2. Architectural woodwork, included but not limited to learning common seat nooks (turn-key, framing by others).
- 2.3. Architectural woodwork and casework, including but not limited to cabinets, countertops and supports, cubbies, window sills, benches, shelves and brackets, book shelves, sloped tops, reception desk, including casework wall structures, and miscellaneous hardware, trim, shimming, and anchorage devices for a complete installation.
- 2.4. MDF panel included but not limited behind P-lam panels
- 2.5. Solid surface countertops, vanities, shelves, window sills, benches, vertical cladding / other including skirts, side and backsplashes, supports, edge detailing, backing material or subtops, sealers, adhesives, and miscellaneous hardware, trim, shimming, and anchorage devices for a complete installation. Exposed edges shall be polished, unless provided otherwise in the Subcontract Documents.
- 2.6. Miscellaneous metals and steel support angles integral to casework and millwork items.
- 2.7. Finish hardware associated this Scope of Work.
- 2.8. Cutouts in casework, countertops, and any other items included in this Scope of Work. Locate and cut grommets in countertops in the field.
- 2.9. Finish touchup and fillers to complete this Scope of Work.
- 2.10. Align and adjust millwork doors, drawers, hardware, and shelves including locking mechanisms prior to Substantial Completion. Provide Contractor with a keyed lock schedule and all keys associated with each piece of millwork specified to receive locks.
- 2.11. Shop finish wood items before delivering to Project site.
- 2.12. Protection of this Work and the work of others, including shelves and countertops, with cardboard taped securely during the installation process. Remove when directed by Contractor.

The following work is excluded:

1. Joint sealants in other scopes of work.
2. Wood ceilings.
3. Wood doors and frames.

SCOPE OF WORK 07B - DAMPPROOFING AND WATERPROOFING

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

DAMPPROOFING AND WATERPROOFING - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
071113	Bituminous Dampproofing
071326	Self-adhering Sheet Waterproofing
071800	Traffic Coatings
072726	Fluid-applied Membrane Air Barriers
075200	Modified Bituminous Membrane Roofing
079200	Joint Sealants
079500	Expansion Control
321373	Concrete Paving Joint Sealants

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Submit applicable Project Submittals, including Samples, within fourteen (14) calendar days of notice to proceed or receipt of Subcontract, whichever chronologically occurs first.
- 1.2. Protect installed waterproofing from environmental damage per manufacturer's directions until waterproofing is concealed by backfill and/or subsequent work.
 - 1.2.1. Coordinate Work and mobilizations with the Contractor to ensure waterproofing systems are not exposed to weather elements per the Subcontract Documents.
- 1.3. Verify that minimum air and substrate temperatures are satisfied in accordance with the Specifications and manufacturers' requirements prior to the installation.
 - 1.3.1. Provide temporary heat and tenting as required.
- 1.4. Substrate preparation, including but not limited to patching of holes and cracks, joint treatments, irregularities in concrete substrate, removal of efflorescence, dirt, dust, fins, splatters, grease, oils, curing compounds, and form release agents.
 - 1.4.1. Substrate preparation procedures per the Subcontract Documents.
- 1.5. Substrate moisture testing. Submit results to Contractor.
- 1.6. Any deficiencies requiring corrective work shall be provided to Contractor in writing prior to commencing the Work.

- 1.7. Adhesion testing.
- 1.8. All testing for this Work as required by Subcontract Documents.
- 1.9. Coordinate with others for compatibility of products with weather/air barrier, waterproofing, masonry flashings, and joint sealants. No Work shall be performed until product compatibility is established.
- 1.10. Mockups as required per Subcontract Documents and Contractor direction.

2. DAMPROOFING AND WATERPROOFING

- 2.1. Waterproofing per the Subcontract Documents including, but not limited to, foundation walls, footings, elevator pit, exterior walls below grade, exterior wall section terminations, exterior wall openings, and site walls as a complete system(s) including detailing at penetrations and openings.
- 2.2. Pressure wash of concrete masonry units prior to install.
- 2.3. Miscellaneous primer, termination bar, protection board, drainage board, flashing and accessories.
- 2.4. Sheet drainage boards and tie into building foundation drainage system.
- 2.5. Elastomeric coatings per Specification Sections 071326, 071800, 072726.
- 2.6. Waterproof around all penetrations in the foundations.
- 2.7. Layout waterproofing for under structural slabs on grade so as to provide adequate material to tie into vapor barrier system per Subcontract Documents.
- 2.8. Coordinate waterproofing insulation with backfill operations. Subcontractor shall have manpower on standby to repair any waterproofing damaged during backfill operations.
- 2.9. Inside and outside corner detailing for foundation waterproofing systems.
- 2.10. Damproofing per the Subcontract Documents including, but not limited to, masonry, concrete, precast, wall panels, storefront, and exterior walls as a complete system(s) including detailing at penetrations and openings.
- 2.11. Terminations and transitions between the varying types of waterproofing.
- 2.12. Low temperature tape and sheet goods.
- 2.13. Air-barrier and terminations per Subcontract Documents.
- 2.14. Seal top of through-wall flashings to air barrier with transition strips.
- 2.15. Coordinate transition of vertical waterproofing with air barrier system.
- 2.16. Patching of brick tie holes that penetrate foundation waterproofing system.
- 2.17. Pedestrian traffic coatings as a complete system(s) per the Subcontract Documents.
- 2.18. Paint all steel below grade with two heavy coats of black asphaltum.

The following work is excluded:

1. Vapor barrier at slab on grade or structural slab.
2. Foundation wall tie holes will be patched by others.

SCOPE OF WORK 07F - METAL WALL PANELS

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

METAL WALL PANELS - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
055813	Metal Column Wraps
072100	Thermal Insulation
072726	Fluid-applied Membrane Air Barriers
074213	Formed Metal Wall Panels
074223	Phenolic Wall Siding
074243	Metal Composite Wall Panels
076200	Sheet Metal Flashing And Trim

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Design, coordinate, engineer, fabricate, and install a complete prefabricated panel system, including but not limited to: connections, supports, fasteners, anchors, adhesives, and accessories as required to complete this Scope of Work.
 - 1.1.1. Delegated design by professional engineer per the Subcontract Documents.
- 1.2. Installation in accordance with the manufacturer's recommendations. Resolve any conflicts between Subcontract Documents and the manufacturer's requirements prior to installation.
- 1.3. Coordinate with Structural Engineer of Record (EOR) for required tolerances and additional support not identified in Subcontract Documents.
- 1.4. Any portions of the exterior skin that cannot be completed as part of the prefabricated system will be completed in place.
- 1.5. Samples and mock-ups per the Subcontract Documents and by direction of the Contractor.
- 1.6. Prefabrication of wall panels will be at a warehouse provided by the Subcontractor .
- 1.7. All transportation, rigging, and final connections associated with this Scope of Work. Includes permits, fees, and escorts as required for transport.
- 1.8. All scaffolding, staging, temporary safety protection, personnel and material hoisting and small tools necessary to perform this Work.
- 1.9. Adequate offsite storage in order to maintain the panel delivery schedule as set forth by

the Contractor.

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- 1.10. Coordinate with Contractor for agreeable production schedule. Production schedule to be in accordance with Project schedule.
 - 1.11. Coordinate with others that have work integral to the panels at the warehouse location.
 - 1.12. Coordinate with other building skin trades for location and sizes of openings and any required support for such openings. Obtain approval from all necessary parties for locations and opening sizes prior to execution of the Work.
 - 1.13. Framing, cutting, and preparing panels for penetrations. Coordinate with other building skin trades for location and sizes of penetrations and joint sealants associated with such penetrations. Obtain approval of layout from all necessary parties prior to execution of the Work.
 - 1.14. Coordinate with all system materials to confirm compatibility, including, but not limited to, masonry, metals, storefront, concrete, roof systems, drain systems, scupper, glazing, waterproofing, weather/air barrier, and joint sealants.
 - 1.15. All preparation Work including, but not limited to, inspection of substrate, preparation of substrate, adherence to temperature and humidity requirements, field measuring as required, coordination prior to mobilization, layout requirements.
 - 1.16. Field verification, including laser scanning as required to complete Scope of Work. Deficiencies, unsatisfactory conditions and unacceptable dimensional tolerances to be provided to Contractor in writing prior to starting work.
 - 1.17. Participate in "Pre-installation Meetings" to convene a minimum of one week prior to commencing Work.
 - 1.18. Engineered connections and specialized rigging as required.
 - 1.19. Control and expansion joints at locations indicated. Control joints, expansion joints, and reveals shall be properly lapped for water-tight installation.
 - 1.20. Furnish all embeds to be installed by others.
 - 1.21. All means of access and materials handling as required to complete this Scope of Work. Allow others access to scaffolding, swing stages, man lifts for the duration of this scope of work.
 - 1.22. Protect Work and equipment whether installed, staged and or stored. Laydown storage will be available, however, should staging require utilization of a storage container that is the responsibility of the Subcontractor.
 - 1.22.1. All materials are to be stored per Manufacturer and specified requirements.
 - 1.23. Protect the Work of other trades and existing facilities from damage by Work.
 - 1.24. Protect the roof assembly during installation of this Scope of Work.
 - 1.25. Materials to be protected with strippable protective covering for duration of the Work.

- 1.26. General daily cleanup and trash removal of debris from the Work.
- 1.27. Inspections by this Subcontractor per the Subcontract Documents.
- 1.28. Testing per the Subcontract Documents.
- 1.29. Perform air and water tests. If no testing is specified, provide a minimum of one in situ air and water test at each type of wall area. Provide necessary test equipment.
- 1.30. Warranty per the Subcontract Documents.
- 1.31. Closeout documents per the Subcontract Documents.
- 1.32. Cleaning and protection of all installed Work within this Scope.

2. GLASS AND GLAZING

- 2.1. Coordinate all opening sizes, connection details, joint sealants, miscellaneous flashings/covers, and insulation requirements of glazing systems to ensure complete watertight system.

3. BUILDING SIDING

- 3.1. Siding system including, but not limited to, metal wall panels, siding, insulation, associated support framing, blocking, clips, fasteners, concealed fasteners, shims, panel/joint sealants, gaskets, backer rod, closure pieces, soffits, soffit vents, closures, trim, break metal, sheet metal, and associated flashing per the Subcontract Documents.
- 3.2. Insulation behind cladding systems, insulation will be installed in and around clips and sub framing to maintain require R-value. This will require intricate work around fasteners. All insulation installed per Specifications Manufacturers recommendations.
- 3.3. Blocking required for exterior cladding systems. Early mobilization may be required to install this blocking.
- 3.4. Any expansion joints required within the system to complete the Work per the Subcontract Documents.
- 3.5. Finish requirements per the Subcontract Documents.
- 3.6. Outside corner profile of panels per Subcontract Documents.
- 3.7. Detailing and trim around openings, penetrations, and at siding and/or soffit terminations.
- 3.8. Wall and/or parapet sheathing including sealing of sheathing joints and terminations.
- 3.9. Continuous perimeter flashing at openings including end dams, sealants, and mastic beds.
- 3.10. All sealants, gaskets, backer rods, and as required for a watertight system.
- 3.11. All bond break materials as required.
- 3.12. Receive, peel and stick strip materials by others where throughwall flashings as required to maintain Project Schedule.

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- 3.13. Weather / waterproofing systems required for use with metal panel to include through wall flashing, termination bars, sealants behind metal wall and panels, to ensure a watertight system. Coordinate with others to ensure continuity in the air and weather barrier system.
 - 3.14. Install receiver flashing furnished by others where metal panels intersect with roof system.
 - 3.15. Coordinate with other trades effecting this Scope of Work, including, but is not limited to rain drainage work, flashing trim, construction of soffits and other adjoining work to provide a leakproof, secure and noncorrosive installation.
 - 3.16. Ensure that any penetrations don't create a break in the air and weather barrier system during installation. Accomplish this per Manufacturer and specified requirements, such as by usage of self-sealing fasteners, installation of a peel-and-stick membrane behind clips.
 - 3.17. Metal column wraps per the Subcontract Documents. Including, but not limited to, shims fasteners, sealants, and accessories.

The following work is excluded:

1. N/A.

SCOPE OF WORK 07G - Roofing**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

Roofing - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
035216	Lightweight Insulating Concrete
061000	Rough Carpentry For Roofs
061053	Miscellaneous Rough Carpentry
072221	Roof Insulation And Cover Board
074113	Standing Seam Metal Roof Panels
075200	Modified Bituminous Membrane Roofing
075416	PVC Membrane Roofing
076200	Sheet Metal Flashing And Trim
077200	Roof Accessories
079201	Sealants For Roofing

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Coordinate Work with others whose work intersects and/or passes through this Work. Flash, counter flash, and waterproof penetrations.
- 1.2. Rigging, scaffolding, staging, temporary safety protection, personnel and material hoisting and small tools necessary to perform this Work.
- 1.3. Insulation Shop Drawings should be provided in advance and early enough to coordinate various installations, including roof drain heights, parapet wall construction, other various penetrations and pieces of equipment. Roof Shop Drawings should be coordinated, with thicknesses to work within the constraints of other systems.
- 1.4. Isolation strips for connection of dissimilar metals.
- 1.5. Field measurements, field verification, templates, and layout associated with this Scope of Work. Field verification shall be conducted prior to procurement of materials.
- 1.6. Prior to installation of this work, perform a pre-inspection of the substrate and adjacent work surfaces, to ensure that the roof system is ready for installation. Any deficiencies must be communicated to Contractor immediately.
- 1.7. Coordination, assistance, access, and equipment necessary for water/air quality testing of roofing systems.

- 1.8. Maintain integrity of weather resistive barrier (WRB) during and after installation so no air/water/thermal breaks are present within the system as a result of penetrations created by Work of this Scope.
- 1.9. Joint sealants including sealants integral to roofing and panel systems and perimeter of panel systems to other panels and other dissimilar materials.
- 1.10. All roof-related blocking as required to complete Work, including but not limited to blocking, plywood, nailers, scupper blocking and any separator sheets, wood blocking at roof hatch/curb, wood blocking at roof drains & separator sheet, wood blocking per Subcontract Documents.
- 1.11. Coordinate Work with others whose work intersects and/or passes through this Work. Detail penetrations, flash, counter flash, and waterproof penetrations.
- 1.12. Clean roof substrate and prepare surface prior to start of roofing activities.
- 1.13. Prior to installation of membrane roofing, perform all required testing to ensure acceptable substrate.
- 1.14. Weather protection at end of each work day during progress to maintain a weathertight roof system.
- 1.15. Qualified person to document roof conditions (damages) on a weekly basis until Project turn-over.
- 1.16. Warranty per the Subcontract Documents.
- 1.16.1. Prior to turnover, provide all inspections, tests, and associated paperwork necessary for a fully warrantable system.
- 1.16.2. Roof expansion joints to be include in roof membrane warranty.
- 1.17. Ensure that full system warranty between lightweight insulated concrete system and membrane roofing.
- 1.18. R-Values per code requirement as stated in the Subcontract Documents.
- 1.18.1. North Carolina Climate Zone #4a.
- 1.18.2. Ensure that insulating value (R-value) can be maintained at all penetrations into the roof, to include insulation at all roof curbs, divider walls, ladder platforms (if required), etc. for a thermally consistent system.

2. METAL ROOFING

- 2.1. Metal roofing system per the Subcontract Documents including, but not limited to, "Z" girt system, roof insulation, underlayment, snow guards, joint/panel sealants, fasteners, rubber gaskets, closure pieces, ridge caps, concealed clips, reveals, control joints, and associated copings, flashing and trim.
- 2.2. Metal roofing related sheet metal flashing including, but not limited to parapet coping, any flashings in-board of the parapet, parapet cleat, gutters, scuppers, conductor heads, downspouts, splashblocks, and bird screens, including final connection to underground stub-ups.

- 2.3. Screen wall coping caps per Subcontract Documents. Includes, but is not limited to, metal coping cap, blocking, fasteners, clips, shims, and sealants to provide a complete system.
- 2.4. Roof expansion joint assemblies integral to roofing systems including, but not limited to, roof-to-wall, roof-to-gutter, roof-to-coping.
- 2.5. Metal soffit system including but not limited to, soffit panel support system, fasteners, miscellaneous accessories for installation, joint sealants, and associated flashing to provide a complete installation of the system.
- 2.5.1. Metal soffits at building and canopies.
- 2.6. Boots, seals, zip strips, and flashing required for roof penetrations.
- 2.7. Roof fall restraint anchors per the Subcontract Documents.
- 2.8. Sealants to adjacent systems to provide a complete weather-tight system as required by the Subcontract Documents.
- 2.9. Backer rod as required.
- 2.10. Blocking as required to complete the install for this Work.
3. MEMBRANE ROOFING
- 3.1. Modified bituminous and PVC membrane roofing system including, but not limited to flashing membrane, base ply flashing membrane, flashing cement, termination bars, vented base sheet, liquid applied flashing membrane, cap sheet membrane, separation membrane, supports as noted at penetrations, counter flashing, substrate boards, vapor retarder, underlayment, roof insulation, walkway pads, reglets, adhesives, fasteners, sealants, caulking, and accessories necessary for a complete system.
- 3.2. Coordinate with other Trades for roof penetrations.
- 3.3. Flashings at all penetrations shown on the Drawings for curbs, roof drains, roof curbs, hatches, vents, etc. to provide complete water tight system in accordance with manufacturers requirements and Specifications.
- 3.4. Roofing tie-in to roof drains and overflow drains per Subcontract Documents.
- 3.4.1. Remove excess membrane in roof drains and overflow drains to ensure that water flow is not restricted.
- 3.5. Lightweight insulating concrete system for roofs per Subcontract Documents.
- 3.5.1. Ensure that care is maintained while placing the lightweight insulated concrete, to include plastic protection of any adjacent surfaces prior to installation, including but not limited to cleaning of all dirtied surfaces, any concrete floors, metal surfaces, equipment.
- 3.6. Roof hatches per Subcontract Documents.
- 3.6.1. Roof hatch safety rail per Subcontract Documents.
- 3.7. All counterflashings, where roofing interacts with adjacent systems, ie metal panels.

Furnish receiver flashings to others for installation, including at Metal Panels, Brick Veneers, and other exterior finishes.

- 3.8. Underlayment, ice and water shield, or membrane to lap over a parapet wall to integrate in with the exterior wall air barrier system.
- 3.9. Roof curbs per Subcontract Documents. Ensure water tight.
- 3.9.1. Mechanical equipment curb per the details in the Subcontract Documents.
- 3.10. Gutters, downspouts, scuppers, splash blocks, an connection to storm piping per Subcontract Documents.
- 3.11. Overflow scuppers per Subcontract Documents.
- 3.12. All plywood and rigid insulation (behind roof system) where metal panels finish above roof system per Subcontract Documents.
- 3.13. Proper installation of roof system around roof drains and overflow must be maintained to ensure there is no ponding water.
- 3.13.1. Slope requirements per Subcontract Documents to prevent ponding of water on roof.
- 3.14. Coping cap, blocking, and fasteners per Subcontract Documents for CMU walls around condensing units, chillers, transformers, and generator in Service Yard.
- 3.15. Integration of parapet wall into roofing system.
- 3.15.1. Plywood/blocking as needed on the roofing side of the parapet wall. Plywood from deck to top of parapet wall.
- 3.15.2. Integration of roofing membrane/flashing with parapet wall membrane and flashing.
- 3.15.3. Blocking, fasteners, termination bars, sealants, flashings and coping cap to complete the top of the parapet wall conditions per the Subcontract Documents.

The following work is excluded:

1. Insulation defined in other scopes of work.
2. Joint sealants defined in other scopes of work.
3. Expansion control defined in other scopes of work.
4. Mechanical system louvers.
5. Expansion joint assemblies defined in other scopes of work.

SCOPE OF WORK 08A - DOORS, FRAMES AND HARDWARE

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

DOORS, FRAMES AND HARDWARE - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
081113	Hollow Metal Doors And Frames
081416	Flush Wood Doors
082130	Fiberglass Reinforced Polyester (FRP) Doors
087100	Door Hardware
089000	Louvers And Vents

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Miscellaneous clips, shims, fasteners, anchors, accessories, expansion anchors, and adhesives as required to complete the Work.
- 1.2. Utilize metal shims as required at fire-rated openings.
- 1.3. Receive, unload, and distribute materials. Include inventory, quantity verification, and damage inspection.
 - 1.3.1. Submit inventory list to Contractor.
- 1.4. Multiple deliveries, as necessary, per Schedule.
- 1.5. Coordinate rough-in requirements for doors and frames with electrical and security trades.
- 1.6. Include raceways within doors for electrified openings.
- 1.7. Installation templates for the Work.
- 1.8. Stockpile doors and frames in a secure manner.
- 1.9. Host a meeting focused specifically on electrified hardware coordination with Project's hardware consultant and interfacing trades.
- 1.10. Participate in pre-installation meeting prior to the installation of the finish hardware.
- 1.11. Participate in security coordination meetings.

2. DOORS FRAMES AND HARDWARE

- 2.1. Hollow metal door frames, hollow metal window frames, and sidelights. Coordinate

- with masonry and drywall trades. Installation by others.
- 2.2. Hollow metal doors. Installation by others.
- 2.3. Pre-finished] Wood doors. Wood doors to be prefinished on both faces and edges. Coordinate stockpiling location of doors with painting trade for doors requiring field finishing.
- 2.4. Temporary construction cores and keys.
- 2.5. Door hardware and accessories.
- 2.6. Electronic door hardware such as power supplies, power transfers, door contacts, door position switches, transformers, panic/exit devices, mag hold opens, automatic operators, and push buttons at hollow metal and wood doors. Identify any electrified hardware such as power supplies and door position switches that are provided by others.
- 2.7. Low-voltage wiring from electrified hardware to power transfer. Low-voltage wiring from the power transfer to the power supply by others.
- 2.8. Cores/cylinders at doors, including doors provided by others. This includes, but is not limited to, aluminum doors, all-glass doors, overhead doors, and coiling doors.
- 2.9. Window lites and louver grilles in hollow metal and wood doors.
- 2.10. Knox Boxes.
- 2.11. Factory-applied concealed or recessed material and smoke/draft control gasketing.
- 2.12. Keys and keying as required by the Subcontract Documents.
- 2.13. Foam block-outs for hardware in grouted hollow metal frames.
- 2.14. Adjust doors and hardware to ensure smooth operation while maintaining clearances.
- 2.15. Door hardware at existing or re-used doors and frames. Include machining and repair of existing doors and frames to receive new hardware. Re-certify fire rated openings.
- 2.16. Fabricate doors and frames to accommodate specified slab depressions and flooring systems.
- 2.17. Minimum of three (3) anchors per jamb to attach door frames to adjoining construction.
- 2.18. Rust inhibiting primer.
- 2.19. Mastic coating inside of hollow metal frames to be grouted.
- 2.20. Machine and prepare doors and frames to receive the specified hardware.
- 2.21. Labeling at fire-rated openings.
- 2.22. Label doors, frames, and hardware with the associated opening number.
- 2.23. Final door adjustment pre- and post-building air balance.

2.24. Preliminary adjustments at the time of installation as well as any adjustments required for final acceptance through the warranty period.

2.25. Early delivery of masonry frames.

2.26. Door and frame deliveries palletized by floor and building area.

2.27. Temporary frames, doors, locks, and hardware for all mechanical, electrical, data, sprinkler, and elevator equipment rooms along with all exterior openings.

2.28. Frames requiring electrical connections should be provided with the conduit installed.

2.29. Hardware installation.

3. LOUVERS AND VENTS

3.1. Architectural Louvers.

3.2. Sill pan with integral end dams set in mastic, jamb, head, and counter flashings at louver openings.

3.3. Exterior perimeter joint sealants between openings and all dissimilar materials.

The following work is excluded:

1. Access panels and doors.
2. Overhead coiling doors.
3. Aluminum or all-glass doors and associated hardware (except cylinders).
4. Card readers and door position switches.
5. Glass and glazing within doors and frames.
6. Expansion joint covers.

SCOPE OF WORK 08D - OVERHEAD AND COILING DOORS

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

OVERHEAD AND COILING DOORS - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
083300	Coiling Overhead Door
111313	Loading Dock Bumpers

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Unloading and distribution of material to be installed.
- 1.2. Quantity and damage inspection of materials once delivered to the Project.
- 1.3. Provide loading dock bumpers.

2. OVERHEAD AND COILING DOORS

- 2.1. Coiling counter doors, overhead coiling doors, folding fire doors, and sectional doors including, but not limited to [manual/power operator, control devices, guides, hood, motors, panels, hardware, seals, fasteners, and accessories required for a complete installation.
- 2.2. Low voltage hook-up and wiring required for a complete installation.
- 2.3. Door sills and weather stripping.
- 2.4. Relays, internal wiring components, and release devices for connection to fire alarm system. Coordinate with fire alarm subcontractor for connections and required hardware for proper door function.
- 2.5. Final fire testing and demonstration of proper operation as required by the applicable Authority Having Jurisdiction. Include adjusting and re-setting of fire doors upon completion of testing. Pretest doors prior to inspection.
- 2.6. Factory authorized service representative to perform start-up, demonstration, and training upon completion of installation.
- 2.7. Balancing and final adjustment of installed doors.
- 2.8. Installation of masterkeyed cylinders. Materials furnished by others.

The following work is excluded:

1. Hollow metal doors and frames.

2. Wood doors and frames.

3. 120V power to doors.

4. Structural overhead support.

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SCOPE OF WORK 08F - ENTRANCES, STOREFRONTS, CURTAINWALLS AND GLAZING

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SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

ENTRANCES, STOREFRONTS, CURTAINWALLS AND GLAZING - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
079200	Joint Sealants
084113	Aluminum-framed Entrances And Storefronts
087100	Door Hardware
088000	Glazing
088813	Fire-rated Glazing

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Delegated design Shop Drawings and calculations for curtainwall, storefront, entrance doors, and glazing per the Subcontract Documents.
- 1.2. All rigging, scaffolding, staging, temporary safety protection, personnel and material hoisting and small tools necessary to perform this Work.
- 1.3. Participate in "Pre-installation Meetings" to convene a minimum of one week prior to commencing Work.
- 1.4. Provide submittals per the Subcontract Documents.
- 1.5. Coordination, assistance, access and equipment necessary for water/air quality testing of window systems.
- 1.6. Miscellaneous clips, shims, fasteners, anchors, and accessories required for a complete installation of the Work of this Scope.
- 1.7. Mock-ups per the Subcontract Documents. Mock-ups can be incorporated into the completed construction per the requirements within the Subcontract Documents.
- 1.8. Samples per the Subcontract Documents.
- 1.9. Shop Drawings in advance and prior to framing of exterior openings.
 - 1.9.1. If Shop Drawings can't be provided in advance, coordinate with the exterior framing subcontractor to establish guaranteed openings. Finish openings will be constructed with a reasonable dimension for caulk joints (to be established by Architect).

- 1.10. All blocking requirements prior to wall enclosure.
- 1.11. Field measurements prior to releasing material for fabrication.
- 1.12. Dimensioned layout drawings for embeds to be installed by others.
- 1.13. Remove labels, stickers, temporary coverings, excessive sealants, dirt, and debris from glass and aluminum surfaces.
- 1.14. Attic stock materials.
- 1.14.1. Store offsite until requested at close out. When requested by Owner and Contractor, deliver attic stock materials to location requested by the Owner.
- 1.14.2. No attic stock to be stored on site or in the building during construction.
- 1.15. Closeout Documents per the Subcontract Documents.
- 1.16. Quality assurance and testing per the Subcontract Documents.
- 1.17. Pre-punch of curtainwall, storefront, windows, and glazing systems for compliance.
- 1.18. Inspect interior air and vapor barrier after installation, prior to installation of interior finishes, to ensure it is complete, properly sealed, and free of holes and other defects.
- 1.19. Temporarily protect finished materials upon completion of this Scope of Work. Remove protection immediately prior to Substantial Completion.
- 1.20. General daily cleanup and trash removal of debris.
- 1.21. At the time of "dry-in" as established by the Contractor all openings must be enclosed. Temporary measures approved by the Contractor may be accepted if permanent enclosures are not in place. Temporary measures must be capable of maintaining adequate temperature and humidity conditions. Provide maintenance of temporary enclosures.
- 1.22. Weather protection if there is missing or damaged glazing caused by this Subcontractor.

2. ENTRANCES, STOREFRONTS, AND CURTAINWALLS

- 2.1. Aluminum framed entrances and storefronts, all-glass entrances, door hardware, curtain walls, glass and glazing as indicated.
- 2.2. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
- 2.3. Framing members, sill pan, cap extender, backer plates, brackets and reinforcements, perimeter fill, gaskets, sealants, backer rod, flashings, fasteners, break metal, and miscellaneous accessories needed to provide a complete and water-tight system per the Subcontract Documents.
- 2.4. Primary and secondary sealing and caulking.

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- 2.5. Swinging automatic entrances and doors.
 - 2.6. Door hardware and automatic operators for aluminum doors and all-glass entrance doors. Machine doors to receive hardware. Keying and cores/cylinders by others.
 - 2.7. Automatic door openers with pedestal and button for aluminum framed entrances and storefronts.
 - 2.7.1. All hardware for automatic doors required to provide functioning system per the Subcontract Documents.
 - 2.8. Low voltage hook-up and wiring required for a complete installation.
 - 2.9. All power supplies as shown in the Subcontract Documents. Power supplies should be mounted to a box provided by others. Line voltage is by others. All low voltage wiring to doors, frames and electrified hardware for applicable openings, including all terminations. Coordination and integration as required between Work and other related Work.
 - 2.10. Coordinate dimensions of openings storefront/glazing with the metal panel Subcontractor.
 - 2.11. Sill pan with integral end dams set in mastic, jamb, head, and counter flashings at all window openings. Exposed flashings shall match window finish.
 - 2.12. Protect aluminum sills after installation and remove.
 - 2.13. Raceways and conduit integral to aluminum framing members for electric door hardware, security systems, access control, and automatic operators per the Subcontract Documents.
 - 2.14. Furnish embeds to be cast into concrete assemblies. Embed installation by others.
 - 2.15. Miscellaneous steel to brace and/or support assemblies installed. Steel that is shown and sized on the Structural Drawings will be by others.
 - 2.16. Anchors and clips used to support aluminum framing members to be concealed behind adjacent interior finishes.
 - 2.17. Flexible flashings and silicone transition assemblies installed in conjunction with or after exterior curtainwall, storefront, or entrance systems are installed.
 - 2.18. Intermediate and corner mullion wraps at installed assemblies. Finish and color to match adjoining materials.
 - 2.19. Exterior perimeter joint sealants between windows and dissimilar materials.
 - 2.20. Sealant of perimeter around window/storefront opening to the air barrier per Subcontract Documents.
 - 2.21. Insulated framing members per the Subcontract Documents.
 - 2.22. Fire rated glazing per the Subcontract Documents.
 - 2.23. Blocking for entrances, storefronts and curtainwall systems must be furnished and installed. Early mobilizations may be required to install this blocking.

3. INTERIOR GLAZING

- 3.1. Interior aluminum storefront, interior windows, glass walls, glazing, glazed entrances, safety glazing, fire rated glazing, float glass, one-way vision glazing, insulating glass, and mirrors as indicated.
- 3.2. Interior perimeter joint sealants between windows and dissimilar materials.
- 3.3. Tempered glass per the Subcontract Documents.
- 3.4. Glass and glazing within hollow metal and wood doors and frames.
- 3.5. Hollow metal frames and glazing for interior windows.
- 3.6. Bond breakers as required.

The following work is excluded:

1. Joint sealants in other scopes of work.
2. Flashings in other scopes of work.
3. Final cleaning of windows, storefront, and aluminum doors.
4. Glass railings.
5. Glass in architectural woodwork or furniture items, unless specifically listed above.
6. Mirrors specified in Division 10.
7. Hollow metal doors and door frames.
8. Wiring and final connections of security system contacts.

SCOPE OF WORK 09A - DRYWALL, FRAMING, AND SHEATHING

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

DRYWALL, FRAMING, AND SHEATHING - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
054000	Cold Formed Metal Framing
061053	Miscellaneous Rough Carpentry
061600	Sheathing
072100	Thermal Insulation
078413	Penetration Firestopping
078446	Fire-resistive Joint Systems
079200	Joint Sealants
079500	Expansion Control
081113	Hollow Metal Doors And Frames
083113	Access Doors And Frames
092119	Gypsum Board Shaft Wall Assemblies
092216	Non-structural Metal Framing
092713	Glass Fiber-reinforced Gypsum Fabrications
092900	Gypsum Board

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Mock ups as specified. The mock up will utilize the equipment and materials as specified for the building construction to better control quality, fit, and finish.
- 1.2. Attach supports to steel structure prior to application of fireproofing. Patch fire proofing that is disturbed if supports are installed following fire proofing.
- 1.3. Building Information Modeling (BIM) per Front End Manual.
- 1.4. Schedule inspections as required for the Work with the Authority Having Jurisdiction and Contractor.
- 1.5. Multiple mobilizations as required to properly install the Work as rated assemblies are constructed.
- 1.6. Repair or replace assemblies as required from third-party performance testing.
- 1.7. Delegated design by an engineer licensed in the state where the Project is located for

structural cold formed metal framing systems and/or non-structural metal framing systems. Submit stamped and sealed drawings for approval.

1.7.1. Inspection of systems by licensed professional in the state where the Project is located.

1.8. Upon completion of taping and plaster work, remove excess taping compound and plaster. Sweep floors clean with dust collecting compound.

1.9. Clean floor tracks of debris prior to installing gypsum board.

1.10. Coordinate layout of openings through partitions as wall framing progresses, including opening size, elevation, and horizontal dimensioning based on column or wall centerlines.

1.11. Coordinate top-out of partitions at priority walls (as determined by Contractor) with others.

1.12. Tagging, signage and stenciling of walls as it pertains to this Scope of Work including stenciling of all rated walls, smoke walls and STC rated walls

2. FIRESTOPPING AND ACOUSTICAL SEALANTS

2.1. Firestopping and acoustical sealants at top, bottom, and vertical joints of gypsum board assemblies and penetrations.

2.2. Fire track assemblies for metal stud framing.

2.3. Underwriters Laboratories (UL) labeling of all penetrations with UL system information, Subcontractor information, installation date, and name of installer.

2.4. Submit documentation of completed firestopping or smoke safing assemblies to Contractor at time of overhead punch list of each area with a completed list at close-out.

2.5. Penetrations through fire-resistance-rated floor, roof, shaft, and wall assemblies.

2.6. Membrane penetrations in fire-resistance-rated wall assemblies where items penetrate one side of the barrier.

2.7. Joints in fire-resistance-rated assemblies to allow independent movement.

2.8. Joints, through penetrations, and membrane penetrations in smoke barriers, smoke partitions, and those assemblies required to limit, restrict, or resist the passage of smoke.

2.9. Perimeter of the horizontal fire-resistance rated assembly and exterior wall between a rated floor or roof and an exterior wall assembly.

2.10. Partition labeling of smoke-fire-resistance-rated and acoustically-rated assemblies. Prior to stenciling of rated assemblies, thoroughly inspect each and confirm all rated assemblies are intact. Following verification and stenciling of walls, schedule applicable inspections.

3. FRAMING, SHEATHING AND DRYWALL

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- 3.1. Structural cold formed metal framing, light gauge metal trusses, exterior sheathing, and miscellaneous clips, shims, fasteners, anchors, and accessories required for a complete installation. Includes areas such as exterior walls, soffits, ceilings, parapets, exterior columns, and other locations indicated.
 - 3.2. Gypsum wallboard assemblies, including, but not limited to, light gauge metal framing, furring channels, light gauge trusses, bracing, slip track, fire track, compressible gaskets, concealed sealants, insulation, gypsum board, expansion joints, control joints, reveals, and taping and sanding.
 - 3.3. Gypsum board ceiling suspension, framing, trim, bracing, hangers, miscellaneous clips, shims, fasteners, anchors, and accessories. Include additional framing for sprinkler heads, diffusers, chilled beams, grilles, and other mechanical and electrical components. Includes necessary supplemental framing to provide a complete system. Coordinate ceiling framing with others and as part of BIM process.
 - 3.4. Shaftwall assemblies, including horizontal enclosures.
 - 3.5. Thermal insulation, including batt, sound, and rigid insulation (except as noted otherwise).
 - 3.6. Clear anodized aluminum drywall J molding similar to B5/A05.62. Coordinate with Contractor for work sequence with other trades.
 - 3.7. Framing for millwork scope similar to details on A05.62. Provide in-wall stiffening or miscellaneous steel necessary to brace the walls.
 - 3.8. Inventory, handle, unload, and distribute door frames, doors, and hardware. Verify deliveries for accuracy.
 - 3.9. Install hollow metal door and window frames in gypsum board partitions. Frames are to be set initially plumb, level, and square within tolerances using plum level square (PLS) Frame Set device. Fill frames with grout or insulation specified. Recheck for PLS following installation and provide documentation to Contractor. Frames furnished by others.
 - 3.10. Install access doors. Doors furnished by others. Coordinate quantities and locations with others prior to framing.
 - 3.11. Weld light gauge metal framing.
 - 3.12. Non-corrosive fasteners for attachment to treated lumber.
 - 3.13. Tile backer board (cement board) and joint sealant at wet wall locations or locations where tile is installed.
 - 3.14. Where tile is installed, deflection of wall shall meet Contract Documents requirements or $L/270$, whichever is more stringent.
 - 3.15. Fiberglass faced gypsum board or moisture-resistant board when installation is required prior to the building being watertight. Acceptance of temperature and humidity conditions in which installation will occur. This includes areas such as top rock (top-out), shaft walls, electrical room partitions, and interior face of exterior walls. Wall top-out is to be defined as starting 6" above the finish ceiling.

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- 3.16. Compressible filler, gaskets, and rigid insulation where drywall meets exterior glass or window mullions.
 - 3.17. Wall and ceiling control and expansion joints and covers in drywall. Coordinate with others.
 - 3.18. Isolation where framing meets structural components.
 - 3.19. Hold drywall (5/8") off floor to prevent water from wicking. caulk bottom of wall to allow an acceptable substrate for flooring base to be installed.
 - 3.20. Expansion, control, and construction joint assemblies. Drywall is to be held 5/8" off the floor to avoid moisture issues. Once prime painting is complete that gap is to be filled with acoustical or fire sealant. This sealant must be struck smooth to allow a smooth installation of flooring base material.
 - 3.21. Interior expansion joints (including joint fillers) and expansion joint covers are to be included.
 - 3.22. Wall and ceiling Insulation. Includes sound insulation and sound rated sealant for both walls and drywall ceilings.
 - 3.23. Wood blocking and metal strapping where required, including but not limited to in-wall, above ceiling, window perimeters, window treatments / shades, equipment, and specialties.
 - 3.24. Coordination as necessary to receive approvals on blocking locations and extent from WCPSS Technology services or other Owner representatives prior to hanging drywall.
 - 3.25. Provide exterior wall plywood blocking at exterior mounted signage, equipment, and devices. Coordinate final locations with others.
 - 3.26. Daily dust control and clean-up of all areas of Work. Trash to be taken to dumpsters daily and areas broom swept using floor sweeping compound.
 - 3.27. FRP (fiberglass reinforced polyester) and associated caulking.
 - 3.28. Provide temporary window infill until permanent windows can be installed.
 - 3.29. Spray foam associated with drywall assemblies.
 - 3.30. Compressible fill at drywall assemblies.
 - 3.31. Two (2) drywall finishers for 1 month of time for miscellaneous patch and repair at the Construction Manager's discretion.
4. TAPE AND BED
- 4.1. Taping of exterior sheathing joints.
 - 4.2. Tape, bed, sand, and finish gypsum board systems, including at recessed light fixtures. Sanding of drywall to be performed mechanically with dust collecting equipment.
 - 4.3. Tape and float behind tile, including glass mat and fibermesh tape.

- 4.4. Tape and float walls to deck, including above ceilings.
- 4.5. Tape and float drywall in mechanical and electrical spaces in levels indicated.
- 4.6. Firetape at rated walls.

The following work is excluded:

1. Joint sealants defined in other scopes of work.
2. Expansion joints and covers defined in other scopes of work.
3. Weather barrier systems defined in other scopes of work.
4. Installation of doors and hardware.

SCOPE OF WORK 09B - PAINTING AND WALLCOVERING

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

PAINTING AND WALLCOVERING - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
079200	Joint Sealants
097200	Wall Coverings
099113	Exterior Painting
099123	Interior Painting

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Surface preparation for the Work of this Scope.
- 1.2. Accepting all substrates prior to commencement of Work. Any deficiencies requiring corrective Work shall be provided to Contractor in writing prior to commencing the work. Failure of the Subcontractor to report any deficiencies, as it relates to acoustical treatment, will be deemed as acceptance.
- 1.3. Clean bedding and paint residue from floor and adjacent surfaces daily. Remove overspray.
- 1.4. Clean-up and disposal of paint and cleaning material including disposal, off-site, of paint and cleaning agent cans. Disposal of products in site inlet grates is not allowed.
- 1.5. "Wet Paint" signs to protect newly coated surfaces. Remove and dispose temporary protection, including protection provided by others to protect work, after completing the Work of this Scope.
- 1.6. Reasonable touch-up immediately prior to punch-list activities.
- 1.7. All submittals, other than samples, are to be transmitted electronically in PDF format. Samples to be delivered on hand as required.
- 1.8. Participation in Contractor's punch-list protocol

2. INTERIOR COATINGS

- 2.1. Interior painting including, but not limited to, surface preparation, block fillers, primers, sealers, paints, coatings, high performance coatings, and stains.
- 2.2. Prepare and paint items identified to receive field applied coatings, field or shop finishing of any unfinished wood or metal items, access doors, exposed MEP items, or exposed structure.

- 2.3. Prepare and stain items identified to receive field applied or shop staining, including, but not limited to millwork, cedar boards, wood stair nosing.
- 2.4. Prepare and paint interior exposed steel items including, but not limited to, metal decking, beams, columns, joists, other structural steel members, handrails, stair stringers and treads, guardrails, and any other exposed miscellaneous steel items.
- 2.5. Prepare and paint ductwork, piping, fire suppression piping, standpipes, grilles, diffusers, supports, and electrical items where exposed to view. Mask labels on MEP equipment prior to painting.
- 2.6. Prepare and paint sides and edges of plywood for electrical and communications equipment prior to installation, and touch-up following installation.
- 2.7. Apply prime and first coat of paint prior to ceiling grid and room finish work. Apply final coat of paint following installation of room finishes, except for floor base and outlet covers.
- 2.8. Utilize epoxy paint at wet locations to receive paint, included but not limited to group bathrooms.
- 2.9. Sealed concrete.
- 2.10. Joint sealants:
- 2.10.1. Interior cosmetic caulking including, but not limited to, hollow metal door/window frames (interior and exterior), interior side of exterior aluminum windows and storefront, millwork and casework items to drywall and any joint to painted surface that calls for cosmetic caulk joint.
 - 2.10.2. Vertical control and expansion joints on exposed interior surfaces of exterior walls.
 - 2.10.3. Vertical joints on exposed surfaces of interior unit masonry walls and partitions
 - 2.10.4. Interior perimeter joints of exterior openings.
 - 2.10.5. Perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
 - 2.10.6. Between interior wall surfaces and casework.
 - 2.10.7. Acoustical interior joints for exposed and concealed joints.

3. WALLCOVERING

- 3.1. Wallcovering, Tackable Wall Covering and Wood-Veneer Wall Covering, including surface preparation and sealers, adhesive manufactured expressly for use with selected wallcoverings, and test panels.
- 3.2. Wallcovering shall be installed following casework and ceilings.

4. EXTERIOR PAINTING AND STAINING

- 4.1. Exterior painting and staining including, but not limited to, surface preparation, block

fillers, primers, sealers, paints, coatings, high performance coatings, and stains.

- 4.2. Prepare and paint exterior site items including, but not limited to, railings, bollards, gates, metal stairs, guards, cable rails, light pole bases, loading dock steel angels, Project specific items, and all other items not indicated to be factory finished.
- 4.3. Prepare and paint exterior metals not specified as prefinished including, but not limited to, brick shelf angles and lintels, hollow metal doors and frames, flashing, sheet metal, and aluminum.
- 4.4. Touch up of galvanizing at connections.
- 4.5. Prepare and paint ductwork, piping, fire suppression piping, standpipes, grilles, diffusers, supports and electrical items where exposed on roof or exterior of building (and not called to be prefinished) as noted on the Subcontract Documents.
- 4.6. Vapor permeable paint to exterior painting scope. Included but not limited to paint at CMU.

5. CONCRETE SEALER

- 5.1. Concrete floor sealer on exposed concrete floors as indicated (SCN-1). Clean and prepare floor (mopping, buffing, sanding) prior to application of sealer. Scraping of drywall mud by others. Close off drains and other penetrations when applying floor sealer.

The following work is excluded:

1. Temporary heat and enclosures for this Work.
2. Joint sealants defined in other scopes of work.
3. Pavement markings, striping, and signs.
4. Taping of exterior sheathing joints.
5. Skimming or grinding concrete.
6. Fire resistant coatings.
7. Supply/ install wall and corner guards.
8. Game and sport markings on athletic flooring.

SCOPE OF WORK 09C - TILING**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

TILING - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
033000	Cast In Place Concrete For Bldgs
079200	Joint Sealants
093000	Tiling

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Verify substrates are acceptable for installation of material including surface conditions, compatibility with existing finishes, and bonding prior to the start of the Work. Confirm flatness of subsurfaces before beginning the installation of this Scope of Work.
- 1.2. Hoisting, lifting, scaffolding, and equipment required to complete this Scope of Work.
- 1.3. Test slab moisture content, pH, and vapor testing per Specification and manufacturer's recommendations (minimum of both calcium chloride and relative humidity test) prior to the start of the Work. Submit documentation to Contractor.
- 1.4. Confirm concrete admixtures to be used at finish flooring locations and coordinate with flooring manufacturer recommendations. Provide floor sealant as necessary to meet flooring manufacturer requirements for floor preparation.
- 1.5. Clean concrete floor (including, but not limited to, mopping, buffing, sanding, and bead blasting for acceptable substrate) prior to installation of flooring. Scraping of drywall mud by others.
- 1.6. Floor preparation, including, trowelable underlayments and patching compounds, as required to meet flooring manufacturer requirements and per ACI floor flatness and levelness standards. Reference Division 3 for specified floor flatness and levelness requirements provided by others. Floor preparation includes concrete joints, repair of chips or dings, and deviations in elevation outside the specified levels. Work also includes transitions between rooms and doorways.
- 1.7. Field mock-up of each type and manufacturer of flooring with each manufacturer's technical representative (in addition to specified mock-ups). Review field mock-ups with Contractor.
- 1.8. Joint sealants in expansion, contraction, control, and isolation joints in finished surfaces.

- 1.9. Protection of finished Work to include reinforced paper/Masonite/ram board at full width of corridors, lobbies, and high traffic areas as directed by Contractor. Use non-marking tape and maintain protection until punch-list activities begin. Remove and dispose of protection material as directed by Contractor.
- 1.10. Unless noted otherwise, at doorways, center seams and floor transitions shall be placed under the door when in the closed position.
- 1.11. Cut flooring materials to fit tightly to vertical surfaces, permanent fixtures, and built-in furniture including, but not limited to, cabinets, fixtures, pipes, outlets, edgings, thresholds, nosings, and storefront.
- 1.12. Daily cleanup of work area. Trash, scrap pieces of materials, and other accumulation shall be cleaned up and disposed of.
- 1.13. Confirm slopes to drains before beginning the installation of this Scope of Work.
- 1.14. Polished cuts and cores for receptacles, switches, plumbing fixtures, and penetrations.
- 1.15. Finishing and/or sealing of finished product.
- 1.16. Caulk inside corners in lieu of grout.
- 1.17. Provide extra materials per Subcontract Documents.
- 1.18. Shop Drawings and Submittals as required per Specifications.
- 1.19. Submittals, other than Samples, are to be transmitted electronically in PDF format.
- 1.20. Operation and Maintenance Manuals and warranty documents as required per Specifications.
- 1.21. As-Built Drawings will be subject to random inspection during construction.
2. **TILE AND STONE WORK**
- 2.1. Floor, wall, base, thresholds, special shapes, and trim ceramic/stone/marble tile, including setting and grouting materials for tile, mortar, trowelable underlayment, waterproofing and crack isolation membranes, sealing of grout joints, transition strips, metal edge strips, and grout release.
- 2.2. Kitchen quarry tile floors and base.
- 2.3. Wall preparation, including wall sanding, edge and reducer strips, metal termination strips between wall materials, primers, adhesives, setting mortar, and other miscellaneous items required. The Work includes any wall fill or leveling compound required at wall joints.
- 2.4. Task lighting necessary for the installation of this Scope of Work.
- 2.5. Properly prepare substrate(s) prior to installation of this Scope of Work. Any non-conforming surface shall be promptly reported to Contractor field supervision in writing for resolution.
- 2.6. Final cleaning of newly installed tile Scope of Work with materials and means

acceptable to Contractor and per manufacturer recommendations include temporary ventilation in all areas of this Scope of Work if necessary, during cleaning operations.

- 2.7. Coordinate cutouts and penetrations thru tile with drywall, mechanical, electrical subcontractors. Penetration collar, escutcheon, mastic, and sealants will be provided by those subcontractors.
- 2.8. Proper field material tagging so Subcontract Documents, Shop Drawings, and actual material can be cross-referenced and identified.
- 2.9. Coordinate and comply with third party testing agency requirements for all tests to be performed during the Scope of this Work.
- 2.10. All factory finishes on materials as required.
- 2.11. Coordinate joint and tile layout prior to installation. Ensure that tile layout maximizes tile size and limits use of partial tiles per Subcontract Documents.
- 2.12. Coordinate final finished floor height for floors to match the adjacent floors. Install floor prep/leveling as required to ensure a smooth transition that is acceptable to the Architect, Owner & Engineer and that is Americans with Disabilities Act Compliant.
- 2.13. Coordinate with other floors and finish subcontractors at all transitions between this Scope and others.

The following work is excluded:

1. Floor expansion joint covers.
2. Temporary heat and enclosures.
3. Joint sealants defined in other scopes of work.

SCOPE OF WORK 09D - TERRAZZO**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

TERRAZZO - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
079200	Joint Sealants
096623	Resinous Matrix Terrazzo Flooring

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Verify substrates are acceptable for installation of material including surface conditions, compatibility with existing finishes, and bonding prior to the start of the Work. Confirm flatness of sub surfaces before beginning the installation of flooring.
- 1.2. Test slab moisture content, pH, and vapor testing per Specification and manufacturer's recommendations (minimum of both calcium chloride and relative humidity test) prior to the start of the Work. Submit documentation to Contractor.
- 1.3. Concrete vapor sealer at terrazzo.
- 1.4. Clean concrete floor (including, but not limited to, mopping, buffing, sanding, and bead blasting for acceptable substrate) prior to installation of all types of flooring. Scraping of drywall mud by others.
- 1.5. Floor preparation including, trowelable underlayments and patching compounds as required to meet flooring manufacturer requirements. Reference Division 3 for specified floor flatness and levelness requirements provided by others. Floor preparation includes concrete joints, repair of chips or dings, and deviations in elevation outside the specified levels. Work also includes transitions between rooms, doorways, and transitions from new to existing.
- 1.6. In addition to specified mock-ups, a field mock-up of each type and manufacturer of flooring with each manufacturer's technical representative to be reviewed with Contractor and Design Team.
- 1.7. Joint sealants in expansion, contraction, control, and isolation joints in terrazzo surfaces.
- 1.8. Protection of finish floor to include Masonite at full width of corridors, lobbies, and high traffic areas. Use non-marking tape, and maintain protection until punch-list activities begin. Remove and dispose of protection material as directed by Contractor.
- 1.9. Unless noted otherwise, at doorways, center seams and floor transitions shall be placed under the door when in the closed position.

1.10. Ventilation and air flow as required.

2. TERRAZZO

- 2.1. Floor, base, thresholds, treads, landings, and trim terrazzo, including setting materials, underlayment, crack isolation membranes, sealing of joints, divider, and control strips, metal edge strips, sealers, and other accessories for a complete installation.
- 2.2. All leveling compounds or grind imperfections in concrete slabs prior to installation of resinous flooring in accordance with the manufacturer's recommendations based on the specified level of finish for concrete.
- 2.3. Dust control and protection of other materials during grinding/bead blasting activities.
- 2.4. Provide block-outs in flooring system for other's scopes of work.
- 2.5. Radius transitions to be approved by architect and contractor before pouring flooring.
- 2.6. Coordinate joints to adjacent flooring finishes with other Subcontractors.
- 2.7. Where terrazzo flooring transitions to other flooring finishes in doorways, ensure that the joint is under the door when in the closed position.
- 2.8. Where terrazzo flooring abuts vertical materials installed by others, ensure a clean, flush, and level edge. Edge of terrazzo to abut tightly to adjacent surfaces. Any gaps to be caulked with caulking that matches the color of the terrazzo and approved by the design team.
- 2.9. Terrazzo to be finished to a smooth condition and sealed.
- 2.10. Provide in place mockup with caulking to be approved by design team.
- 2.11. Remove and replace any terrazzo that does not bond with substrate. Any removed terrazzo shall be cut out in panels defined by strips and replaced to match adjacent terrazzo.
- 2.12. Joint sealants for this Work.

The following work is excluded:

1. Temporary heat and enclosures.
2. Flashing and waterproofing.
3. Major floor preparation (self-leveling and grinding of subfloor) above and beyond preparation defined in inclusions.
4. Joint sealants in other scopes of work.
5. Final cleaning.

SCOPE OF WORK 09F - ACOUSTICAL CEILINGS AND WALL TREATMENTS

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

ACOUSTICAL CEILINGS AND WALL TREATMENTS - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
095113	Acoustical Panel Ceilings
095426	Suspended Wood Ceilings
097713	Stretched-fabric Wall Systems

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Accepting all substrates prior to commencement of Work. Any deficiencies requiring corrective Work shall be provided to Contractor in writing prior to commencing the work. Failure of the Subcontractor to report any deficiencies, as it relates to acoustical treatment, will be deemed as acceptance.
- 1.2. Field verify existing conditions for deficiencies, unsatisfactory conditions, unacceptable dimensional tolerances, and notify the Contractor of such prior to installing Work.
- 1.3. Subcontractor shall store materials in a safe manner which will be secure, dry, and permit easy access for inspection and identification. Location shall be coordinated with the Contractor prior to delivery.
- 1.4. Coordinate bulkhead details and interfacing sheetrock ceilings with acoustical ceilings.
- 1.5. Non-corrosive fasteners for attachment to treated lumber.
- 1.6. Required fasteners and equipment for complete installation.
- 1.7. Coordinate ceiling heights with others.
- 1.8. Protect the Work of other trades and existing facilities from damage by Work performed under this Scope of Work, excluding out of sequence Work.
- 1.9. On-site representation for receipt of all deliveries to include offloading.
- 1.10. Storage space is limited and not guaranteed, and if such storage is allowed, all items shall be relocated as necessary for the progress of the Work as determined by the Contractor.
- 1.11. All Shop Drawings, Submittals and Mockups as required.

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- 1.12. Participation in Contractors punch-list protocol is a requirement of this Subcontract Agreement.
 - 1.13. Attendance at all jobsite meetings, including but not limited to, progress meetings, foremen's meetings, pre-installation, and MOP (method of procedure) is mandatory, for the duration of the Subcontractor's Scope of Work or as long as Work within this Scope is pertinent to planning and coordination of other trades.
 - 1.14. All specialty ceilings of all types as shown on building plans, elevations, details, and sections. Include all supports, hangers, wire, channels, studs, braces, anchors, trim, corners, accessories, and sealants for a complete installation as indicated by the Subcontract Documents.
 - 1.15. Cut outs and patching in acoustical ceilings / wood ceilings for others.
 - 1.16. Include attic stock and extra materials per the specifications, or at least 3% of installed quantities and at least one of each material, whichever is more stringent.
2. ACOUSTICAL CEILINGS AND TREATMENTS
- 2.1. Acoustical ceiling system, including, but not limited to, suspension system, including hangers and wire, metal grid system, acoustical ceiling tile, seismic wiring for lighting, vertical closures where ceilings do not terminate at walls, expansion / control joints, trim, additional ceiling supports, clips, shims, fasteners, anchors, and accessories.
 - 2.2. Thermal insulation located above acoustical ceiling tile ("ACT") ceiling (if applies).
 - 2.3. Acoustical sealants in acoustical ceiling systems, including caulking of ceiling grid where indicated (if applies).
 - 2.4. Acoustical ceiling expansion joints and covers.
 - 2.5. Trapeze style supports as required to coordinate with overhead MEP (Mechanical/Electrical/Plumbing) obstructions.
3. ACOUSTICAL WALL PANELS
- 3.1. AWP pattern as noted on the drawings included but not limited to A04.49 detail A5
4. WOOD CEILINGS
- 4.1. Wood ceiling system, including, but not limited to, suspension system and support angles, including hangers and wire, seismic wiring for lighting, vertical closures where ceilings do not terminate at walls, expansion / control joints, trim, additional ceiling supports, clips, shims, fasteners, anchors, and accessories.
 - 4.2. Thermal insulation located above wood ceiling (if applies).

The following work is excluded:

1. Thermal insulation defined in other scopes of work.
2. Joint sealants defined in other scopes of work.
3. Firestopping assemblies.
4. Expansion joints and covers defined in other scopes of work.

5. Temporary heat and enclosures for this Work.

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SCOPE OF WORK 09H - FLOORING**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

FLOORING - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
079500	Expansion Control
096400	Wood Stage Flooring
096513	Resilient Base and Accessories
096520	Resilient Tile Flooring
096543	Linoleum Flooring
096566	Resilient Athletic Flooring
096813	Tile Carpeting

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Project Submittals, including Samples, within fourteen (14) calendar days of notice to proceed or receipt of Subcontract, whichever chronologically occurs first.
- 1.2. Store materials in a safe manner which will be secure, dry, and permit easy access for inspection and identification. Location shall be coordinated with the Contractor prior to delivery.
- 1.3. Proper field material tagging so Subcontract Documents, Shop Drawings, and actual material can be cross-referenced and identified.
- 1.4. On-site representation for receipt of all deliveries to include offloading.
- 1.5. Contractor's representative must be on site any time Work is being performed.
- 1.6. Hoisting, lifting, scaffolding, and equipment required to complete this Scope of Work.
- 1.7. All surveying, layout and field verification as required to complete this Scope of Work.
- 1.8. Verify substrates are acceptable for installation of material including surface conditions, compatibility with existing finishes, and bonding prior to the start of the Work. Confirm flatness of subsurfaces before beginning the installation of this Scope of Work.
 - 1.8.1. Notify Contractor in writing prior to starting Scope of Work of deficiencies found.
- 1.9. Test slab moisture content, pH, and vapor testing per Specification and manufacturer's

recommendations (minimum of both calcium chloride and relative humidity test) prior to the start of the Work. Submit documentation to Contractor.

- 1.10. Confirm concrete admixtures to be used at finish flooring locations and coordinate with flooring manufacturer recommendations. Provide floor sealant as necessary to meet flooring manufacturer requirements for floor preparation.
- 1.11. Clean concrete floor (including, but not limited to, mopping, buffing, sanding, and bead blasting for acceptable substrate) prior to installation of flooring. Scraping of drywall mud by others.
- 1.12. Floor preparation, including, trowelable underlayments and patching compounds, as required to meet flooring manufacturer requirements and ACI standards. Reference Division 3 for specified floor flatness and levelness requirements provided by others. Floor preparation includes concrete joints, repair of chips or dings, and deviations in elevation outside the specified levels. Work also includes transitions between rooms and doorways.
- 1.13. Field mock-up of each type and manufacturer of flooring with each manufacturer's technical representative in addition to specified mock-ups. Review field mock-ups with Contractor.
- 1.14. Joint sealants in expansion, contraction, control, and isolation joints in finished surfaces.
- 1.15. Protection of finished Work to include Ramboard or cardboard at full width of corridors, lobbies, platform stage, Play Room, and high traffic areas as directed by Contractor. Use non-marking tape and maintain protection until punch-list activities begin. Remove and dispose of protection material as directed by Contractor.
- 1.16. Protect the Work of other trades and existing facilities from damage by Work performed under this Scope of Work.
- 1.17. Daily cleanup of all rubbish generated in the execution of their work including sorting of waste and recyclables and depositing into appropriate containers. Subcontractor acknowledges that accumulation of debris constitutes an unsafe condition and that, upon written or verbal notice, Subcontractor will immediately mobilize adequate manpower to correct the unsafe condition. Since accumulation of debris creates an unsafe working environment, Subcontractor understands and acknowledges the 3-day notification requirement is not applicable.
- 1.18. Unless noted otherwise, at doorways, center seams and floor transitions shall be placed under the door when in the closed position.
- 1.19. Cut flooring materials to fit tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, fixtures, outlets, edgings, thresholds, storefront and nosings.
- 1.20. Cut outs for other trades including layout, protection of materials and finishes, and handling and distribution of materials. Finish rings and other finish accessories by others.
- 1.21. Sanding and finish for wood flooring systems. Dust control and protection of other

materials during sanding activities.

- 1.22. Protection of delivered material prior to installation, including, but not limited to, plastic tarps, heaters, and elevated storage surface.
- 1.23. Do not install finished flooring over layout markings on floor that may bleed through flooring products. If encountered, notify Contractor prior to installation.
- 1.24. Bind or seal cut edges.
- 1.25. Attic Stock to owner of as required per each spec section.
- 1.26. Caulk top of floor base.
- 1.27. Transition strips at doorways or floor material changes as shown on the Subcontract Documents. Coordinate with the tile and resinous matrix terrazzo flooring, and resinous flooring subcontractors for transitions at doorways or at material changes.
- 1.28. Tie into / finish flooring materials at expansion joints and expansion joint covers in the floor assembly which occur in your Work as shown on the Subcontract Documents.
- 1.29. Perform final cleaning of newly installed flooring and carpet work as specified with materials and means acceptable to the manufacturer and Contractor. Furnish ventilation in all areas of your Work if necessary, during cleaning operation.
- 1.30. All work is to be performed in accordance with manufacturers recommendations and Subcontract Documents.
- 1.31. Layout for this Scope of Work.
- 1.32. All materials are to be supplied by the approved manufacturer(s).
- 1.33. All patterns in flooring installations as required.

2. WOOD STAGE FLOORING

- 2.1. Wood flooring, including transition strips, underlayment, subfloor system, resilient pads, tempered high density fiberboard, plywood, oriented strand board, fasteners, trim pieces, cork spacers, expansion joints, and accessories per Subcontract Documents.
- 2.2. Insulated subfloor sheathing, plywood subflooring, and vapor barriers per Subcontract Documents.
- 2.3. Concealed fasteners. Ensure the compatibility of fasteners with the treated lumber, specifically galvanic reaction/corrosion.
- 2.4. Neoprene spacers/shims expansion anchored into concrete for a level finish elevation.
- 2.5. Finishing, sealing, and wood filler per the Subcontract Documents.

3. RESILIENT AND CARPET FLOORING

- 3.1. Carpet tile, sheet carpet, resilient tile, vinyl composition tile (VCT), rubber tile, vinyl tile, vinyl plank, sheet vinyl, PVC-Free Sheet Flooring, Linoleum flooring and base of all types as defined by the room finish schedule and as shown on building Drawings, elevations, details, and sections. Scope includes transitions, reducer strips, metal

termination strips between flooring materials, primers, adhesives, moisture test kits, carpet pad, underlayments, and other miscellaneous accessories per the Subcontract Documents.

3.2. VCT in elevator cab per the Subcontract Documents.

3.3. Resilient flooring per Subcontract Documents.

4. RESILIENT ATHLETIC FLOORING

4.1. Game lines, logos, and marker paint lines for athletic flooring. Coordinate line layouts and rough in requirements with others and the Owner via Contractor for gymnasium equipment.

4.2. Resilient Athletic Flooring, including transition strips, underlayment, backing, adhesives, fasteners, expansion and edge material, cork spacers, and accessories.

4.3. All required stripping, painted lines, lettering, logos, sealing, waxing, per Subcontract Documents.

5. EXPANSION JOINT COVER

5.1. Floor expansion joint cover including, but not limited to, fasteners and accessories per the Subcontract Documents.

5.2. Grouting of the floor expansion joint cover system per manufacturer details and recommendations.

The following work is excluded:

1. Temporary heat and enclosures.
2. Major floor preparation (self-leveling and grinding of subfloor) above and beyond preparation defined in inclusions.
3. Joint sealants defined in other scopes of work.

SCOPE OF WORK 10A - SPECIALTIES**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

SPECIALTIES - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
101100	Visual Display Units
101200	Display Cases
102113	Toilet Compartments
102123	Cubicle Curtains
102600	Wall And Door Protection
102800	Toilet Accessories
104400	Fire-protection Specialties
105113	Metal Lockers
105613	Storage Shelving
107326	Manufactured Walkway Covers
107516	Ground-set Flagpoles
109000	Miscellaneous Specialties
113100	Residential Appliances
115100	Library Furnishings
115213	Projection Screens
115700	Vocational Shop Equipment
116143	Stage Curtains
129300	Site Furnishings

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Provide permanent 2 yard trash and recycling co-mingled containers.
- 1.2. Miscellaneous clips, shims, fasteners, anchors, accessories, expansion anchors, and adhesives as required to complete the Work.
- 1.3. Coordinate Scope of Work with others prior to beginning the Work.
- 1.4. Field measure prior to fabrication and adjust Shop Drawings accordingly.
- 1.5. Rigging, scaffolding, lifts, staging, temporary safety protection, personnel and material hoisting and small tools necessary to perform this Work.
- 1.6. Shop Drawings within two (2) weeks of receipt of executed Agreement.

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- 1.7. Prepare coordinated Shop Drawings (Auto Cad/Auto Desk Building System 2007 or equal) for all equipment and fixtures. Actively participate in coordination meetings and preparation of coordinated Drawings.
 - 1.8. Field measure as necessary prior to fabrication and adjust Shop Drawings accordingly prior to submittal. Verify compliance with all Americans with Disabilities Act.
 - 1.9. Furnish a blocking Submittal to the Contractor in advance and prior to installation of drywall and ceilings, which should identify exact locations, elevations, sections, details, and attachments of the blocking requirements, as required.
 - 1.10. Furnish a product schedule for accessories indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1.11. Inspect and accept substrate prior to beginning Scope of Work. Any deficiencies or discrepancies should be noted, notifying the Contractor immediately.
 - 1.12. Multiple deliveries, as necessary, per schedule.
 - 1.13. Deliver, receive, unload, inventory, and stage all materials and equipment for Scope of Work. All deliveries shall be coordinated with the superintendent on this Project, prior to the actual delivery. Subcontractor is required to have on-site representation for receipt of any deliveries. Contractor will not sign for any deliveries intended for other trades.
 - 1.14. Store materials in a safe manner which will be secure, dry, and permit easy access for inspection and identification. Location shall be coordinated with the Contractor prior to delivery.
 - 1.15. Joint sealants for the Work of this Scope, including sealants to dissimilar materials.
 - 1.16. Layout and fastening templates for in-wall blocking and backing by others. Identify exact locations, elevations, sections, details and attachments of the blocking requirements, as required. Any cost associated with blocking that was not coordinated properly by Subcontractor will be the responsibility of Subcontractor.
 - 1.17. Cutouts for any electrical or communication boxes.
 - 1.18. Cut sheets with cut out dimensions for recessed items.
 - 1.19. Clean and protect material and equipment of Scope of Work until accepted by Owner.
 - 1.20. Touch up damaged factory applied finished and soiled surfaces.
 - 1.21. Ensure materials, equipment, and accessories furnished comply with ADA requirements.
 - 1.22. Clean all installed products upon completion of installation and/or prior to turnover, to include removal of all plastic, stickers, wrapping, tags. Restore all factory finishes as required.
 - 1.23. All testing, adjustments, calibrations, balancing, required for a properly operating Scope of Work.

- 1.24. Demonstration and training as required by the Subcontract Documents.
- 1.25. Closeout documents, As-built, Operations and maintenance manuals, warranties, test records, as required by the Subcontract Documents.

2. SPECIALTIES

- 2.1. Specialties including, but not limited to, visual display units, display cases and rails, projectors, projector screens, wall clocks, clock guards, toilet compartments, cubicle curtains, wall and door protection, toilet accessories, fire-protection specialties, metal lockers, storage shelving, library shelving, wall hooks, miscellaneous specialties, projection screens, and vocational shop equipment cabinets as indicated in Subcontract Documents.
- 2.2. All visual display surfaces, including but not limited to all markerboards, tackboards, tack strips, accessories, trims, finishes as specified, chalk trays, map rails, for a complete system.
- 2.3. All magnetic whiteboards with graphics as shown in the Subcontract Documents.
- 2.4. All lockers per the Subcontract Documents.
- 2.5. Residential Appliances per the Subcontract Documents including, but not limited to, Residential Appliances Specifications, Equipment Schedules, and Equipment Plans.
- 2.6. Cubicle tracks and curtains in accordance with the Subcontract Documents. Provide blocking requirements in advance. Coordinate Scope with other Scopes of Work.
- 2.7. Projection screens including but not limited to: Projection screens and miscellaneous accessories. Power supplies and associated wiring and low voltage connections. Recesses in the ceiling should be accounted for, including providing backboxes in advance to accommodate ceiling installation. Additional supports for projection screens.
- 2.8. Stage curtains, tracks, platform curtain legs, and valences per the Subcontract Documents.
- 2.9. Fire extinguishers and cabinets per the Subcontract Documents. Attend inspections and other items required by the Authority Having Jurisdiction for fire extinguisher installation.
- 2.10. Wire terminations for power and communications. Coordinate with others for final electrical energizing.
- 2.11. Perform cutouts for any electrical or communication boxes per Subcontract Documents, if applicable.
- 2.12. Clean and prepare all substrates prior to installation of this Scope of Work. Preparation of a substrate could include priming wall surfaces, such as with Visual Display Surfaces, prepping of floor substrates, wall substrates.
- 2.13. Athletic equipment to include basketball backstop and wall safety padding.

3. SITE IMPROVEMENTS / EXTERIOR SPECIALTIES

- 3.1. All site furnishings per the Subcontract Documents, including but not limited to all flag

poles, benches, tables, chairs, bike racks, trash receptacles and recycle cans, all hardware, fasteners, concrete, footings, excavation, grout, concrete fill, anchoring, bolting, assembly, as required. Any posts or sleeves to be installed as pre-requisite work should be coordinated with others.

- 3.2. All flagpoles per the Subcontract Documents, including but not limited to all poles, sleeves, hardware, misc. materials, finishes, bolts, for a complete installation. Excavating for footings, installation of footings and all concrete and placement of tubes/sleeves for the flagpole.
- 3.3. Complete fixed louver system, including but not limited to all fixed extruded-aluminum louvers, louver screens, blank-off panels, aluminum finishes.
- 3.4. Manufactured walkway covers per the Subcontract Documents.

The following work is excluded:

1. In-wall blocking and backing.
2. Painting, unless specifically included above.
3. Line voltage conduit, wire and back boxes, if any.

SCOPE OF WORK 10B - SIGNAGE**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

SIGNAGE - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
101400	Signage
101419	Dimensional Letter Signage

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Miscellaneous clips, shims, fasteners, anchors, accessories, expansion anchors, and adhesives as required to complete Scope of Work.
- 1.2. Coordinate Scope of Work with others prior to beginning the Work.
- 1.3. Field measure prior to fabrication and adjust Shop Drawings accordingly.
- 1.4. Shop Drawings within two (2) weeks] of receipt of executed Agreement.
- 1.5. Multiple deliveries, as necessary, per Schedule.
- 1.6. Joint sealants for the Work of this Scope, including sealants to dissimilar materials.
- 1.7. Layout and fastening templates for in-wall blocking and backing by others. Identify exact locations, elevations, sections, details and attachments of the blocking requirements, as required. Any cost associated with blocking that was not coordinated properly by Subcontractor will be the responsibility of Subcontractor.
- 1.8. Accepting all substrates prior to commencement of Work. Any deficiencies requiring corrective work shall be provided to Contractor in writing prior to commencing the Work.
- 1.9. Rigging, scaffolding, staging, temporary safety protection, personnel and material hoisting and small tools necessary to perform this work.
- 1.10. Cutouts for any electrical or communication boxes.
- 1.11. Cut sheets with cut out dimensions for recessed items.

2. **SIGNAGE**

- 2.1. Signage including, but not limited to, panel signs, building plaques, building signage (Interior & Exterior), room identification signs, informational signs, overhead signs, fire and safety signs, directory/directional signs, wayfinding, tertiary directional

signage, monumental signage, aluminum letter/numbers at walls, graphics, and exterior dimensional characters in accordance with the Subcontract Documents.

- 2.2. Code required signage.
- 2.3. Handicap signs.
- 2.4. Monumental sign per the Subcontract Documents.
- 2.4.1. Precast panels with letters, numbers, and logo per the Subcontract Documents.
- 2.4.2. Precast coping per the Subcontract Documents.
- 2.4.3. Provide precast panel connections and sleeves for concrete Scope to set in footing per the Subcontract Documents.
- 2.5. School direction signage.
- 2.6. Ensure signage and symbols meet municipal code and ADA requirements, including but not limited to stairs, elevators, elevator lobbies, secure areas, and room capacity.
- 2.7. Furnish and layout sleeves for signs located in structure or skin elements. Coordinate with exterior weather resistive barrier systems.
- 2.8. Identify exact locations, elevations, sections, details and attachments of the blocking requirements, as required.
- 2.9. Deliver, receive, unload, inventory and stage all materials and equipment for Scope of Work. All deliveries shall be coordinated with the superintendent on this Project, prior to the actual delivery. Subcontractor is required to have on site representation for receipt of any deliveries. Contractor will not sign for any deliveries intended for other trades.
- 2.10. Store materials in a safe manner which will be secure, dry, and permit easy access for inspection and identification. Location shall be coordinated with the Contractor prior to delivery.
- 2.11. Clean and protect material and equipment of Scope of Work until accepted by Owner.

The following work is excluded:

1. Joint sealants provided in other scopes of work.
2. In-wall blocking and backing.
3. Electric power to signs.
4. Pavement or parking stall markings.
5. Illuminated "EXIT" signage.
6. Structural concrete and masonry at monument sign.

SCOPE OF WORK 10N - OPERABLE PARTITIONS

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

OPERABLE PARTITIONS - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
051200	Structural Steel Framing
102226	Operable Panel Partitions

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Miscellaneous clips, shims, fasteners, anchors, accessories, expansion anchors, and adhesives as required to complete Scope of Work.
- 1.2. Coordinate Scope of Work with others prior to beginning the Work.
- 1.3. Participate in "Pre-installation Meetings" to convene a minimum of one week prior to commencing Work.
- 1.4. Qualified installers and manufacturer per the Subcontract Documents.
- 1.5. Field measure prior to fabrication and adjust Shop Drawings accordingly.
- 1.6. Inspect and accept all substrates prior to commencement of Work. Any deficiencies requiring corrective
- 1.7. work shall be provided to Contractor in writing prior to commencing the work.
- 1.8. Shop Drawings and Submittals within two (2) weeks of receipt of executed Agreement.
- 1.9. Multiple deliveries, as necessary, per Schedule.
- 1.10. Deliver, receive, unload, inventory, and stage all materials and equipment for Scope of Work. All deliveries shall be coordinated with the Contractor on this Project, prior to the actual delivery. Subcontractor is required to have on-site representation for receipt of any deliveries. Contractor will not sign for any deliveries intended for other trades.
- 1.11. Joint sealants for the Work of this Scope, including sealants to dissimilar materials.
- 1.12. Layout and fastening templates for in-wall blocking and backing by others. Identify exact locations, elevations, sections, details and attachments of the blocking requirements, as required. Any cost associated with blocking that was not coordinated properly by Subcontractor will be the responsibility of Subcontractor.

- 1.13. Ensure materials, equipment, and accessories furnished comply with ADA requirements.
- 1.14. Store materials in a safe manner which will be secure, dry, and permit easy access for inspection and identification. Location shall be coordinated with the Contractor prior to delivery.
- 1.15. Temporary protection of finished materials in place during transport of materials through building and during installation of this Scope.
- 1.16. Subcontractor responsible for any lifts, ladders, rigging, scaffolding, hoisting, temporary safety protection, personnel and material hoisting, small tools and other equipment necessary to complete installation of the Scope.
- 1.17. Delegated design of operable partition panel systems by an engineer licensed in the state where the Project is located.
- 1.18. Submit engineered product data and load information for design of structural supports.
- 1.19. Any and all remobilizations as required to complete the Scope of Work.
- 1.20. Any and all remobilizations as required to complete the punch list.
- 1.21. Extra Materials per the Specification requirements.

2. OPERABLE PARTITIONS

- 2.1. Operable panel systems meeting or exceeding the specified sound transmission class, noise isolation and reduction, seismic, and fire test response rating characteristics per the Subcontract Documents.
- 2.2. Hardware and accessories necessary to provide complete system per Subcontract Documents.
- 2.3. Manually operated, acoustical operable panel system.
- 2.4. Pocket door system, including layout and coordination of the pocket construction.
- 2.5. Coordinate with Framing and Drywall Scope of Work to ensure the opening detail at the track and operable panel system. Provide clearances needed for operation of the panels.
- 2.6. Confirm the ceiling and furrdown enclosure is acceptable for maintenance on the panel system.
- 2.7. Track support system from structural steel down to the system track.
- 2.7.1. Provide and install all-thread, clips, fasteners and accessories to the structural support to complete install of track system.
- 2.8. Layout for drilled holes in support steel.
- 2.9. Locking hardware.
- 2.10. Final adjustment of track during the punch list process.

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- 2.11. Clean and protect material and equipment of Scope of Work until accepted by Owner.
 - 2.12. Demonstration and training as required by the Subcontract Documents.
 - 2.13. Closeout documents, As-built, operations and maintenance manuals, warranties, test records, as required by the Subcontract Documents.

The following work is excluded:

- 1. Joint sealants described in other scopes of work.
- 2. In-wall blocking and backing.
- 3. Steel support for track.

SCOPE OF WORK 110 - GENERAL TRADES**SCOPE OF WORK****GENERAL TRADES -****Labor Provider is responsible for:****1. General**

- 1.1. Labor Provider will be paid at an hourly rate, not to exceed the Contract Sum. Savings accrue to the Contractor.
- 1.2. Provide tools and equipment required to complete Work.
- 1.3. Personal protective equipment (PPE) for all Labor Provider's personnel per Contractor's Safety Manual. Such PPE shall include, but not be limited to, hard hat, gloves, approved eye protection, reflective safety vest, and work boots. If Labor Provider's personnel fails to comply with this requirement, such personnel will be removed from the Project.
- 1.4. Provide sufficient manpower to meet Project Schedule. No overtime will be paid, except to the extent required by Contractor.
- 1.5. Rigging, scaffolding, staging, temporary safety protection, personnel and material hoisting and small tools necessary to perform this Work.
- 1.6. Quality control of Work.
- 1.7. Coordinate proper cleaning materials per manufacturer's recommendation.

2. General Labor

- 2.1. All vehicular traffic must enter and exit the site through the primary construction entrance unless approved otherwise by the Contractor. All vehicles must be cleaned of debris before exiting the site. Any dirt or mud generated from the work of this bid package that is deposited onto any areas, walks or streets outside the construction limits must be cleaned immediately.
- 2.2. Capable of providing qualified laborers, foreman, operators, carpenters and necessary material to perform the following Scope of Work:
 - 2.2.1. General clean-up and miscellaneous tasks of the Project site and Contractor's site offices.
 - 2.2.2. Operate forklifts, lulls, man lifts, and sweepers as required.
 - 2.2.3. Construct wooden temporary protection barricades and structures.
 - 2.2.4. Shift work, overtime, weekends as required if requested by the Contractor.
 - 2.2.5. General clean-up including, but not limited to, trash pick-up and sorting of recyclable materials, daily Foreign Object Debris (FOD) checks at the beginning and end of each shift, sweeping and other miscellaneous cleaning

tasks as requested by the Contractor. These general clean ups are to supplement the cleaning responsibility of the various trade partners.

- 2.2.6. Provide and remove temporary construction and site signage.
- 2.2.7. Floor and finish protection.
- 2.2.8. Miscellaneous materials and equipment to support this Work.
- 2.2.9. Temporary air conditioning of spaces as required until permanent conditioning is in place.
- 2.2.10. Dumpsters.
- 2.2.11. Temporary doors and window enclosures.
- 2.2.12. Floor sweeping compound.
- 2.2.13. 40ft storage container rental.
- 2.2.14. Fuel for temporary conditioning, or equipment provided for this Work.
- 2.2.15. Temporary fire extinguishers and associated maintenance. Fire extinguishers shall be inspected monthly or more often when circumstances warrant. All extinguishers must be certified annually and documented on the extinguisher with an inspection tag. Fire extinguisher type include but are not limited to those with a rating not less than 2A for the protected building area, not less than 20-B:C for flammable or combustible liquid storage and fueling areas.
- 2.2.16. Provide break/lunch shelter and furniture.
- 2.2.17. Maintain temporary fence.
- 2.2.18. Miscellaneous safety material and barricades.
- 2.2.19. Temporary elevator protection.
- 2.2.20. Temporary safety railings and toe boards at perimeter of all elevated slab edges and at slab openings, and removal. Safety railings without toe boards at the edge of all slab on grade to prevent workers from entering and exiting the building at non-designated covered access points. Maintain safety railings until directed to be removed by Contractor.
- 2.2.21. Covers for holes/openings. Additional trip and/or fall protections measures may include, but are not limited to wooden guardrails, safety nets, warning lines, controlled access zones.
- 2.2.22. Removal of roof flagging system.
- 2.2.23. Provide and maintain trash chutes.
- 2.2.24. Ladders.
- 2.2.25. Cleanup / Maintenance of the temporary paths and permanent paths until Town of Cary accepts ownership.

Labor Provider is not responsible for:

1. Final Cleaning
2. Permanent landscaping.
3. Permanent maintenance.
4. Casting into slab any elements to support a temporary railing or support that would be exposed in a finish upon its removal.

SCOPE OF WORK 11C - FOOD SERVICE EQUIPMENT

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

FOOD SERVICE EQUIPMENT - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
114000	Food Service Equipment
220501	Scope Of Plumbing
230501	Scope Of The HVAC Work
260010	General Requirements For Electrical Systems

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Coordinate connections with others, including but not limited to plumbing, electrical, HVAC, and control trades.
- 1.2. Shop Drawings and Product Data within two (2) weeks of receipt of executed Agreement.
- 1.3. Field measurements before fabrication.
- 1.4. Applicable submittals per the Subcontract Documents.
- 1.5. UL labels as indicated.
- 1.6. Coordinate with local municipalities and health departments (state or otherwise) for final inspections and approvals.
- 1.7. Coordinate installation of all Work with Owner furnished equipment as indicated on the Subcontract Documents.
- 1.8. Joint sealants as necessary to complete this Scope of Work.
- 1.9. On-site representation for receipt of all deliveries to include offloading.

2. FOOD SERVICE EQUIPMENT

- 2.1. Food service and food service storage equipment.
- 2.2. Complete food service layout Shop Drawings of all equipment and fabrication items for coordination with mechanical, electrical, and plumbing systems as indicated on the Subcontract Documents. Shop Drawings are to indicate 'rough in' location and sizes for clear communication for other trades to install all associated connections. Shop Drawings should also include depressed slab details where required.
- 2.3. Reference food service Drawings for delineation of Work and electrical, mechanical,

plumbing subcontractor's work.

- 2.4. Food Service Equipment package including, but not limited to, items listed in the Food Service Equipment Schedule and Specification requirements, switches and controls, locks, and connection terminals.
- 2.5. Indirect waste lines by this Subcontractor per the Subcontract Documents.
- 2.6. Floor troughs and drains per Subcontract Documents.
- 2.7. Hose reel to be provide and installed within this Scope of Work. Final plumbing connection to be provided by Plumbing Scope.
- 2.8. Walk-in coolers and freezers including evaporator coils, remote condensing units, required refrigeration piping and insulation between evaporators and condensing units including charging and testing for a complete and operational system.
- 2.9. Ensure accessibility to any equipment and components that would be located on top of the walk-in cooler and freezer.
- 2.10. Coordinate the mechanical, electrical and plumbing requirements of all equipment furnished within Scope of Work with the Subcontract Documents to ensure that the equipment is furnished with all the necessary disconnects, starters, switches, controls, and similar devices to provide a complete and fully functioning system.
- 2.11. Custom fabricated equipment utilizing a single source manufacturer/fabricator including material supplier. Coordinate all cutouts and rough-in requirements for equipment installed in custom fabricated items. Field measurements for all custom fabricated equipment are required prior to production.
- 2.12. Stainless Steel Trim around opening at pass-thru equipment per the Subcontract Documents.
- 2.13. Wall mounted shelving.
- 2.13.1. Ensure plumb and level install of shelving.
- 2.14. Removable panels per the Subcontract Documents.
- 2.15. Provide blocking plan with Shop Drawings.
- 2.16. Provide smooth and clean edge finish of all stainless steel fabricated items. Grind down any burrs and polish as necessary.
- 2.17. Cutouts, grommets, for the installation and connection of all fixtures, sinks, receptacles, valves, and all other components were service is provided through the casework units or countertop.
- 2.18. Sinks, tail pieces, faucets, and other trim as indicated.
- 2.19. Air curtain per Subcontract Documents. Provide and install the air curtain and the microswitch at door per the Subcontract Documents.
- 2.20. Electrical service connections for both hard-wire and plug-in connections.
- 2.21. Equipment bases and equipment stands.

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- 2.22. Performance testing on equipment.
 - 2.23. Pre-punch in wall/overhead systems for compliance. Prior to the scheduled overhead/in wall inspection a formal written inspection will be done by Subcontractor noting all deficiencies, correction of the systems and subsequent notification to the Contractor verifying that the systems are in compliance and are ready for the installation of drywall, ceiling grid, soffits and hard ceilings.
 - 2.24. Ensure overhead and in-wall rough-in are in place, dimensioned install or rough-in is correct for food service equipment locations, and that there is no interference with food service equipment locations and surrounding work.
 - 2.25. Protection from damage of Work and equipment whether installed, staged and or stored.
 - 2.26. Protect equipment after installation.
 - 2.27. Subcontractor to ensure all equipment is running properly day before Health Inspection. Coordinate with Mechanical, Electrical, and Plumbing Scopes to ensure fully functioning kitchen systems.
 - 2.28. Subcontractor to have representation on site during AHJ inspections for kitchen.
 - 2.29. Demonstration, training and video as required the Subcontract Documents.
 - 2.30. Closeout documents, As-Built, operations and maintenance manuals, Warranties, test records, as required by the Subcontract Documents.
 - 2.31. Commissioning assistance in accordance with the Subcontract Documents.
 - 2.32. Furnish current As-Built Drawings at all times, including the Contractor's master record set. The As-Built Drawings shall be reviewed monthly by the Contractor.

The following work is excluded:

- 1. Joint sealants identified in other scopes of work.
- 2. Kitchen hood and fire suppression system.
- 3. Final mechanical, electrical, and plumbing connections.

SCOPE OF WORK 11E - ATHLETIC AND GYMNASIUM EQUIPMENT

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

ATHLETIC AND GYMNASIUM EQUIPMENT - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
116623	Gymnasium Equipment

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Coordinate with others for in-wall requirements, overhead rough-in requirements, and structural supports.
- 1.2. Shop Drawings within two (2) weeks of receipt of executed Agreement.
- 1.3. Performance testing on equipment.
- 1.4. Supports, anchors, and guides for the proper installation of Scope of Work.
- 1.5. Deliver embeds to applicable trades.
- 1.6. Coordinate delivery dates with Contractor. Subcontractor to have personnel on site to receive, unload, and stock the delivered materials.

2. ATHLETIC AND GYMNASIUM EQUIPMENT

- 2.1. Indoor basketball equipment, safety pads, and gymnasium storage accessories per the Subcontract Documents.
- 2.2. Outdoor basketball equipment per the Subcontract Documents.
- 2.3. Blocking, fasteners, anchors, shims, chains, bolts, miscellaneous hardware and accessories needed to provide a complete system for this Scope.
- 2.4. Concrete as required for a complete installation of the equipment.

The following work is excluded:

1. Irrigation system.
2. Chain link fencing unless otherwise noted.
3. Signage, unless specifically noted.
4. Electrical connections.

SCOPE OF WORK 12C - WINDOW TREATMENTS

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

WINDOW TREATMENTS - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
122113	Horizontal Louver Blinds
122413	Roller Window Shades

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Miscellaneous mounting hardware, clips, shims, fasteners, anchors, guides, penetrations, sleeves, and accessories as required to complete the Scope of Work.
- 1.2. Coordinate with others for location and installation of blocking.
- 1.3. Clean window treatments following installation.
- 1.4. Field measurements as required.
- 1.5. Review all substrates and perform field measurements of all areas of Work a minimum of two (2) weeks prior to the scheduled start of Work for each area. Immediately notify the Contractor in writing of any unacceptable or out of tolerance substrates, allowing adequate time for corrective work to be performed prior to the scheduled start of Work for that area. Start of installation indicates acceptance of substrate conditions and full responsibility for completed Work.

2. BLINDS AND SHADES

- 2.1. Horizontal louver blinds, vertical blinds, blackout shades, interior shutters, curtains, and drapes and associated hardware.
- 2.2. Plumb window treatments with clearances to allow proper operation.
- 2.3. Adjust and balance window treatments and operating mechanism for proper operation, free from binding or malfunction.
- 2.4. Manufacturer's cord cleats.
- 2.5. Retain intact safety tags and other manufacturer information with installed window treatments.
- 2.6. Sealing of the perimeters of installation accessories for light-blocking shades and accessories.

The following work is excluded:

1. In-wall blocking.
2. Final electrical connections.

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SCOPE OF WORK 14A - ELEVATORS**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

ELEVATORS - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
078413	Penetration Firestopping
142400	Hydraulic Elevators
142410	Non-Proprietary Equipment Affidavit

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Temporary use of one elevator cab during construction of the Project until Substantial Completion of the Project, for a total of three (3) months, including any warranty extensions, temporary protection, and final cleaning/adjusting associated with temporary use.
 - 1.1.1. Includes temporary certification fee.
- 1.2. Unload and stage equipment.
- 1.3. Barricades for protection of hoistway openings including installation, maintenance, and removal of the barricades. Contractor will provide initial barricades for protection of openings per Contractor's safety program. All remaining barricade requirements to protect the openings including modification, maintenance, and removal of the barricades are required in the Work of this Scope. This includes removable handrails, cabling, netting, or other protection.
- 1.4. Off-hour testing and inspections with Architect's designee and Authority Having Jurisdiction, including separate mobilizations if required.
- 1.5. No Work identified on the Shop Drawings as "by others" will be accepted unless those Work items are specifically noted as such in the Subcontract Documents.
- 1.6. Miscellaneous clips, shims, fasteners, anchors, and accessories as required to complete this Scope of Work.
- 1.7. Temporary generator for own Work.

2. **ELEVATORS**

- 2.1. Elevators as indicated.
- 2.2. All support steel required for the elevator installation that is not specifically indicated in the Subcontract Documents as by others.

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- 2.3. Construct elevator cabs on lowest level.
 - 2.4. Counterweight screening if required for installation of cars as required by elevator code.
 - 2.5. Temporary hoistway platforms required to complete this Scope of Work.
 - 2.6. Light, light switch, and ground-fault circuit interrupter (GFCI) outlet at the top and bottom of each car.
 - 2.7. Wire from the elevator hoistway to the elevator panel and fire command panel locations. Wire in the traveling cable for cab wiring including, but not limited to, security, speakers, card readers, telephone, closed circuit television (CCTV) and other wires necessary for a complete installation.
 - 2.8. Final wiring terminations for power, security, and communications to the elevator equipment.
 - 2.9. Elevator pit emergency stop switch.
 - 2.10. Furnish concrete embeds for elevator guide beams.
 - 2.11. Pit ladder for each shaft as required.
 - 2.12. Cab finishes.
 - 2.13. Firestopping putty packs behind elevator rough-in boxes as required in rated walls.
 - 2.14. Field verify existing dimensions where elevator landings are scheduled at existing structure elevations prior to installation.
 - 2.15. Coordinate with the drywall subcontractor for installation of button devices, signal fixtures, and other devices to be mounted in drywall partitions. Fire-stopping of all penetrations that are installed through rated shaft
 - 2.16. Coordinate installation of sleeves, block outs, equipment with integral anchors, and other items that are embedded in concrete or masonry.
 - 2.17. Safety signage and warning stickers, plates and tags.
 - 2.18. Disconnects, starters, switches as per the Subcontract Documents. Final connection to the building systems is by others.
 - 2.19. Controls, control panels, control wiring, relays, conduit and terminations. Power supply for elevator controls will be provided by others. Coordinate final locations and requirements of power supply with electrical subcontractor.
 - 2.20. Clean the elevator pits of dirt, debris, oil, grease, or other foreign materials at the completion of all Work.

The following work is excluded:

1. Hoistway enclosure.
2. Sump pit and pump.

- DRAFT
3. Pit lights and convenience outlet.
 4. Machine room ventilation.
 5. Steel hoistway beam.
 6. Grouting.
 7. Setting concrete-embedded anchors or sleeves.
 8. Concrete block-outs.
 9. Painting unless specifically included above.
 10. Smoke curtain.
 11. Line voltage conduit and wire including disconnects.
 12. Cab flooring.

SCOPE OF WORK 21A - FIRE SUPPRESSION

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

FIRE SUPPRESSION - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
078413	Penetration Firestopping
079200	Joint Sealants
079201	Sealants For Roofing
083113	Access Doors And Frames
210500	Common Work Results For Fire Suppression
210501	Scope Of Fire Suppression Work
210502	Shop Drawings, Maintenance Manuals And Parts Lists
210515	Sleeving, Cutting, Patching and Firestopping
210553	Identifications, Tags, Charts, Etc.
211000	Fire Protection
312317	Trenching
312319	Dewatering
312324	Flowable Fill

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Building Information Modeling (BIM) per Front End Manual.
- 1.2. Layout for equipment pads as required.
- 1.3. Layout for penetrations as required.
- 1.4. Layout of equipment that will require specific backing and framing.
- 1.5. Sealing, flashing, and escutcheons for roof, wall, and floor penetrations as required for this Scope of Work.
- 1.6. Equipment mounting brackets as required.
- 1.7. Cut and install ceiling tiles as required. Ceiling tiles furnished by others.
- 1.8. Coordinate with others as required for full integration and interface of the system(s) included in the Work.
- 1.9. Furnish access doors as required for this Scope of Work. Installation by others.
- 1.10. Core drilling including layout, structural x-rays, and temporary protection as required

for this Scope of Work. Obtain written approval from Contractor before any core drilling.

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- 1.11. Saw-cutting and patching as required for this Scope of Work.
 - 1.12. Supervision at concrete pours involving penetrations and sleeves associated with this Scope of Work.
 - 1.13. Expansion joints for piping as required.
 - 1.14. Pre-punch in wall/overhead systems for compliance. Prior to the scheduled overhead/in wall inspection a formal written inspection will be done by a Subcontractor noting all deficiencies, correction of deficiencies and subsequent notification to the Contractor verifying that the systems are in compliance and are ready for installation of drywall, ceiling grid, soffits, hard ceilings.
 - 1.15. Identification and expedite long lead items or equipment that must be installed with or prior to the structure as it is being erected as to not impact structure/floor pours per the Project Schedule. Mechanical/Electrical rooms have very limited access after structure is in place. Prepare separate coordinated Shop Drawings with locations and sizes, prior to pour schedule and coordinate installation with concrete/forming subcontractor and reference Project Schedule for timeframe. Equipment/materials shall be able to access the space through designed openings (i.e. areaways, doorways, shafts, stairwells).
 - 1.16. Housekeeping pads required for equipment, including sizing, layout and coordination with the concrete subcontractor.

2. DEMOLITION

- 2.1. Make safe sprinkler systems prior to demolition.
- 2.2. Drain water from piping systems.
- 2.3. Relocate existing fire suppression systems as required for new mechanical, electrical, and plumbing work.

3. FIRE SPRINKLER SYSTEM

- 3.1. Flow tests to obtain hydraulic data needed for design of system.
- 3.2. Fire pump and fire pump controller.
- 3.3. Jockey pump and jockey pump controller.
- 3.4. Start-up strainers for fire pumps. After final acceptance, replace with final strainer.
- 3.5. Flushing and sterilization of sprinkler water lines.
- 3.6. Motor starters for fire protection equipment.
- 3.7. Underground sprinkler piping and connection to water main located five (5) feet outside of building.
- 3.8. Wire protection cages on all sprinkler heads where indicated.
- 3.9. Fire sprinkler cabinet containing replacement sprinkler heads and a sprinkler wrench.

- DRAFT
- 3.10. Dry Pendant and Dry Pipe systems where indicated.
 - 3.11. Kitchen hood fire suppression system.
 - 3.12. Supplemental steel and engineering for sizing to support Work.
 - 4. EQUIPMENT - FURNISHED BY OTHERS
 - 4.1. Model equipment and connections, furnished by others, as required for this Scope of Work as a part of the 3D BIM coordination Work.
 - 5. FIRESTOPPING AND ACOUSTICAL SEALANTS
 - 5.1. Firestopping and acoustical stopping of penetrations.
 - 5.2. Label all penetrations with system information, Subcontractor information, installation date, and name of installer.
 - 5.3. Submit documentation of completed firestopping or smoke safing assemblies (including any manufacturer inspections or reports) to Contractor when directed by the Contractor for each area with a completed list at turnover of each phase.
 - 5.4. Fire caulking systems shall be compatible with other trades' work and existing firestop systems. Coordinate with others to ensure the same fire stopping products is utilized throughout the Project. Submit documentation of training to use submitted product.
 - 5.5. Acoustical pads as required for back-to-back devices within the same stud cavity as required to meet Sound Transmission Class (STC) ratings for walls.
 - 5.6. Fire putty pads where required to meet fire and smoke ratings for walls.
 - 6. JOINT SEALANTS
 - 6.1. Exterior joint sealants as a complete system where dissimilar materials occur where required for a weathertight enclosure for this Scope of Work.
 - 6.2. Interior joint sealants for systems installed under this Scope of Work.
 - 7. COMMISSIONING
 - 7.1. Commissioning assistance.
 - 7.2. Qualified personnel, including manufacturer technicians, to attend all commissioning meetings.
 - 7.3. Qualified personnel, including manufacturer technicians, and equipment to complete pre-functional and functional testing and trending as directed by the commissioning agent.

The following work is excluded:

- 1. Grouting.
- 2. Painting unless specifically included above.
- 3. Underground site fire water lines. Site utility contractor will install line to flange inside building to twelve inches above finished floor for future connection.

4. Line voltage conduit and wire.
5. Fire extinguishers and fire extinguisher cabinets.

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SCOPE OF WORK 22A - PLUMBING**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

PLUMBING - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
077200	Roof Accessories
078413	Penetration Firestopping
079200	Joint Sealants
079201	Sealants For Roofing
083113	Access Doors And Frames
099113	Exterior Painting
099123	Interior Painting
099600	High-performance Coatings
113100	Residential Appliances
114000	Food Service Equipment
220500	Common Work Results For Plumbing
220501	Scope Of Plumbing
220502	Shop Drawings, Maintenance Manuals And Parts Lis
220513	Electrical Motors And Other Electrical Requirements For
220515	Sleeving, Cutting, Patching, Firestopping & Repairing For Plumbing
220517	Meters and Gauges for Plumbing
220519	Thermometers, Pressure Gauges And Other Monitoring
220523	Valves For Plumbing
220529	Hangers, Clamps, Attachments, Etc. For Plumbing
220553	Identifications, Tags, Charts, For Plumbing
220570	Excavation, Trenching, Backfilling & Grading For Plumbing
220700	Insulation - Plumbing
220800	Plumbing Commissioning Requirements
220995	Testing, Balancing, Lubrication And Adjustments
221000	Pipe, Pipe Fittings, & Pipe Support For Plumbing
221010	Welding Plumbing
221123	Pumps For Plumbing
223000	Plumbing Equipment
224000	Plumbing Fixtures, Fittings And Trim
224005	Plumbing Specialties

312317	Trenching
312319	Dewatering
312324	Flowable Fill
334600	Subdrainage

DRAFT

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Mock ups as specified. The mock up will utilize the equipment and materials as specified for the building construction to better control quality, fit, and finish.
- 1.2. Attach supports to steel structure prior to application of fireproofing. Patch fire proofing that is disturbed if supports are installed following fire proofing.
- 1.3. Furnish access doors as required for this Scope of Work. Installation by others.
- 1.4. Core drilling including layout, structural x-rays, and temporary protection as required for this Scope of Work. Obtain Contractor's written approval before any core drilling.
- 1.5. Layout for equipment pads and penetrations as required for this Scope of Work.
- 1.6. Saw-cutting and patching as required for this Scope of Work.
- 1.7. Supervision at concrete pours involving penetrations and sleeves associated with this Scope of Work.
- 1.8. Exterior penetrations shall be installed prior to installation of air barriers and waterproofing.
- 1.9. Coordinate layout of any surface mounted devices or equipment on split face block. Grind down surface of block as required for flush mounting of items.
- 1.10. Building Information Modeling (BIM) per Front End Manual.
- 1.11. Sealing, flashing, and escutcheons for roof, wall, and floor penetrations as required for this Scope of Work.
- 1.12. Temporary plumbing as required and per Front End Manual. Hook up of jobsite office trailer.
- 1.13. Individual plumbers and pipe fitters shall initial pipe connections when the work is complete and for testing/operation.
- 1.14. Clean interior and exterior of equipment furnished and/or installed as part of this Scope of Work prior to first energization and again prior to Substantial Completion.
- 1.15. Layout for penetrations as required for this Scope of Work.
- 1.16. Layout of equipment that will require specific backing and framing.
- 1.17. Equipment mounting brackets as required for this Scope of Work.
- 1.18. Cut and install ceiling tiles that require ceiling mounted devices. Ceiling tiles furnished by others.

- 1.19. Coordinate with others as required for full integration and interface of the system(s) including in the Work.
- 1.20. Flowable fill where required around underground Work.
- 1.21. Labeling as required.
- 1.22. Roof-mounted Pipe and equipment supports. Follow requirements of Specification 077200.
- 1.23. Coordinate openings and installation of curbs, rails and equipment with roof and structural subcontractors. Provide all openings in roof and ensuring that the Work is installed to maintain a weathertight roof assembly. Openings in roof must be made weather tight until installation of permanent equipment is complete.
- 1.24. In cases where Project phasing and priority wall construction require insulation to be installed prior to dry-in, provide temporary protection from moisture and/or water infiltration.
- 1.25. Pre-punch in wall/overhead systems for compliance. Prior to the scheduled overhead/in wall inspection a formal written inspection will be done by a Subcontractor noting all deficiencies, correction of deficiencies and subsequent notification to the Contractor verifying that the systems are in compliance and are ready for installation of drywall, ceiling grid, soffits, hard ceilings.
- 1.26. Identify and expedite long lead items, sleeves, openings, or equipment that must be installed with and/or prior to the structure as it is being erected as to not impact the structure and floor pours per the Project Schedule. Mechanical / Electrical room has very limited access after the structure is in place. Equipment / material shall be brought into the building through designed openings (i.e. areaways, shafts, stairwells).
- 1.27. Chlorination, disinfection, cleaning, flushing, and testing for this Scope of Work.

2. DEMOLITION

- 2.1. Make safe plumbing systems prior to demolition.
- 2.2. Drain water from piping systems.
- 2.3. Make safe grease traps and underground water / plumbing storage tanks.
- 2.4. Drain and dispose of contents of existing grease traps and underground water / plumbing storage tanks.
- 2.5. Relocate existing Plumbing equipment indicated for salvage and re-use in the new construction.
- 2.6. Salvage existing plumbing piping, devices, and equipment to recycling dumpster provided by others.

3. SITWORK AND UNDERGROUND

- 3.1. Repair of asphalt or concrete surfaces disturbed by the Work.
- 3.2. Excavation, trenching, dewatering, backfill to grade, and compaction as required to

complete the Work.

3.3. Haul and offsite disposal of soils.

3.4. Engineered trenching shoring system for excavation where sloping is not feasible.

3.5. Traffic control devices, flagmen, and anchored steel plates at roadways.

3.6. Locates of existing utilities on the site prior to the excavation portion of the work.

3.7. Hand dig in critical utility areas.

3.8. Foundation drainage system if located under slabs. Coordinate ties for this piping into perimeter foundation drainage system. Perimeter foundation drainage is by others.

3.9. Provide complete Soil Vapor Mitigation system including integral controls, monitoring, and alarms. In-line exhaust fans and power connections by others but coordinated by this Subcontractor. Install metal decking provided by others.

3.10. Scope of Work to 10'-0" outside of the building unless otherwise noted, including but not limited to excavation, trenching, shoring, removal of spoils, dewatering, backfill and compaction as required to make the tie-ins to the site utility lines and complete under slab piping as required by the Subcontract Documents. All pipes that exit the building are to be barricaded with orange fencing and properly marked so that damage does not occur.

3.11. Re-route underground piping to avoid the rammed aggregate pier reinforced zones. Rammed aggregate piers are delegated design by others.

4. FIRESTOPPING AND ACOUSTICAL SEALANTS

4.1. Firestopping and acoustical stopping of penetrations.

4.2. Label all penetrations with system information, Subcontractor information, installation date, and name of installer.

4.3. Submit documentation of completed firestopping or smoke safing assemblies (including any manufacturer inspections or reports) to Contractor when directed by the Contractor for each area with a completed list at turnover of each phase.

4.4. Fire caulking systems shall be compatible with other trades' work and existing firestop systems. Coordinate with others to ensure the same fire stopping products is utilized throughout the Project. Submit documentation of training to use submitted product.

4.5. Acoustical pads as required for back-to-back devices within the same stud cavity as required to meet Sound Transmission Class (STC) ratings for walls.

4.6. Fire putty pads where required to meet fire and smoke ratings for walls.

5. JOINT SEALANTS

5.1. Exterior joint sealants as a complete system where dissimilar materials occur where required for a weathertight enclosure for this Scope of Work.

5.2. Interior joint sealants for systems installed under this Scope of Work.

5.3. Caulking for plumbing fixtures and shower units.

6. GENERAL PLUMBING PIPING

6.1. Storm drain system including piping, hangers, fittings, and drain leveling provisions.

6.2. Compressed air piping system, including piping, hangers, valves, fittings, system regulators, and relief piping.

6.3. Natural gas fuel piping system, including piping, hangers, valves, fittings, system regulators, sleeves and relief piping as per the Subcontract Documents.

6.3.1. Stake gas line and easement.

6.4. Plugs, caps, tees, and valves for tie-ins to existing systems.

6.5. Condensate drainage system.

6.6. Thrust blocks, concrete, anchors, and guides for underground piping.

6.7. Provide heat trace system and controllers for plumbing piping and equipment. Electrical connection by others.

6.8. Chlorination of potable water systems.

6.9. Piping systems shall not be installed above electrical equipment. If alternative routing is not feasible, provide panning and drain piping for systems routed above electrical equipment. Include float switches and control devices.

6.10. Temporary water for construction, including but not limited to connection to water meter, piping from meter to building, several hose bibs per floor (one located at the east end of the building and one at the west end) as well as site connections to support construction activities, concrete, tile, drywall, flushing, testing, masonry, roofing work. Adequate pressure and volume to overcome elevation and or static pressure at the top floor of the building. Provide insulation and heat trace for freeze protection and isolation valves on main riser and floors.

6.11. Temporary roof drains and piping to exterior of building.

6.12. Leak detection wire specified for double containment piping system

6.13. Utility shutoff valve cabinets/boxes and associated alarms

6.14. Control panels identified for equipment.

7. GENERAL PLUMBING EQUIPMENT AND FIXTURES

7.1. General plumbing equipment and fixtures.

7.2. Install water meter furnished by others.

7.3. Install gas meter furnished by others.

7.4. Infrared faucet power supply box and wiring harness for connection by others.

7.5. Escutcheons sealed to the wall and around piping, including under-counter piping.

7.6. Water softener system filled with salt at turnover.

- 7.7. Elevator sump pump systems. Coordinate power needs with electrical Subcontractor.
- 7.8. Coordination/verification of the plumbing requirements associated with the elevator scope of work, elevator machine rooms and elevator pits.

7.9. Emergency showers/eyewashes complete as required by the Subcontract Documents

8. EQUIPMENT - FURNISHED BY OTHERS

- 8.1. Model equipment and connections, furnished by others, as required for this Scope of Work as a part of the 3D BIM coordination work.
- 8.2. Final connection to equipment furnished by others.
- 8.3. Final connection to food service equipment furnished by others.
- 8.4. Coordinate, manage, and receive delivery of equipment furnished by others as required for this Scope of Work.
- 8.5. Off-loading, rigging, and placement of equipment furnished by others as required for this Scope of Work.
- 8.6. Startup and commissioning assistance for equipment installed pursuant to this Scope of Work, but furnished by others, as required for this Scope of Work.
- 8.7. Identification for equipment installed pursuant to this Scope of Work, but furnished by others, as required for this Scope of Work.
- 8.8. Equipment anchorage calculations and anchorage for equipment installed pursuant to this Scope of Work, but furnished by others, as required for this Scope of Work.
- 8.9. Filters (including changes) used during testing and commissioning for equipment installed pursuant to this Scope of Work, but furnished by others, as required for this Scope of Work.
- 8.10. Water and drainage for kitchen equipment as necessary.
- 8.11. Final water and drain connections to equipment supplied by others under Specification Section 113100 Residential Appliances.

9. START-UP AND TESTING

- 9.1. Chemicals and temporary material and equipment for flushing and passivation of piping systems. Flushing through equipment coils is not allowed.
- 9.2. Temporary material and equipment for pressure testing of piping systems. Pressure testing through equipment coils is not allowed.
- 9.3. Start-up screens for pumps during construction. Replace with final strainer prior to TAB and commissioning.
- 9.4. Quality control documentation for plumbing systems including factory testing and factory certified start-up.

10. COMMISSIONING

- 10.1. Commissioning assistance.

- 10.2. Qualified personnel, including manufacturer technicians, to attend all commissioning meetings.
- 10.3. Qualified personnel, including manufacturer technicians, and equipment to complete pre-functional and functional testing and trending as directed by the commissioning agent.

The following work is excluded:

1. Concrete housekeeping pads.
2. Grouting unless specifically included above.
3. Painting unless specifically included above.
4. Wet pipe fire sprinkler system.
5. Line voltage conduit and wire.
6. Fire extinguishers and fire extinguisher cabinets.
7. Mass demolition of plumbing systems unless specifically included above.

SCOPE OF WORK 23A - HVAC**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

HVAC - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
077200	Roof Accessories
078413	Penetration Firestopping
079200	Joint Sealants
079201	Sealants For Roofing
083113	Access Doors And Frames
099113	Exterior Painting
099123	Interior Painting
099600	High-performance Coatings
114000	Food Service Equipment
230500	Common Work Results For HVAC
230501	Scope Of The HVAC Work
230502	Shop Drawings, Maintenance Manuals And Parts Lis
230513	Common Motor Requirements For HVAC Equipment
230517	Sleeving And Sleeve Seals For HVAC Piping
230519	Meters And Gages For HVAC Piping
230523	General Duty Valves For HVAC Piping
230529	Hangers And Supports For HVAC Piping And Equipment
230533	Heat Tracing For HVAC Piping
230553	Identifications For HVAC Piping And Equipment
230593	Testing, Adjusting And Balancing, For HVAC
230713	Duct Insulation
230716	HVAC Equipment Insulation
230719	HVAC Piping Insulation
230800	Mechanical Commissioning Requirements
230900	Building Automation System
230910	Facility Monitoring System
230920	Variable Frequency Motor Control
232113	Hydronic Piping
232113.13	Underground Hydronic Piping
232120	Welding

232123	Hydronic Pumps For HVAC
232300	Refrigerant Piping
232500	Pipe HVAC Water Treatment
233100	Sheet Metal
233300	Air Duct Accessories
233423	HVAC Power Ventilators
233600	Variable Air Volume Terminal Boxes
233713	Diffusers, Registers & Grilles
233800	Ventilation Hoods
235216	Condensing Boilers
236423	Air-cooled Water Chillers
237000	HVAC Equipment
237313	Indoor Air Handling Units
312317	Trenching
312319	Dewatering
312324	Flowable Fill

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Mock ups as specified. The mock up will utilize the equipment and materials as specified for the building construction to better control quality, fit, and finish.
- 1.2. Attach supports to steel structure prior to application of fireproofing. Patch fireproofing that is disturbed if supports are installed following fireproofing.
- 1.3. Furnish access doors as required for this Scope of Work. Installation by others.
- 1.4. Core drilling including layout, structural x-rays, and temporary protection as required for this Scope of Work. Obtain Contractor's written approval before any core drilling.
- 1.5. Layout for equipment pads and penetrations as required.
- 1.6. Saw-cutting and patching as required.
- 1.7. Supervision at concrete pours involving penetrations and sleeves associated with this Scope of Work.
- 1.8. Exterior penetrations shall be installed prior to installation of air barriers and waterproofing.
- 1.9. Coordinate layout of any surface mounted devices or equipment on split face block. Grind down surface of block as required for flush mounting of items.
- 1.10. Building Information Modeling (BIM) per Front End Manual.
- 1.11. Sealing, flashing, and escutcheons for roof, wall, and floor penetrations as required for this Scope of Work.

- 1.12. Temporary HVAC as required and per Front End Manual.
- 1.13. Individual plumbers and pipe fitters shall initial pipe connections when the work is complete and for testing/operation.
- 1.14. Qualified personnel to Test, Adjust and Balance (TAB), certify pressurizations and flow rates and complete required documentation per the Subcontract Documents, NEBB or AABC standards, and local authority having jurisdiction (AHJ).
- 1.15. Clean interior and exterior of equipment furnished and/or installed as part of this Scope of Work prior to first energization and again prior to Substantial Completion.
- 1.16. Layout for penetrations as required for this Scope of Work.
- 1.17. Layout of equipment that will require specific backing and framing.
- 1.18. Equipment mounting brackets as required for this Scope of Work.
- 1.19. Provide stands for all equipment as required.
- 1.20. Cut and install ceiling tiles that require ceiling mounted devices. Ceiling tiles furnished by others.
- 1.21. Coordinate with others as required for full integration and interface of the system(s) including in the Work.
- 1.22. Multi-phased TAB work and mobilization costs.
- 1.23. Flowable fill where required around underground Work.
- 1.24. Labeling as required.
- 1.25. Roof-mounted Pipe, ductwork, and equipment supports. Follow requirements of Specification 077200.
- 1.26. Coordinate openings and installation of curbs, rails and equipment with roof and structural subcontractors. Provide all openings in roof and ensuring that the Work is installed to maintain a weathertight roof assembly. Openings in roof must be made weather tight until installation of permanent equipment is complete.
- 1.27. In cases where Project phasing and priority wall construction require insulation to be installed prior to dry-in, provide temporary protection from moisture and/or water infiltration.
- 1.28. Pre-punch in wall/overhead systems for compliance. Prior to the scheduled overhead/in wall inspection a formal written inspection will be done by a Subcontractor noting all deficiencies, correction of deficiencies and subsequent notification to the Contractor verifying that the systems are in compliance and are ready for installation of drywall, ceiling grid, soffits, hard ceilings.
- 1.29. Blank off all unused portions of louvers at duct connections and/or plenums.
- 1.30. Identify and expedite long lead items, sleeves, openings, or equipment that must be installed with and/or prior to the structure as it is being erected as to not impact the structure and floor pours per the Project Schedule. Mechanical / Electrical room has

very limited access after the structure is in place. Equipment / material shall be brought into the building through designed openings (i.e. areaways, shafts, stairwells).

- 1.31. Vibration bases with isolators shall be provided for motors and motor-driven equipment.
- 1.32. Coordinating / verifying the mechanical / HVAC equipment and requirements as relates to the elevator scope of work. This includes but is not limited to locations of mechanical / HVAC systems, penetrations of these systems specifically related to the elevator machine rooms, shafts, and requirements of capacity and/or clearances required. Also included is participation in all
- 1.33. Department of Labor and Authority Having Jurisdiction Testing of the Elevators, to demonstrate shutdowns, etc. as they relate to the elevator operation.

2. DEMOLITION

- 2.1. Make safe HVAC systems prior to demolition.
- 2.2. Drain water from piping systems.
- 2.3. Make safe fuel-oil systems prior to demolition.
- 2.4. Drain and dispose of fuel from piping systems.
- 2.5. Drain and dispose of refrigerant from piping systems.
- 2.6. Complete demolition and removal of fuel-oil systems including equipment, controllers, piping, raceways, and wiring.
- 2.7. Relocate existing Mechanical equipment indicated for salvage and re-use in the new construction.
- 2.8. Salvage existing mechanical piping, devices, and equipment to recycling dumpster provided by others.

3. SITEWORK AND UNDERGROUND

- 3.1. Repair asphalt or concrete surfaces disturbed by the Work.
- 3.2. Excavation, trenching, dewatering, backfill to grade, and compaction as required to complete the Work.
- 3.3. Haul and offsite disposal of soils.
- 3.4. Engineered trenching shoring system for excavation where sloping is not feasible.
- 3.5. Traffic control devices, flagmen, and anchored steel plates at roadways.
- 3.6. Locates of existing utilities on the site prior to the excavation portion of the Work.
- 3.7. Hand dig in critical utility areas.
- 3.8. Buoncy calculations stamped by Professional Engineer prior to installation of underground storage tanks.

3.9. Scope of Work to 10'-0" outside of the building unless otherwise noted, including but not limited to excavation, trenching, shoring, removal of spoils, dewatering, backfill and compaction as required to make the tie-ins to the site utility lines and complete under slab piping as required by the Subcontract Documents. All pipes that exit the building are to be barricaded with orange fencing and properly marked so that damage does not occur.

3.10. Re-route underground piping to avoid the rammed aggregate pier reinforced zones. Rammed aggregate piers are delegated design by others.

4. FIRESTOPPING AND ACOUSTICAL SEALANTS

4.1. Firestopping and acoustical stopping of penetrations.

4.2. Label all penetrations with system information, Subcontractor information, installation date, and name of installer.

4.3. Submit documentation of completed firestopping or smoke safing assemblies (including any manufacturer inspections or reports) to Contractor when directed by the Contractor for each area with a completed list at turnover of each phase.

4.4. Fire caulking systems shall be compatible with other trades' work and existing firestop systems. Coordinate with others to ensure the same fire stopping products is utilized throughout the Project. Submit documentation of training to use submitted product.

4.5. Acoustical pads as required for back-to-back devices within the same stud cavity as required to meet Sound Transmission Class (STC) ratings for walls.

4.6. Fire putty pads where required to meet fire and smoke ratings for walls.

5. JOINT SEALANTS

5.1. Exterior joint sealants as a complete system where dissimilar materials occur where required for a weathertight enclosure for this Scope of Work.

5.2. Interior joint sealants for systems installed under this Scope of Work.

6. SHEETMETAL

6.1. Mechanical louvers including flashing and caulking.

6.2. Equipment curbs, including leveling provisions, for roof-mounted equipment.

6.3. Fire, fire-smoke, smoke dampers, and associated actuators. Includes end switches and monitoring as required.

6.4. Install duct smoke and heat detectors furnished by others.

6.5. All duct work and equipment shall be shipped to the jobsite with sealed ends. Installed ductwork and/or equipment shall be sealed / capped when work is not in progress and at the end of each day.

6.6. Mechanical Louvers.

7. MECHANICAL PIPING

7.1. Condensate drainage system.

7.2. Piping systems shall not be installed above electrical equipment. If alternative routing is not feasible, provide panning and drain piping for systems routed above electrical equipment. Include float switches and control devices.

7.3. Thrust blocks, anchors, and guides.

7.4. Provide heat trace system and controllers for HVAC piping and equipment as well as condensate lines on walk-in freezers. Electrical connection by others.

8. GENERAL MECHANICAL EQUIPMENT

8.1. Chemical feed systems including piping, valves, chemicals, tanks, metering pumps, calibration columns, and controllers. System shall be filled with chemicals at Substantial Completion.

8.2. Coordinate with other trades as necessary for rough-in and final connections of power, water, and in-wall backing / blocking.

8.3. Provide fans and controls for Soil Gas Vapor Mitigation System. Coordinate with Plumbing Trade for locations and other requirements.

8.4. Kitchen equipment exhaust systems including fans, ductwork, hangers and supports, controls, grilles and diffusers, fire-rated insulation, and final connection to equipment. Includes Range Hoods.

8.4.1. Provide ANSUL system as required.

8.5. Dryer exhaust and final connection to equipment.

8.6. Boiler flue piping including breaching and flashing materials.

8.7. Ladders for access to cooling towers.

8.8. Emergency stop switches for gas-fired equipment.

8.9. Condensate and humidifier drain piping.

8.10. Sound attenuated screen walls at mechanical equipment per the Subcontract Documents.

9. EQUIPMENT - FURNISHED BY OTHERS

9.1. Model equipment and connections, furnished by others, as required for this Scope of Work as a part of the 3D BIM coordination work.

9.2. Install generator muffler and other components of the generator exhaust system furnished by others.

9.3. Final connection to equipment furnished by others.

9.4. Coordinate, manage, and receive delivery of equipment furnished by others as required.

9.5. Off-loading, rigging, and placement of equipment furnished by others as required.

9.6. Startup and commissioning assistance for equipment installed by Subcontractor but furnished by others.

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- 9.7. Identification for equipment installed by Subcontractor but furnished by others as required.
 - 9.8. Equipment anchorage calculations and anchorage for equipment installed by Subcontractor but furnished by others as required.
 - 9.9. Filters (including changes) used during testing and commissioning for equipment installed by Subcontractor but furnished by others as required.
 - 9.10. Provide duct for ventilation exhaust hoods. Coordinate with Section 113100 Residential Appliances, Section 2.4.

10. CONTROLS AND MONITORING

- 10.1. Raceway, instrumentation, wiring and terminations for control and monitoring systems.
- 10.2. Raceway, line voltage wiring, and terminations for control panel and device power. Final termination at panelboard by others.
- 10.3. Programming of variable frequency drives (VFDs) and equipment controllers including communication and operation settings.
- 10.4. Factory mounted controllers, instrumentation, and programming as required to meet the design sequence of operations for all packaged HVAC systems.
- 10.5. Network cards and gateways to integrate packaged systems with control and monitoring system.
- 10.6. Software, hardware, and labor as required for successful completion of test, adjust, and balance (TAB) scope.
- 10.7. Interlock and control wiring and raceways as required by packaged equipment manufacturer to operate equipment independent of the building controls scope of work.
- 10.8. Smoke purge controls system.

11. FUEL-OIL SYSTEM

- 11.1. Fuel-oil piping system including underground and above ground piping, vent piping, joints, fittings, and valves.
- 11.2. Transition sumps at building penetrations.
- 11.3. Flexible connections from the day tanks to the generators including fire valves.
- 11.4. Final piping connections to equipment including generators and day tanks.
- 11.5. Fuel-oil leak detection system including detection cabling, wiring, raceway, control panel, and integration with monitoring system.
- 11.6. Underground fuel-oil storage system including, storage tanks, dead-men, tie down straps, manhole covers, fill stations, and associated controls.
- 11.7. Fuel pumping system and associated controls.

- 11.8. Fuel maintenance system and associated controls.
- 11.9. Day tank system and associated controls.
- 11.10. Decals and specialty signage.
- 11.11. Painting of fuel-oil piping by others.
- 11.12. Overhead and underground electrical and communication system raceway as required for complete and functional fuel control and tank monitoring system.
- 11.13. Electrical and communication system wiring and terminations as required for complete and functional fuel control and tank monitoring system.
- 11.14. Fuel-oil control and monitoring system including control panels, instrumentation, indicators, gages, and integration with building monitoring system.

12. START-UP AND TESTING

- 12.1. Start-up screens for pumps during construction. Replace with final strainer prior to TAB and commissioning.
- 12.2. Vacuum and wipe clean HVAC equipment interiors prior to startup and again following commissioning.
- 12.3. Temporary material and equipment for pressure testing of piping systems. Pressure testing through equipment coils is not allowed.
- 12.4. Chemicals and temporary material and equipment for flushing and passivation of piping systems. Flushing through equipment coils is not allowed.
- 12.5. Temporary material and equipment required for leakage testing of ductwork systems.
- 12.6. Quality control documentation for mechanical systems including factory testing and factory certified start-up.
- 12.7. Temporary equipment, including temporary piping, fittings, and valves, as required for pressure testing and flushing of piping systems.
- 12.8. In addition to the specified attic stock of filters for each air handler, provide a full set of filters and change the sets out at initial start-up, prior to start of test and balance, and at Substantial Completion.
- 12.9. Conditioned air for the Project. Conditioned air shall consist of supplying heating or cooling; ventilation and humidity control, in order to control temporary job site conditions for the curing or drying of completed installations, finishes or protecting installed or stored construction materials. Systems shall be operated at a minimum to maintain the interior of the Project at a temperature of not less than 55 degrees or no greater than 90 degrees. The relative humidity shall be maintained below 55%. In accordance with the various material Specifications, these limits will have to be adjusted to conform to installation requirements and further tightened as the Project Schedule progresses. Permanent equipment may be utilized to provide conditioned air, provided the equipment is maintained, protected, cleaned and full warranty is provided and or stipulated by the specifications. It is the overall intent to start up and

operate these systems in a phased manner per the finish schedule. If the permanent system cannot be utilized, provide all necessary temporary heating, cooling and dehumidification systems equipment, fuel and distribution material and maintenance to meet the requirements stated to support the finishes. Isolation or partial systems may be used to support the finish schedule. Exterior windows and doors shall either be installed or temporary enclosures provided. Subcontractor shall have the prime responsibility to provide the conditioned air systems and related equipment. The electrical subcontractor shall ensure permanent and or temporary power is provided to operate all systems required. Furnish any required warranty extension if permanent equipment is used for temporary conditioning

- 12.10. For temporary conditioning, all outside air intakes shall be covered with 2" Polyklean Gold Media or equal. Provide for sufficient replacement filters, Amersorb P Carbon or equal for the Air Handling Units and include the necessary maintenance and filter changes.

13. TESTING, ADJUSTING, AND BALANCING (TAB)

- 13.1. Independent testing, adjusting, and balancing.
- 13.2. Preconstruction site inspection to identify existing to remain systems. Identify the extent that existing systems are affected by new Work and provide personnel to successfully test, adjust, and balance existing and new as a single system.
- 13.3. Construction site observation prior to starting Work and report deficiencies that would delay meeting Project schedule.
- 13.4. Review Shop Drawings prior to Work being put in place and identify where additional balancing devices will be required to complete Scope of Work.
- 13.5. Pressure and temperature ports in locations required to facilitate successful TAB.
- 13.6. Permanently mark balancing devices to document balanced position.
- 13.7. Seal all insulation and jacketing that has been affected during the TAB (Testing, Adjusting and Balancing) process.
- 13.8. Operation of fire-smoke and smoke dampers, in accordance with manufacturer's recommendations, to allow for startup, temporary conditioning, and TAB. Reset fire-smoke and smoke dampers as soon as fire alarm system can control dampers.
- 13.9. Seal of insulation and jacketing that has been affected during the TAB process.
- 13.10. Flush coils and strainers as required for successful TAB completion.
- 13.11. After testing and balancing are complete, operate each system and randomly check measurements to verify each system is operating according to the final test and balance readings documented in the final report.

14. TAB TROUBLESHOOTING

- 14.1. Create and distribute deficiency reports within 24 hours of initial testing / findings to other trades and Contractor.
- 14.2. Deficiency reports updated and submitted weekly.

- 14.3. Establish optimal fan performance and submit documentation.
- 14.4. Data acquisition, including duct profiles, air handling unit profiles, and terminal unit inlet static pressure, and submit for resolution of design and installation issues.
- 14.5. Sizing for necessary changes to sheaves, belts, and dampers required for correct balancing of the systems.
- 14.6. Retest deficiencies from the initial TAB as needed to provide a completely balanced HVAC system and report at Project completion.
15. COMMISSIONING
- 15.1. Commissioning assistance.
- 15.2. Qualified personnel, including manufacturer technicians, to attend all commissioning meetings.
- 15.3. Qualified personnel, including manufacturer technicians, and equipment to complete pre-functional and functional testing and trending as directed by the commissioning agent.
- 15.4. Qualified personnel, including manufacturer technicians, and equipment to complete pre-functional and functional testing and trending as directed by the Commissioning Agent.

The following work is excluded:

1. Concrete housekeeping pads.
2. Grouting.
3. Painting unless specifically included above.
4. Architectural louvers.
5. Mass demolition of mechanical systems unless specifically included above.
6. Line voltage conduit and wire.

SCOPE OF WORK 26A - ELECTRICAL, LOW VOLTAGE, AND FIRE ALARM

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

ELECTRICAL, LOW VOLTAGE, AND FIRE ALARM - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
077200	Roof Accessories
078413	Penetration Firestopping
079200	Joint Sealants
079201	Sealants For Roofing
083113	Access Doors And Frames
087100	Door Hardware
113100	Residential Appliances
114000	Food Service Equipment
115213	Projection Screens
260010	General Requirements For Electrical Systems
260500	Common Work Results For Electrical Systems
260519	Low-voltage Electrical Power Conductors And Cable
260526	Grounding And Bonding For Electrical Systems
260533	Raceways And Boxes For Electrical Systems
260543	Underground Ducts And Raceways For Electrical Sy
260553	Identification For Electrical Systems
260573	Power System Studies
260800	Electrical Commissioning Requirements
260913	Electrical Power Monitoring
260923	Lighting Control Devices
262200	Low-voltage Transformers
262413	Switchboards
262416	Panelboards
262726	Wiring Devices
262813	Fuses
262816	Enclosed Switches And Circuit Breakers
262900	Motor Controllers
263213	Diesel Engine Generator Sets
263600	Transfer Switches

264100	Facility Lightning Protection
264300	Surge Protection Devices
265000	Lighting
270001	Technology Installation Guidelines
270010	Supplemental Requirements For Communications
270526	Grounding And Bonding For Communications Systems
270528	Pathways For Communications Systems
270536	Cable Trays For Communications Systems
270553	Identification For Communications Systems
271100	Communications Equipment Room Fittings
271300	Communications Backbone Cabling
271500	Communications Horizontal Cabling
274110	Elementary School Sound System
275123.5	Educational Intercommunications And Program S
281000	Access Control System
282000	Video Surveillance
282300	CCTV Video Management System
283100	Intrusion Detection System
284600	Addressable Fire Alarm Systems
284800	Two Way Emergency Communications System
285129	Emergency Services Radio Amplification System
312317	Trenching
312319	Dewatering
312324	Flowable Fill

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Mock ups as specified. The mock up will utilize the equipment and materials as specified for the building construction to better control quality, fit, and finish.
- 1.2. Attach supports to steel structure prior to application of fireproofing. Patch fire proofing that is disturbed if supports are installed following fire proofing.
- 1.3. Furnish access doors as required. Installation by others.
- 1.4. Core drilling including layout, structural x-rays, and temporary protection as required. Obtain Contractor's written approval before any core drilling.
- 1.5. Layout for equipment pads and penetrations as required.
- 1.6. Saw-cutting and patching as required.
- 1.7. Supervision at concrete pours involving penetrations and sleeves associated with this Scope of Work.
- 1.8. Exterior penetrations shall be installed prior to installation of air barriers and

waterproofing.

1.8.1. Repair penetrations that happen after installation of building air/water barrier will be the responsibility of this Subcontractor.

- 1.9. Coordinate layout of any surface mounted devices or equipment on split face block. Grind down surface of block as required for flush mounting of items.
- 1.10. Building Information Modeling (BIM) per Front End Manual.
- 1.11. Develop and manage a site specific Lock-out Tag-out (LOTO) Plan.
- 1.12. Clean interior and exterior of equipment furnished and/or installed as part of this Scope of Work prior to first energization and again prior to Substantial Completion.
- 1.13. Layout for penetrations as required for this Scope of Work.
- 1.14. Layout of equipment that will require specific backing and framing.
- 1.15. Equipment mounting brackets as required for this Scope of Work.
- 1.16. Cut and install ceiling tiles that require ceiling mounted devices. Ceiling tiles furnished by others.
- 1.17. Protect completed cabling terminations with preventive debris covering.
- 1.18. Coordinate with others as required for full integration and interface of the system(s) included in the Work.
- 1.19. Coordinate with others as required for power, pathway, conduit, sleeve, and backbox needs. Perform inspections to confirm rough-in prior to closing ceilings and walls.
- 1.20. Temporary power and lighting per Front End Manual. These are in addition to the items noted below.
- 1.21. Color coding and labeling as required.
- 1.22. Pre-punch in wall/overhead systems for compliance. Prior to the scheduled overhead/in wall inspection a formal written inspection will be done by a Subcontractor noting all deficiencies, correction of deficiencies and subsequent notification to the Contractor verifying that the systems are in compliance and are ready for installation of drywall, ceiling grid, soffits, hard ceilings.
- 1.23. Identification and expedite long lead items or equipment that must be installed with or prior to the structure as it is being erected as to not impact structure/floor pours per the Project Schedule. Mechanical/Electrical rooms have very limited access after structure is in place. This includes embedded items/boxes such as sleeves, wall sconces, power conduit to equipment, floor lights and stair lights. Prepare separate coordinated Shop Drawings with locations and sizes, prior to pour schedule and coordinate installation with concrete/forming subcontractor and reference Project Schedule for timeframe. Equipment/materials shall be able to access the space through designed openings (i.e. areaways, doorways, shafts, stairwells).
- 1.24. Preliminary and final coordination study.

2. DEMOLITION

- 2.1. Make safe electrical systems prior to demolition.
- 2.2. Salvage existing electrical wiring, devices, and equipment to recycling dumpster provided by others.
- 2.3. Relocate existing electrical equipment indicated for salvage and re-use in the new construction.

3. SITEWORK AND UNDERGROUND

- 3.1. Repair of asphalt or concrete surfaces disturbed by the Work.
- 3.2. Excavation, trenching, dewatering, backfill to grade, and compaction as required to complete the Work.
 - 3.2.1. If trenching is required that temporarily blocks off the site traffic entrances or thoroughfares, provide a means to allow traffic to pass over or around these trenches until properly backfilled. If it is not possible to reroute traffic as described, schedule such Work during off hours to avoid traffic interference.
- 3.3. Haul and offsite disposal of spoils.
- 3.4. Engineered trenching shoring system for excavation where sloping is not feasible.
- 3.5. Traffic control devices, flagmen, and anchored steel plates at roadways.
- 3.6. Locates of existing utilities on the site prior to the start of construction.
- 3.7. Hand dig in critical utility areas.
- 3.8. Electrical manholes, vaults, junction boxes, pull boxes, and waterproofing.
- 3.9. Telecom manholes, vaults, junction boxes, pull boxes, and waterproofing.
- 3.10. Concrete and flowable fill for ductbank(s) as required.
- 3.11. Temporary power and infrastructure to the jobsite office trailer compound.
- 3.12. Power and final connection to site pump station equipment.
 - 3.12.1. All electrical work associated with the pump station, including but not limited to power for all equipment including terminations, generator with control panel(s), panels, electrical racks, transfer switches, lighting, alarms, to support installation of the pump station scope of work.
 - 3.12.2. Safe-off and restore power to existing Yates Mill Elementary School pump station to allow for improvements to the pumps by others.
- 3.13. Line voltage power and final connection to irrigation controller.
- 3.14. Light poles, lighted bollards, and bases.
- 3.15. Camera poles.
- 3.16. Conduit as required for Duke Energy primary power feed, including all trenching, backfill, conduit.

- 3.17. Re-route underground piping to avoid the rammed aggregate pier reinforced zones. Rammed aggregate piers are delegated design by others.

4. ELECTRICAL

- 4.1. Lighting supports as required.
- 4.2. Raceway between the elevator hoist ways and the point of termination of the communications for the elevator system. Coordinate locations with Elevator Subcontractor.
- 4.3. Provide power to elevator sump pump.
- 4.4. Termination of power circuits for building control panels and devices onto switchboards or panelboards provided within this Scope of Work. Conduit, wire, and terminations at the control panel and devices for these circuits provided by others.
- 4.5. Power to auto door operators with final connection to be made by others. Wall bases, conduit, and wiring (including any low voltage) for actuators is provided by others. Final wiring connections to actuator and operator provided by others.
- 4.6. Diesel fuel required for testing of the emergency generator. Completely fill the fuel day tank and remote storage tank with diesel fuel upon initial installation, again at the completion of final testing, and prior to Substantial Completion.
- 4.7. Field adjustment of breaker and relay settings. Breaker setting values furnished by others.
- 4.8. Line voltage power and final connection to vapor mitigation system equipment and devices for foundation gases.
- 4.9. Line voltage power and final connection to dry-pipe and pre-action sprinkler system equipment and devices.
- 4.10. All power requirements for all Food Service equipment, including all hard wiring, wiring, terminations, circuits, receptacles, junction boxes, disconnects as required, coordination between Electrical Drawings & Food Service Drawings to ensure that plugs match receptacles, for a fully functioning system. See complete Food Service Drawings for delineation and requirements of Work as Scope relates to the food service supplier.
- 4.11. Electrical requirements at underground storage tanks and traps.
- 4.12. Pull string and plugs with label in all empty conduits.
- 4.13. Power to automatic flush-valves and motion-sensor faucets.
- 4.14. Wiring to internal millwork devices.
- 4.15. Disconnects, starters, and variable frequency drives (VFDs) that are not identified as provided by others.
- 4.16. Dedicated phone lines as required for elevators.
- 4.17. Line voltage power and final connection to Building Automation System control

panels.

4.18. Conduit, wire, and terminations of power circuits for all fire alarm devices and controllers.

4.19. Fire-rated plywood for electrical, security, building control, and communication equipment. Paint backboards with at least one exposed rating label per board.

4.20. All necessary electrical components to supply sufficient temporary jobsite power including but not limited to electric scaffold for mason, site lighting, temporary building per OSHA standards, a minimum of (4) 120v Ground Fault Circuit Interrupter temporary receptacle stands 12 outlets each, per floor/site and (2) sets of 240v, 3 phase per floor for welding machines, concrete cutting, or misc. equipment per floor. Temporary lighting shall be LED and be installed on a timer to control usage.

4.21. Power and connection of heat trace system(s). Heat trace provide be others.

4.22. Provide line voltage to specialties, fences/gates, overhead coiling doors.

5. EQUIPMENT - FURNISHED BY OTHERS

5.1. Model equipment and connections, installed by Subcontractor but furnished by others, as required for this Scope of Work as a part of the 3D BIM coordination work.

5.2. Coordinate, manage, and receive delivery of equipment installed by Subcontractor but furnished by others as required for this Scope of Work.

5.3. Off-loading, rigging, and placement of equipment furnished by others as required for this Scope of Work.

5.4. Startup and commissioning assistance for equipment installed by Subcontractor but furnished by others as required for this Scope of Work.

5.5. Operation and switching of equipment installed by Subcontractor but furnished by others during startup and commissioning activities.

5.6. Interior and exterior cleaning of equipment installed by Subcontractor but furnished by others prior to first energization and again prior to turnover.

5.7. Identification for equipment installed by Subcontractor but furnished by others as required for this Scope of Work.

5.8. Equipment anchorage calculations and anchorage for equipment installed by Subcontractor but furnished by others as required for this Scope of Work.

5.9. Power and final connections for motorized equipment in Specification Division 11. Equipment provided by others.

5.10. Boiler emergency shut off switch as indicated on M03.00.

6. FIRESTOPPING AND ACOUSTICAL SEALANTS

6.1. Firestopping and acoustical stopping of penetrations for Divisions 26, 27, and 28.

- 6.2. Fire-rated and acoustical sleeves (e.g., EZ Path Sleeves) as indicated.
- 6.3. Label all penetrations with system information, Subcontractor information, installation date, and name of installer.
- 6.4. Submit documentation of completed firestopping or smoke safing assemblies (including any manufacturer inspections or reports) to Contractor when directed by the Contractor for each area with a completed list at turnover of each phase.
- 6.5. Fire caulking systems shall be compatible with other trades' work and existing firestop systems. Coordinate with others to ensure the same fire stopping products is utilized throughout the Project. Submit documentation of training to use submitted product.
- 6.6. Acoustical pads as required for back-to-back devices within the same stud cavity as required to meet Sound Transmission Class (STC) ratings for walls.
- 6.7. Fire putty pads where required to meet fire and smoke ratings for walls.

7. JOINT SEALANTS

- 7.1. Exterior joint sealants as a complete system where dissimilar materials occur where required for a weathertight enclosure for this Scope of Work.
- 7.2. Interior joint sealants for systems installed under this Scope of Work.

8. FIRE ALARM

- 8.1. Complete fully functioning fire alarm system.
- 8.2. Raceways and supports for fire alarm system.
- 8.3. Power and terminations for fire alarm equipment and devices.
- 8.4. Wiring for interface between the fire alarm and the Building Automation System (BAS). Terminations on BAS equipment by others.
- 8.5. Raceway, wiring, and terminations of power circuits for all fire protection devices and controllers, including pre-action air compressors, nitrogen generators, and solenoid valves.
- 8.6. Temporary wire for heat/smoke detection for temporary use of HVAC equipment. Temporary HVAC equipment detection device by others.
- 8.7. Control of fire/smoke and smoke dampers. Fire/smoke and smoke dampers provided by others.
- 8.8. Furnish duct detectors to be installed by others.
- 8.9. Fire-rated door hold-open release devices and contacts and wiring.
- 8.10. Protect fire alarm devices, including smoke detectors, from dust and debris, as directed by Contractor.
- 8.11. Two (2) hour rated cabling if required to meet code and two (2) hour raceway is not available.

8.12. Integrate Post Indicator Valve (PIV) with fire alarm system.

8.13. Integrate fire alarm system with kitchen hood Ansul system.

9. LOW VOLTAGE / COMMUNICATION SYSTEMS

9.1. Complete fully functioning communications systems under Specification Division 27.

9.2. Complete fully functioning electronic safety and security systems under Specification Division 28. Bi-Directional Amplification system must be provided through Wake County's sole source vendor, Mobile Communications America. MCA Contact: Amanda Barringer, Account Executive. Email: amandabarringer@callmc.com

9.3. Equipment cabinets, racks, and Power Distribution Unit (PDU) plug strips.

9.4. Grounding from nearest telecom ground bus bar to the racks.

9.5. Patch panels as required to support all system cabling.

9.6. Cable management at the racks.

9.7. Patch cables.

9.8. Network switches.

9.9. Wireless access points.

9.10. Power, raceways, and terminations for distributed antennae systems.

9.11. Control of motorized shades. Shade by others.

10. RACEWAYS FOR COMMUNICATIONS

10.1. Communication system raceway and rough-in.

10.2. Security system raceways and rough-in.

10.3. AV systems raceway and rough-in, including, but not limited to, back-boxes, j-hooks, and cable-tray.

10.4. Innerduct or fabric duct.

10.5. J-hooks for cable routing where cabling travels outside of conduits and cable tray. All cabling not installed in conduit must be independently supported from the structure and not touching any other pipes or system.

10.6. Furnish all specialty back-boxes for installation by others.

10.7. Coordinate with others as required for power, pathway, conduit, sleeve, and backbox needs.

10.8. Clear raceways (provided by others) of obstructions prior to cable installation and protect after completion of installation.

10.9. Coordinate with other as required for power, pathway, conduit, sleeve, and backbox needs.

11. AUDIO-VISUAL (AV) SYSTEM

- 11.1. Complete fully functioning Audio-Visual (AV) system.
- 11.2. Coordinate and submit AV device schedule showing comprehensive list of equipment by room that requires Owner assigned internet protocol (IP) addresses and connection to the Owner network. AV device schedule to include each device media access control (MAC) address info.

12. SECURITY SYSTEM

- 12.1. Complete fully functioning video surveillance and access control systems.
- 12.2. Install power supplies furnished by others.
- 12.3. Door position switches, including knockouts.
- 12.4. Wiring and terminations at door hardware.
- 12.5. Ensure all openings affected by the access control system are fully integrated including review of affected Submittals and Shop Drawings in conjunction with the Subcontract Documents and submission of Requests for Information (RFIs) as necessary.
- 12.6. Coordinate with fire alarm subcontractor to ensure proper functionality of fail/secure and fail/safe operations.
- 12.7. Integrate access control system to elevator. Coordinate with elevator subcontractor.

13. COMMISSIONING

- 13.1. Commissioning assistance.
- 13.2. Qualified personnel, including manufacturer technicians, to attend all commissioning meetings.
- 13.3. Qualified personnel, including manufacturer technicians, and equipment to complete pre-functional and functional testing and trending as directed by the commissioning agent.
- 13.4. Temporary load banks including temporary control power and labor for monitoring and operating temporary load banks during testing.
- 13.5. Fire watch during all load banking activities.
- 13.6. Flagging, signage, and barriers during all load banking and electrical testing activities.
- 13.7. After-hours work to relocate and connect load banks in preparation for the following days testing.

The following work is excluded:

1. Concrete housekeeping pads.
2. Structural steel supports unless specifically included above.
3. Temperature control wiring.

4. Mass demolition of electrical systems unless specifically included above.
5. Offsite roadwork.

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SCOPE OF WORK 31C - EARTHWORK & UTILITIES

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

EARTHWORK & UTILITIES - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
311000	Site Clearing
312000	Earth Moving
312317	Trenching
312319	Dewatering
312324	Flowable Fill
312500	Erosion And Sedimentation Control
331100	Water Utility Distribution Systems
331100.1	Water Distribution System
333000	Sanitary Sewer Distribution Systems
333000.1	Wastewater Collection Systems
334100	Storm Utility Drainage Piping
334100.1	Storm Drainage
334600	Subdrainage
334913	Storm Drainage Structures

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Locate existing utilities on the jobsite prior to the start of construction and maintain those utility markers while working on the site. Protect from damage existing utilities scheduled to remain and make repairs as needed if damage should occur. Submit as-built drawing of existing conditions for coordination and record purposes.
 - 1.1.1. Locate existing utilities prior to installation of fencing posts.
- 1.2. Stockpile and store materials for reuse onsite or off-site at a location directed by Contractor.
- 1.3. Remove, haul-off, and properly dispose of any spoils, debris, excess material, and unsuitable material on a daily basis.
- 1.4. Water and/or lime (or as indicated in soils report) as needed to obtain moisture content of soils, including, but not limited to, temporary taps, meters, and associated usage and other fees for construction water required to perform the Work.
- 1.5. Bench, layback, or shore excavations as required to perform the Work. Benching,

layback, and shoring shall contemplate depth of foundation excavation to be performed by others when applicable.

1.5.1. Backfill at over-excavations.

1.5.2. Shoring of trenches.

1.5.2.1. If trenching is required that temporarily blocks off the site traffic entrances or thoroughfares, provide a means to allow traffic to pass over or around these trenches until properly backfilled. If it is not possible to reroute traffic as described, schedule such Work during off hours to avoid traffic interference.

1.6. Proof-roll existing and newly prepared earthwork conditions for visual review in order to determine the suitability of in place soils to receive additional fill work.

1.7. Place fill material under the direct supervision of the testing agency and/or soils engineer.

1.8. Remove and replace soils determined to be unsuitable by the testing agency and/or soils engineer.

1.9. Barricade and flag excavations as required.

1.10. Layout and survey work required for the Work from benchmarks and control points provided by others. Maintain benchmarks and control points throughout construction.

1.11. Pre-construction video and photographic documentation of existing conditions prior to start of Work.

1.12. Provide traffic control, temporary signs, temporary barricades and flagging for this Work, when movement of equipment, materials and manpower extends out of the construction limits. This includes any work in the right of way and adjacent neighborhoods.

1.13. All vehicular traffic must enter and exit the site through the primary construction entrance unless otherwise approved by the Contractor. All vehicles must be cleaned of debris before exiting the site. Any dirt or mud generated from the Work that is deposited onto any area, walks or streets outside the construction area must be cleaned immediately.

1.14. Provide and maintain stone construction entrances throughout duration of Project.

1.15. Construction fence and gates per Site Logistics Plan- see Front End Documents. Provide windscreens. Maintain fences and gates throughout the duration of the project. Remove at completion of Project.

1.16. Temporary access road (including stone/fabric), temporary stone roads, parking area, material laydown, and crane path as indicated on the Site Logistics Plan. Remove at completion of Project.

1.17. Ground stabilization.

1.18. Spoils shall be hauled off site.

1.19. Tie-in to existing structures.

1.20. Inlet protection.

2. EARTHWORK

2.1. Selective demolition, clearing, and grubbing.

2.1.1. Remove tennis courts, vegetation, paving, picnic area, trees, pump station, retaining walls, cast-in-place walls, segmental walls, driveway, amphitheater, sidewalks, playground, curb and gutter, asphalt trails as noted in the subcontract documents.

2.1.2. Remove existing site improvements.

2.1.3. Dumpsters for Work.

2.1.4. Remove underground storage tanks and remove any unsuitable soils on site due to storage tanks. Comply with local authority having jurisdiction's permitting and removal procedures.

2.1.4.1. Upon demolition of building, but prior to site work activities, the Subcontractor shall coordinate with Owner third-party consultant for testing of soils for petroleum contamination. If contamination is found, third-party consultant will direct the removal and storage of soils until soils can be properly disposed of.

2.2. Remove existing pipes and utilities scheduled for removal and/or abandonment. Shut off, cap/plug and reroute utilities to the extent required for performance of the Work. Adjust the elevation of the utilities to the proposed finish grade.

2.3. Strip, replace, and re-spread topsoil prior to landscaping operations at areas disturbed by the Work. Import additional topsoil as required. Topsoil shall be screened by rocks and debris larger than one inch (1") in diameter prior to re-spreading.

2.4. Uncover existing power and fiber optic ductbank locations that fall within the limits of this Scope of Work. Excavation, soil remediation and fill required within fifteen feet (15') of existing fiber ductbanks shall be performed in a phased manner with a spotter and smaller excavation equipment to prevent undermining and to protect the existing ductbank from any possible damage. Top of existing ductbank shall remain exposed until completion of grading and wet/dry utility work located adjacent to these existing ductbanks. Cover existing ductbanks with appropriate backfill after all grading and utility work in the adjacent areas has been completed.

2.5. Suitable fill material to subgrade (+/- one tenth of one foot (1/10')).

2.5.1. Import fill as required.

2.5.2. Achieve subgrade elevation for concrete flatwork.

2.6. Excavation, backfill and fine grading for site concrete and asphalt elements, including, but not limited to, pavement, curb and gutter, sidewalks, and equipment pads.

2.7. Granular base below asphalt paving.

- 2.7.1. All prep work, installation, compaction requirements, proof rolling.
- 2.7.2. Dress up all granular base and additional proof rolling prior to installation of asphalt binder. There could be a small gap in time between installation of granular base and paving.

2.8. Curb and gutters.

- 2.8.1. Stone beneath curb and gutters.

- 2.8.2. Patching allowance of 500 linear feet for damaged curb and gutter throughout course of construction.

2.9. Remove aggregate pier test pile.

2.10. Site settlement monitoring.

- 2.11. Test pit exploration before or during initial stages of site development to further evaluate existing fill that is proposed to remain in place.

3. SITE UTILITIES

- 3.1. Utility service lines to within five feet (5'-0") of the building perimeter and capped for future continuation by others (except as noted). Mark and maintain above-ground capped lines.
- 3.2. Domestic water and fire water lines. Fire and water lines to be installed to flange inside the building to twelve inches (12") above finish floor for future continuation by others.
- 3.3. Trenching, gravel bedding, encasement, backfill, thrust blocks, and kickers. Compact backfill to meet design density.
- 3.4. Fire hydrant assemblies and remote fire department connections.
- 3.4.1. Provide certified and operable fire hydrant prior to commencement of vertical construction.
- 3.5. Precast concrete manholes and utility vaults.
- 3.6. Flush, clean, and test utility systems required to produce a complete, engineer-approved system.
- 3.7. Natural gas piping.
- 3.8. Jack and bore under existing roads and walkways.
- 3.9. Tapping sleeves, valves, fittings, accessories.
- 3.10. Adjust manhole covers, including, but not limited to, covers, structure lids, and cleanout covers, to be at finish elevation of pavement, site concrete, and landscaping.
- 3.11. Provide temporary water line for wash stations.
- 3.12. Provide temporary water line for CM trailer including backflow prevention devices as

required by AHJ.

3.13. Sanitary sewer.

3.14. Sewer force main.

3.15. Wall mounted FDC.

3.16. Lift station.

3.17. Grease interceptor.

3.18. Layout, excavation, installation and backfill for all piping, inlets, manholes, cleanouts, valves, valve boxes, gasketing, fittings, grouting.

4. PUMP STATION

4.1. Pump station and all ancillary equipment and materials, including but not limited to vaults, wetwells, manholes, reduced pressure zone backflow preventer, hot box, Odor Control System, water heater, pumps, guides, guide rails, guide cables, steps into precast structures, Yard Hydrant, access doors, piping, valves, pump station signage, bioxide feed system with control cabinet (power by others), all excavation, including excavation prior to installation of retaining walls. All cast in place concrete and pads by others. Fencing by others. All precast. Trash basket. Eyewash station by others. All testing, tie-ins, inspections, required for this system with local jurisdiction.

4.2. All pump station and associated off-site and sewer forcemain Work to be installed by a specialized crew, managed by a dedicated superintendent. Work shall not be staffed using the same labor utilized for all other utility Work, unless sequenced independently and not concurrent with other Work.

4.3. All pump station and associated off-site Work shall be by a qualified installer.

4.4. Davit crane and winch. Davit crane foundation.

4.5. Yates Mill Elementary School pump station improvements. Replace impellers. Pump drawdown.

4.6. Abandonment of the common force main discharge at Jones Franklin Pump Station. Grout fill force main and re-form manhole trough.

4.7. Compacted ABC stone and NCDOT type 4 geotextile fabric at pump station.

4.8. Concrete slabs and posts for electrical equipment.

5. STORM DRAINAGE SYSTEMS

5.1. Storm sewers including trenching, gravel bedding, encasement (if required), and backfill. Compact backfill to meet design density.

5.2. Storm drainage system, including roof drain system tie-ins.

5.3. Rip rap.

5.4. Precast concrete structures, including curb inlets, area inlets, catch basins, and junction boxes.

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- 5.5. Downspout boots at roof drain tie-ins.
 - 5.6. Perimeter drains at foundations, seat walls, play surfaces.
 - 5.6.1. Tie-in to nearest storm structure unless otherwise noted.
 - 5.6.2. Stone, fabric, backfill, tie-ins.
 - 5.7. Provide drain beneath artificial turf from connection point storm structure to six-inch artificial turf dome drain. Storm structure connection shall be to closest structure to the artificial turf surface unless otherwise noted on the Subcontract Documents.
 - 5.8. Trench drains.
 - 5.9. Reposition or convert existing drainage structures.
 - 5.10. Layout, excavation, installation and backfill for all piping, inlets, manholes, cleanouts, valves, valve boxes, gasketing, fittings, grouting.
 - 6. SITE MAINTENANCE
 - 6.1. Pumping, dewatering, and sediment control required to prevent standing water associated with either ground water or rainfall at locations where temporary excavations are unable to be gravity drained throughout every phase of the Work.
 - 6.2. Temporary grading to maintain positive drainage of all areas throughout performance of the Work as required to prevent ponding water.
 - 6.3. Protect existing landscaping, groundcover, hardscape, and other components scheduled to remain. Where existing conditions cannot be protected, repair to original condition after completion of the Work.
 - 6.4. Temporary seeding at areas disturbed by construction.
 - 6.5. Erosion control systems (including maintenance and removal when directed by Contractor) throughout the Project duration including after completion of the initial mass excavation Work. Provide regular site investigations initiated by rainfall events and continued maintenance throughout the entire Project duration. Submit documentation required to assist with obtaining the erosion control sediment plan and associated inspections.
 - 6.5.1. Sediment and erosion control devices including but not limited to: silt fence, inlet protection, detention pond / temp sediment basin, slope protection, inlet sediment filters, skimmers, rip rap, spillways, sump and pipe network, tree protection, concrete wash out, stabilized construction entrances, wash down racks, seeding, stabilization mats, temporary drains, swales, diversion ditches.
 - 6.5.1.1. Provide plumbing system for vehicle wash system/racks.
 - 6.5.1.2. Include \$10,000.00 allowance for track out mat rental.
 - 6.5.2. Provide electronic as-built survey and hydraulic conductivity test at bioretention structures and basins.
 - 6.6. Street sweeping of existing roadways adjacent to construction exits, and on new onsite paving as required throughout the duration of the Project.

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- 6.7. Dust control as required to eliminate dust created as a result of the Work as well as dust created on temporary roads and staging areas throughout the full duration of the Project.
 - 6.8. Review and document the current levels of silt/sediment of existing water features, including, but not limited to, ditches, streams, and ponds adjacent to the Project site prior to beginning Work.
 - 6.9. Temporary roads, staging and/or crane pads as shown on the site access plan.
 - 6.10. Remove fines from skimmer basin.
 - 6.11. All temporary roadways, parking areas shall be capable of supporting fire-fighting apparatus (85,000 lbs) during all phases of construction once vertical construction has begun.
 - 6.12. All temporary and permanent bioretention structures, including but not limited to all equipment, filter media, trash racks, riser structures, anti-flotation devices, concrete as required, berms, rip rap, materials, media for a complete system in accordance with the Subcontract Documents. Including the work necessary to convert temporary pond structures into a permanent structure. See Drainage Drawings compared to Erosion Control Drawings.
 - 6.12.1. Provide all inspections and certifications required for proper documentation of the bioretention structures, including periodic inspections, annual inspection by licensed engineer. Maintenance to bioretention structures throughout the project and throughout the warranty period. Maintenance does not include maintaining plantings by others.
 - 6.13. Ground stabilization for this Work.

The following work is excluded:

1. Removal of spoils created by others.
2. Structural excavation.
3. Offsite roadwork.
4. Underground mechanical and electrical utilities, including but not limited to, chilled water supply and return, high pressure steam, electrical lines, and telecommunication conduits and wires.

SCOPE OF WORK 32A - ASPHALT PAVING

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

ASPHALT PAVING - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
321216	Asphalt Paving
321713	Parking Bumpers
321723	Pavement Markings

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Acceptance of subgrade prior to start of Work.
- 1.2. Re-grading required to repair subgrades damaged by the Work of this Scope.
- 1.3. Ensure a straight and uniform edge for the asphalt paving where curbs are not to be installed.
- 1.4. Trim existing paving to ensure smooth and clean transition from existing paving to new paving.

2. ASPHALT

- 2.1. Asphalt paving.
- 2.2. Proof roll the subgrade and make minor adjustments to suit asphalt scope installations. Site grading subcontractor shall leave the subgrade at bottom of asphalt.
- 2.3. Tack coat.
- 2.4. Paving/patching as required at utility connections in existing pavement.
- 2.5. Asphalt curbs.
- 2.6. Precast wheel stops, including galvanized spikes, galvanized dowels, and or galvanized lag screws, shield and washers.
- 2.7. Sawcut all adjacent existing asphalt paving to create a clean, neat, edge to terminate new paving.
- 2.8. Removal off site (to an appropriate and state approved waste handling site) of all asphalt and cold milling waste
- 2.9. Notify Contractor of any soft spots, unsatisfactory soils, or areas of excessive pumping for site grading contractor to replace before proceeding with Work.

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- 2.10. Hot-mix asphalt patching.
 - 2.11. Asphalt heavy duty traffic, pedestrian rated asphalt, asphalt light duty traffic.
 - 2.12. Temporary barricades to block traffic until paving is ready to accept traffic.
 - 2.13. Asphalt joint sealants.
 - 2.14. Place the asphalt base course paving to act as a construction access drive, parking area or laydown storage area during the duration of construction. Maintenance at three different periods, spread across construction period, as directed by the Contractor. Final paving lifts shall be placed when directed by the Contractor after completion of major building and site construction, allowing adequate time for curing, striping prior to substantial completion date for the Project. Include inspection of the base, intermediate asphalt paving courses for damage and repair as needed prior to installation of wearing course of asphalt.
 - 2.15. Thermoplastic pavement markings on both asphalt and site concrete with a minimum 30 days asphalt aging.
 - 2.16. Parking lot marking paint.

The following work is excluded:

- 1. Concrete curbs and flatwork.
- 2. Rip rap.
- 3. Site demolition.
- 4. ABC stone.

SCOPE OF WORK 32B - SITE CONCRETE**SCOPE OF WORK****DRAFT**

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

SITE CONCRETE - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
033000	Cast-In-Place Concrete
034500	Precast Architectural Concrete
055000	Metal Fabrications
079200	Joint Sealants
107516	Ground-set Flagpoles
260543	Underground Ducts And Raceways For Electrical Sy
312317	Trenching
312319	Dewatering
313116	Termite Control
321313	Concrete Paving
321726	Tactile Warning Surfacing
321813	Synthetic Grass Surfacing

This Work specifically includes, but is not limited to:

1. **GENERAL**

- 1.1. Protect adjacent finishes prior to placing concrete. Remove protection after placement of concrete and clean adjacent finishes of splatter or slurry.
- 1.2. Clean roads surrounding Project site from debris resulting from this Work OR during the duration of this Scope of Work.
- 1.3. Protect rebar immediately after placement.
- 1.4. Barricades to restrict traffic from entering on curing concrete surfaces (pedestrian and vehicular).
- 1.5. Snow, ice, and water removal while performing the Work of this Scope.
- 1.6. Hoisting and lifting required to complete the Work.
- 1.7. Layout and Field Engineering as required to complete this Scope of Work. Reference Specification Section 017300 – Execution. Leave control lines on non-exposed concrete for subsequent subcontractors to verify. Include layout and control lines on elevated concrete slabs from grid lines (one in each direction) and benchmark provided by the Contractor. Line shall be sprayed with clear paint to protect integrity of lines. At locations with exposed concrete, ensure that lines can be removed and concrete will

not be stained. Subcontractor shall transfer vertical control point to each floor and protect. Detailed information confirming that all slab openings, edges, anchor bolts, embeds have been checked to confirm they are installed per Subcontractor Documents.

- 1.8. Remove concrete spoils and washouts weekly. Wash out should not be placed in dumpsters.
- 1.9. Traffic control including lane closures, lane closure permits, flagmen, barricades, signage, and locating pump in public right of way.
- 1.10. Cold-Weather Placement of concrete requirements of the Specifications and American Concrete Institute (ACI) guidelines, whichever is the most stringent to ensure successful cold weather concrete placement. Winter heating, tarps, fire watch, as required to place concrete in cold weather.
 - 1.10.1. Submit cold-weather procedures for review by Contractor.
- 1.11. Hot weather concrete placement requirements of the Specifications and ACI guidelines.
- 1.12. Field cure box for Owner's Testing Agent for curing of concrete cylinders. Assist testing agency in moving cylinders.
- 1.13. Reinforcing steel and post tension reinforcing in concrete Work including welding of reinforcing when required.
- 1.14. Reveals, drips, form liners, rustification, chamfered corners, and architectural elements/details.
- 1.15. Layout markings that will not permanently mark concrete finishes.
- 1.16. Concrete pumping and placement as required.
- 1.17. Receive and install anchors, bolts, angles, frames, nosing's, railings, drainage frames, posts, any bollards, blockouts, sleeves, weeps, plates, and other items embedded in concrete. Embedded items furnished by others. Coordinate location of embedded items with others.

2. SITE CONCRETE

- 2.1. Site concrete Work including concrete materials, formwork, placement and finish, screeds, conveyance of concrete, reinforcing steel, wire mesh, control joints, expansion joints, dowels, and miscellaneous accessories required to complete the Work.
 - 2.1.1. Concrete aggregate base as required per the Subcontract Documents.
- 2.2. Pedestrian rated concrete sidewalks, stairs, ramps, pads, retaining walls, heavy duty concrete pavement, driveway entrances, and cast in place seat walls.
- 2.3. Control joints per Subcontract Documents.
 - 2.3.1. Isolation joints.
 - 2.3.2. Construction joints.

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- 2.3.3. Contraction joints.
 - 2.3.4. Sawcut joints.
 - 2.3.5. Doweled contraction joints.
 - 2.3.6. Edging / Tooling of joints and edges per Subcontract Documents.
 - 2.4. Expansion joints and doweled expansion joints.
 - 2.5. Excavation and backfill as necessary to complete the Site concrete Work.
 - 2.6. Proof roll the subgrade per Subcontract Documents and make minor adjustments as necessary.
 - 2.6.1. Notify Contractor of any soft spots, unsatisfactory soils, or areas of excessive pumping for site grading subcontractor to replace before proceeding.
 - 2.7. Concrete finishing per the Subcontract Documents.
 - 2.8. Concrete protection and curing materials, compounds, membranes, and procedures.
 - 2.9. Detectable warning pavers per the Subcontract Documents.
 - 2.10. Concrete for miscellaneous site furnishings such as, benches, trash receptacles, and sport equipment.
 - 2.11. Trash enclosure foundation per Subcontract Documents.
 - 2.12. Exterior mechanical, electrical, and plumbing pads, foundations, and curbs per the Subcontract Documents. Layout by others.
 - 2.12.1. Typical Exterior Equipment Pad Detail: A1/S05.03.
 - 2.13. Ductbank concrete. Coordinate with Electrical and Site Utilities.
 - 2.14. Footings for canopy shade structure. Shade structure by owner.
 - 2.15. Concrete base for aluminum flagpole. Flagpole by others.
 - 2.16. Aggregate subbase for work within this Scope.
 - 2.16.1. Compacted aggregate base beneath artificial turf.
 - 2.17. Artificial turf.
 - 2.17.1. Nailer board, concrete anchor and rebar at artificial turf as required.
 - 2.17.2. Geotextile fabric.
 - 2.17.3. Concrete header curb or nailer board.
 - 2.18. Backer rod at straight joints and preformed fiber expansion joints.
 - 2.19. Concrete base for in-ground basketball goals at exterior.
 - 2.20. Concrete raised pedestrian crossing.

- 2.21. Concrete and reinforcing for cast-in-place seat walls and curbs.
- 2.22. Concrete bases for site signage per the Subcontract Documents.
- 2.23. Concrete, framing, and reinforcing, for Monument Sign per Subcontract Documents.
- 2.24. Installation of bollards provided by others.
- 2.24.1. Pipe bollard installation including layout, block-out for installation, and concrete infill in bollard.
- 2.24.2. Provide and install precast bollard domes per the Subcontract Documents.
- 2.25. Caulking of exterior concrete including but not limited to sidewalks, concrete slabs, curbing.

3. RETAINING WALLS

- 3.1. Provide and install all cast-in-place and segmental block retaining walls, including but not limited to all block, precast, aggregate, excavation, dowels, backfill, foundation drains, fabric, subgrade requirements, engineering, delegated designs.
- 3.2. Excavation, layout, surveys, spoils, rebar, filter fabric, backfill, foundations, footings, granular fill, compaction requirements, bracing, and shoring for Site retaining wall Work.
- 3.3. Provide professional engineer registered in the state of North Carolina to design, prepare, stamp and sign a set of shop drawings for submittal and approval prior to installation. Certification of wall shall be by wall designer.
- 3.4. Comply with recommendations on geotechnical report, including but not limited to the Preliminary Retaining Wall Considerations.
- 3.5. Additional borings as required around walls to provide adequate soil analysis to design walls.
- 3.6. Provide a global stability analysis.
- 3.6.1. Installation of recommendations following the global stability analysis report as required.
- 3.7. Soils with plasticity indices greater than 30 should not be used as backfill behind retaining walls.

The following work is excluded:

1. Asphalt paving.
2. Pavement markings.

SCOPE OF WORK 32D - FENCES AND GATES

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

FENCES AND GATES - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
323113	Chain Link Fences And Gates
323119	Decorative Metal Fences And Gates

This Work specifically includes, but is not limited to:

1. GENERAL

1.1. Remove spoils off-site.

2. FENCING AND GATES

2.1. Fencing, fence foundations, gates, and access control.

2.1.1. Fencing and gates at pump station.

2.2. Dumpster pad gates, posts, and associated hardware and accessories.

2.3. Excavation, concrete, and backfill for posts.

2.4. Operators, security devices, ground sensor loops, low voltage conduit, and wiring.

2.5. All grounding materials for this Work.

The following work is excluded:

1. 120V power to devices.

SCOPE OF WORK 32E - AGGREGATE PIERS

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

AGGREGATE PIERS - Including, but not limited to, Specification sections:

000000	Division 0
010000	Division 01
316100	Aggregate Piers

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Delegated design for RAP including quantity, location, depth and diameter with professional engineer's seal (licensed in the state where the Project is located) on Shop Drawings and calculations. Include information on fill material and compaction requirements. Reference geotechnical report and Subcontract Documents for design parameters.
- 1.2. Excavation.
- 1.3. Provide layout and surveying for this scope of work. Control is provided by Contractor.
- 1.4. Temporary safety protection for holes and openings.

2. RAMMED AGGREGATE PIERS

- 2.1. Utility locates prior to commencement of the Work.
- 2.2. Dewater pier holes.
- 2.3. Haul off pier spoils.
- 2.4. Temporary safety protection for holes and openings.
- 2.5. Maintain accurate records during installation of the RAP system and submit final as-built drawings showing actual conditions of location, final depth, and pressure of piers.
- 2.6. Re-testing and added piers due to non-conformance.
- 2.7. Street cleaning during the Work.
- 2.8. Provide sufficient quantity of drill rigs to maintain the project schedule.
- 2.9. Subcontractor shall provide water for rammed aggregate pier installation if required.
- 2.10. Provide and remove test pier.

The following work is excluded:

1. Foundation excavation.
2. Concrete foundations.

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SCOPE OF WORK 32G - LANDSCAPING AND HARDSCAPING

SCOPE OF WORK

The Subcontractor shall execute the following portion of the Work described in the Subcontract Documents, including all labor, materials, services, superintendence, and other items required to complete such portion of the Work:

LANDSCAPING AND HARDSCAPING - Including, but not limited to, Specification Section(s):

000000	Division 0
010000	Division 01
321813	Synthetic Grass Surfacing
329115	Soil Preparation (performance Specification
329200	Turf And Grasses
329300	Plants

This Work specifically includes, but is not limited to:

1. GENERAL

- 1.1. Temporary protection of existing facilities as required to perform this Scope of Work.
Protect existing surfaces including but not limited to sidewalks, buildings, fencing, preexisting structures, roadways, curb. Subcontractor to repair damages to finished material.
- 1.2. Warranties and landscape maintenance including watering, mowing, until Owner's acceptance and for the time period specified in the Subcontract Documents.
- 1.3. All trees and shrubs to be inspected and pruned prior to Final Acceptance by the Owner.
- 1.4. Layout location of all plants, arrangement and outline of planting beds for review and approval by the Landscape Architect prior to any excavation of plan pits or preparation of plant beds. Notify Landscape Architect if major adjustments from the plan are anticipated. Surveying may be required.
- 1.5. Locate existing utilities.
- 1.6. Should all material need to be ordered at once for consistency, it is the requirement of this Subcontractor to store and install when site permits.

2. LANDSCAPING

- 2.1. Plant materials, including, but not limited to, trees, shrubs, grasses, ground cover.
- 2.2. Rocks, boulders, soil mix, topsoil (re-spread stockpile or imported material), mulch, gravel, fertilizer, soil conditioners, fabric, steel edging, and other related landscaping items.
- 2.3. Sod and/or seeding.

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- 2.4. Watering and maintenance for permanent installations, including watering required for proper establishment of sod, seed, plants, trees, shrubs, and ground cover.
 - 2.5. Tree staking, including any guy wires.
 - 2.6. Removal of weeds, roots, plants, stones, clay lumps, and other extraneous material prior to sodding and planting.
 - 2.7. Clean adjacent work and/or property to its original condition after completion of the Scope of Work.
 - 2.8. Quantities shown in Landscape Schedule are for general reference only; install plant quantities as illustrated in the Drawings.
 - 2.9. Plant only during one of the specified planting periods. Do not work soil when moisture content is so great that excessing compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content for grading. Do not work soil when muddy or frozen.
 - 2.10. Dewatering of any open holes/trenches for this Scope of Work.
 - 2.11. Full maintenance immediately after an area is planted and until plantings are healthy and well established per Subcontract Documents.

3. HARDSCAPING

3.1. Provide artificial turf and underdrain.

- 3.1.1. Synthetic turf, artificial turf fiber with top dressing, filter fabric, compacted turf base, attachment to concrete curb, dome drain, connection to civil storm line, stainless steel staple attached to nailer board, backing system, geotextile fabric, concrete anchors, compacted aggregate base.

The following work is excluded:

1. Drain beneath artificial turf from connection point storm structure to six-inch artificial turf dome drain.