

Section No.	Section Title	Section Description
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### DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

000101	Project Title Page	Project Manual title page.
000107	Seals Page	For seals of design professionals on Project Manual.
000115	List of Drawing Sheets	List of Drawings.
000120	List of Schedules	For a list of separately bound schedules.
001113	Advertisement for Bids	For use on public projects.
001115	Advertisement for Prequalification of Bidders	For use on public projects.
001116	Invitation to Bid	For use on private projects.
001153	Request for Qualifications	For use on public projects.
002113	Instructions to Bidders	Incorporates AIA A701 by reference.
002213	Supplementary Instructions to Bidders	For use with AIA A701.
002513	Prebid Meetings	Sets date, time, place, and terms for prebid meetings.
002600	Procurement Substitution Procedures	Substitution procedures during bidding.
003113	Preliminary Schedules	Preliminary schedules.
003119	Existing Condition Information	References documents for survey and as-built information.
003126	Existing Hazardous Material Information	References documents for existing hazardous materials.
003132	Geotechnical Data	References documents for geotechnical data.
003143	Permit Application	Indicates responsibility for building permit application.
004113	Bid Form - Stipulated Sum (Single-Prime Contract)	Fixed price, single prime.
004116	Bid Form - Stipulated Sum (Multiple-Prime Contract)	Fixed price, multiple prime.
004123	Bid Form - Construction Management (Single-Prime Contract)	Fixed price, construction management, single prime.
004126	Bid Form - Construction Management (Multiple-Prime Contract)	Fixed price, construction management, multiple prime.
004133	Bid Form - Cost-Plus-Fee (Single-Prime Contract)	Cost plus, with or without guaranteed maximum.
004313	Bid Security Forms	References AIA A310.
004321	Allowance Form	Attachment for Bid Form.
004322	Unit Prices Form	Attachment for Bid Form.
004323	Alternates Form	Attachment for Bid Form.
004373	Proposed Schedule of Values Form	Attachment for Bid Form.
004393	Bid Submittal Checklist	Attachment for Bid Form.
005100	Notice of Award	For notifying successful bidder.
006000	Project Forms	References Agreement, General Conditions, and administrative forms.
009113	Addenda	For notifying bidders of changes.

### DIVISION 01 - GENERAL REQUIREMENTS

010000	General Requirements	Evaluations: Role of Division 1 Sections, their preparation and coordination.
011000	Summary	Summary of the Work, phased construction, purchase contracts, Owner-furnished products, access to site, and work restrictions.
011200	Multiple Contract Summary	Responsibilities of each contract for the Work, coordination, and temporary facilities and controls.
012100	Allowances	Provisions for cash allowances including lump-sum, unit cost, contingency, and testing and inspecting allowances.
012200	Unit Prices	Provisions for unit prices.
012300	Alternates	Provisions for change-of-scope and cost-comparison type alternates.

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Section No.	Section Title	Section Description
012500	Substitution Procedures	Procedural requirements for requests for substitutions during construction.
012600	Contract Modification Procedures	Procedural requirements for changes to the Contract.
012900	Payment Procedures	Administrative requirements for Contractor's Applications for Payment.
013100	Project Management and Coordination	Administrative requirements for project meetings; preconstruction, preinstallation, and project closeout conferences; RFIs; and project Web sites.
013200	Construction Progress Documentation	Contractor's Construction Schedule including Gantt charts and CPM schedules; and web-based project software.
013233	Photographic Documentation	Construction photographs, video recordings, and web-based photographic documentation.
013300	Submittal Procedures	Procedures for Action and Informational Submittals including Delegated-Design Submittals and Submittals Schedule.
013516	Alteration Project Procedures	General protection and work procedures for remodeling, renovation, repair, and maintenance work.
014000	Quality Requirements	Quality-assurance and -control requirements, special tests and inspections, and Contractor's quality-control plan.
U 014200	References	Common definitions and terms; and acronyms and trade names of associations, government agencies, and other entities referenced in MasterSpec.
015000	Temporary Facilities and Controls	Temporary utilities and facilities for construction support, security, and protection.
016000	Product Requirements	Administrative and procedural requirements for product, material, and equipment selection and handling; warranties; and comparable products.
017300	Execution	General requirements for product installation, cutting and patching, protection, field engineering, and progress cleaning.
017419	Construction Waste Management and Disposal	Salvaging, recycling, and disposing of non-hazardous demolition and construction waste.
017700	Closeout Procedures	Contract closeout including Substantial Completion and Final Completion procedures, warranties, and final cleaning.
017823	Operation and Maintenance Data	Emergency, operation, and maintenance manuals for products and equipment.
017839	Project Record Documents	Record record Drawings, Specifications, and Product Data.
017900	Demonstration and Training	Administrative and procedural requirements for instructing Owner's personnel in operation and maintenance.
018113.13	Sustainable Design Requirements - LEED 2009 for New Construction and Major Renovations	General requirements and procedures for LEED 2009 for New Construction and Major Renovations.
018113.14	Sustainable Design Requirements - LEED v4 BD+C	General requirements and procedures for LEED v4 BD+C.
018113.16	Sustainable Design Requirements - LEED 2009 for Commercial Interiors	General requirements and procedures for LEED 2009 for Commercial Interiors.
018113.17	Sustainable Design Requirements - LEED v4 ID+C	General requirements and procedures for LEED v4 ID+C.
018113.19	Sustainable Design Requirements - LEED 2009 for Core and Shell Development	General requirements and procedures for LEED 2009 for Core and Shell Development.
018113.23	Sustainable Design Requirements - LEED 2009 for Schools	General requirements and procedures for LEED 2009 for Schools.
018113.33	Sustainable Design Requirements - IgCC	General requirements and procedures for IgCC.
018113.43	Sustainable Design Requirements - ASHRAE 189.1	General requirements and procedures for ASHRAE 189.1.
018113.53	Sustainable Design Requirements - Green Globes	General requirements and procedures for Green Globes.

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Section No.	Section Title	Section Description
<b>DIVISION 02 - EXISTING CONDITIONS</b>		
U 024116	Structure Demolition	Demolition of existing buildings, structures, and associated site improvements.
024119	Selective Demolition	Demolition of selected portions of existing buildings, structures, and associated site improvements.
<b>DIVISION 03 - CONCRETE</b>		
033053	Miscellaneous Cast-In-Place Concrete	Cast-in-place concrete for limited applications.
<b>DIVISION 05 - METALS</b>		
U 055000	Metal Fabrications	Metal items (not sheet metal) made from iron and steel shapes, stainless steel, and non-ferrous metals.
055313	Bar Gratings	Metal bar gratings and frames.
055316	Plank Gratings	Metal plank gratings and frames.
055319	Expanded Metal Gratings	Expanded metal gratings and frames.
057100	Decorative Metal Stairs	Architectural steel stairs.
<b>DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES</b>		
061000	Rough Carpentry	Wood framing, furring, frounds, nailers, and blocking.
061053	Miscellaneous Rough Carpentry	Minor wood framing, furring, grounds, nailers, and blocking.
067413	Fiberglass Reinforced Gratings	Fiberglass bar gratings and frames.
<b>DIVISION 07 - THERMAL AND MOISTURE PROTECTION</b>		
076200	Sheet Metal Flashing and Trim	Custom-fabricated roof and wall flashings and roof-drainage systems, and manufactured through-wall flashing and reglets.
077200	Roof Accessories	Roof curbs, equipment supports, roof hatches, heat and smoke vents, gravity ventilators, pipe supports, roof walkways, and preformed flashing sleeves.
U 078413	Penetration Firestopping	Systems installed in fire-resistance-rated walls, horizontal assemblies, and smoke barriers.
079200	Joint Sealants	Elastomeric joint sealants including, silicone, urethane, STPE, polysulfide, butyl, and latex.
<b>DIVISION 08 - OPENINGS</b>		
U 083113	Access Doors and Frames	Wall and ceiling units.
083113.53	Security Access Doors and Frames	Medium-, high-, and maximum-security units for walls and ceilings.
083473.13	Metal Sound Control Door Assemblies	Assemblies consisting of steel doors, steel frames, and sound control seals.
083473.16	Wood Sound Control Door Assemblies	Assemblies consisting of wood doors, steel frames, and sound control seals.
089116	Operable Wall Louvers	Operable (adjustable) metal louvers including those with insulated blades.
089119	Fixed Louvers	Fixed metal louvers.
<b>DIVISION 09 - FINISHES</b>		
099113	Exterior Painting	Exterior painting.
099123	Interior Painting	Interior painting.

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Section No.	Section Title	Section Description
099600	High-Performance Coatings	Tile-like coatings for use on exterior and interior substrates.
099633	High-Temperature-Resistant Coatings	Heat-resistant coatings for use on exterior and interior substrates.
<b>DIVISION 10 - SPECIALTIES</b>		
104413	Fire Protection Cabinets	Fire-protection cabinets and security fire-protection cabinets.
U 104416	Fire Extinguishers	Portable and wheeled fire extinguishers.
<b>DIVISION 11 - EQUIPMENT</b>		
115313	Laboratory Fume Hoods	Hoods and hood stands, including work tops.
<b>DIVISION 21 - FIRE SUPPRESSION</b>		
210513	Common Motor Requirements for Fire Suppression Equipment	Universal default values for small and medium, ac motors.
210517	Sleeves and Sleeve Seals for Fire-Suppression Piping	Sleeves and sleeve seals for piping at floor and wall penetrations.
210518	Escutcheons for Fire-Suppression Piping	Escutcheons and floor plates for piping at ceiling, floor, and wall penetrations.
210523	General-Duty Valves for Fire Protection Piping	Valves common to most fire-protection piping.
210529	Hangers and Supports for Fire Suppression Piping and Equipment	Single and multiple hangers, framing systems, and stands and supports.
210533	Heat Tracing for Fire-Suppression Piping	Electric cables for freeze protection.
210548	Vibration and Seismic Controls for Fire-Suppression Piping and Equipment	Vibration isolation devices and seismic restraints.
210548.13	Vibration Controls for Fire-Suppression Piping and Equipment	Vibration isolation devices.
210553	Identification for Fire-Suppression Piping and Equipment	Labels, stencils, and tags.
210700	Fire-Suppression Systems Insulation	Equipment and pipe insulation.
211100	Facility Fire-Suppression Water-Service Piping	Fire suppression piping and specialties outside the building.
211116	Facility Fire Hydrants	AWWA and UL listed dry- and wet-barrel fire hydrants.
211119	Fire Department Connections	Exposed-, flush-, and yard-type fire-department connections.
211200	Fire-Suppression Standpipes	Piping, specialties, valves, hose valves, and hose stations.
211213	Fire-Suppression Hoses and Nozzles	Hoses, reels, and racks for rack- and reel-type hose stations; and fire-suppression monitors.
211313	Wet-Pipe Sprinkler Systems	Piping, specialties, valves, and sprinklers for wet-pipe sprinkler systems.
211316	Dry-Pipe Sprinkler Systems	Piping, specialties, valves, and sprinklers for dry-pipe and preaction sprinkler systems.
211339	Foam-Water Systems	Fixed, low-expansion, AFFF systems for flammable-liquid fires.
212113.13	High-Pressure, Carbon-Dioxide Fire-Extinguishing Systems	Piping, fittings, and specialties for systems that deliver carbon dioxide for fire extinguishing and suppression.
212113.16	Low-Pressure, Carbon-Dioxide Fire-Extinguishing Systems	Piping, fittings, and specialties for systems that deliver carbon dioxide for fire extinguishing and suppression.
212200	Clean-Agent Fire-Extinguishing Systems	Piping, containers, detection and alarms, and controls for clean-agent systems.
213113	Electric-Drive, Centrifugal Fire Pumps	End-suction, in-line, and split-case fire pumps; accessories, specialties, and flowmeter systems.
213116	Diesel-Drive, Centrifugal Fire Pumps	End-suction, in-line, and split-case fire pumps; accessories, specialties, and flowmeter systems.

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Section No.	Section Title	Section Description
213213	Electric-Drive, Vertical-Turbine Fire Pumps	Fire pumps, accessories, specialties, and flowmeter systems.
213216	Diesel-Drive, Vertical-Turbine Fire Pumps	Fire pumps, accessories, specialties, and flowmeter systems.
213413	Pressure-Maintenance Pumps	Multistage, regenerative turbine, submersible, and vertical-turbine pumps; pump controllers.

### DIVISION 22 - PLUMBING

220513	Common Motor Requirements for Plumbing Equipment	Universal default values for small and medium, ac motors.
220516	Expansion Fittings and Loops for Plumbing Piping	Expansion joints and expansion-compensation devices for plumbing piping.
220517	Sleeves and Sleeve Seals for Plumbing Piping	Sleeves and sleeve seals for piping at floor and wall penetrations.
220518	Escutcheons for Plumbing Piping	Escutcheons and floor plates for piping at ceiling, floor, and wall penetrations.
220519	Meters and Gages for Plumbing Piping	Temperature, pressure, and flow.
220523.12	Ball Valves for Plumbing Piping	Ball valves common to multiple systems.
220523.13	Butterfly Valves for Plumbing Piping	Butterfly valves common to multiple systems.
220523.14	Check Valves for Plumbing Piping	Check valves common to multiple systems.
220523.15	Gate Valves for Plumbing Piping	Gate valves common to multiple systems.
220529	Hangers and Supports for Plumbing Piping and Equipment	Single and multiple hangers, framing systems, and stands and supports.
220533	Heat Tracing for Plumbing Piping	Electric cables for freeze protection, snow and ice melting, and temperature maintenance.
220548	Vibration and Seismic Controls for Plumbing Piping and Equipment	Vibration isolation devices and seismic restraints.
220548.13	Vibration Controls for Plumbing Piping and Equipment	Vibration isolation devices.
220553	Identification for Plumbing Piping and Equipment	Labels, stencils, and tags.
220716	Plumbing Equipment Insulation	Insulation materials, jackets, and installation accessories for plumbing equipment.
220719	Plumbing Piping Insulation	Insulation materials, jackets, and installation accessories for plumbing piping.
U 221113	Facility Water Distribution Piping	Utility service, domestic, and fire-protection water, specialties, and valves.
U 221116	Domestic Water Piping	Potable-water distribution within the building.
U 221117	Gray-Water Piping	Non-potable water piping.
221119	Domestic Water Piping Specialties	Specialties, valves, and fittings for domestic water piping.
221123.13	Domestic-Water Packaged Booster Pumps	Water-pressure boosters, simplex and multi-plex; constant- and variable speed pumps.
221123.21	Inline, Domestic-Water Pumps	In-line separately coupled, close-coupled, centrifugal pumps.
221216	Facility Elevated, Potable-Water Storage Tanks	Above-ground water storage.
221219	Facility Ground-Mounted, Potable-Water Storage Tanks	Surface-mounted water storage.
221223.11	Facility Indoor Potable-Water Storage Tanks	Water storage; compression and diaphragm.
221313	Facility Sanitary Sewers	Sanitary sewerage and underground structures outside the building.
U 221316	Sanitary Waste and Vent Piping	Soil, waste, and vent piping within the building.
221319	Sanitary Waste Piping Specialties	Backwater and air admittance valves, cleanouts, sanitary assemblies, FOG systems, and sanitary drainage specialties.
221319.13	Sanitary Drains	Floor and trench drains, and channel drain systems.
221323	Sanitary Waste Interceptors	Grease, oil, and sand interceptors for sewerage systems outside the building.

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Section No.	Section Title	Section Description
221329	Sanitary Sewerage Pumps	Effluent pumps; automatic, packaged; basins and covers.
221343	Facility Packaged Sewage Pumping Stations	Pump, compressor, tank, and controls.
221353	Facility Septic Tanks	Tank, distribution box, and drainage pipe.
221363	Facility Gray-Water Storage Tanks	Above-ground gray-water storage.
U 221413	Facility Storm Drainage Piping	Stormwater piping within the building.
221423	Storm Drainage Piping Specialties	Roof drains, cleanouts, trench drains, channel drains, and piping specialties.
221429	Sump Pumps	Submersible, wet-pit volute, and package drainage-pump units; basins and covers.
221463	Facility Storm-Water Retention Tanks	Above-ground storm-water storage.
221513	General-Service Compressed-Air Piping	Nonmedical piping, equipment, and accessories.
221519	General-Service Packaged Air Compressors and Receivers	Nonmedical air compressors, filters, and dryers.
223100	Domestic Water Softeners	Domestic and general use, not treatment.
223200	Domestic Water Filtration Equipment	Separators; and bag, cartridge, carbon, sand, and greensand filters.
U 223300	Electric, Domestic-Water Heaters	Household and commercial; tankless, instantaneous, and storage types.
U 223400	Fuel-Fired, Domestic-Water Heaters	Household and commercial; gas and oil fired; instantaneous and storage types.
223500	Domestic-Water Heat Exchangers	Steam and hot-water heat exchangers; instantaneous and storage types.
224100	Residential Plumbing Fixtures	Residential water closets, lavatories, sinks, bathtubs, and shower receptors and basins.
224213.13	Commercial Water Closets	Commercial water closets, supports, flushometer valves, and supplies.
224213.16	Commercial Urinals	Commercial urinals, supports, and flushometer valves.
224216.13	Commercial Lavatories	Commercial lavatories, supports, faucets, traps, and supplies.
224216.16	Commercial Sinks	Commercial sinks, supports, faucets, traps, and supplies.
224223	Commercial Showers	Shower receptors, basins, enclosures, faucets, and heads.
224233	Wash Fountains	Stone, metal, and plastic wash fountains.
224300	Healthcare Plumbing Fixtures	Plumbing fixtures for healthcare facilities.
224500	Emergency Plumbing Fixtures	Individual and combination emergency eyewash and shower units.
224600	Security Plumbing Fixtures	Detention facility plumbing fixtures.
U 224713	Drinking Fountains	Pedestal, antifreeze pedestal, wheelchair accessible, wall mounted.
U 224716	Pressure Water Coolers	Freestanding, wall mounted, and wheelchair accessible.
224723	Remote Water Coolers	Remote water chillers.
U 226113	Compressed-Air Piping for Laboratory and Healthcare Facilities	Piping for nonmedical laboratory air, medical air, dental air, instrument air, and medical laboratory air.
226119	Compressed-Air Equipment for Laboratory and Healthcare Facilities	Compressors, filters, and dryers for laboratory and healthcare facilities.
U 226213	Vacuum Piping for Laboratory and Healthcare Facilities	Piping for laboratory vacuum, medical surgical vacuum, waste anesthetic gas, dental vacuum, oral evacuation, and healthcare laboratory vacuum.
226219	Vacuum Equipment for Laboratory and Healthcare Facilities	Vacuum producers and accessories for laboratory and healthcare facilities.
U 226313	Gas Piping for Laboratory and Healthcare Facilities	Piping for CO <sub>2</sub> , helium, NO <sub>2</sub> , and O <sub>2</sub> .
226400	Medical Gas Alarms	Alarms for medical gas systems.
226600	Chemical-Waste Systems for Laboratory and Healthcare Facilities	Single- and double-wall piping and specialties, neutralization tanks, and leak detection.

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Section No.	Section Title	Section Description
226700	Processed Water Systems for Laboratory and Healthcare Facilities	Pipe, fittings, and specialties for deionized, distilled, and reverse osmosis water.
N 226713	Processed Water Piping for Laboratory and Healthcare Facilities	Pipe, fittings, and valves for reagent, deionized, distilled, and reverse osmosis water.
N 226719	Processed Water Equipment for Laboratory and Healthcare Facilities	Equipment for reagent, deionized, distilled, and reverse osmosis water.

### DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

230130.52	Existing HVAC Air Distribution System Cleaning	Cleaning existing HVAC air-distribution equipment, ducts, plenums, air outlets and inlets, and duct accessories.
230513	Common Motor Requirements for HVAC Equipment	Universal default values for small and medium, ac motors.
230516	Expansion Fittings and Loops for HVAC Piping	Expansion joints and expansion-compensation devices for HVAC piping.
230517	Sleeves and Sleeve Seals for HVAC Piping	Sleeves and sleeve seals for piping at floor and wall penetrations.
230518	Escutcheons for HVAC Piping	Escutcheons and floor plates for piping at ceiling, floor, and wall penetrations.
230519	Meters and Gages for HVAC Piping	Temperature, pressure, and flow.
230523.11	Globe Valves for HVAC Piping	Globe valves common to multiple systems.
230523.12	Ball Valves for HVAC Piping	Ball valves common to multiple systems.
230523.13	Butterfly Valves for HVAC Piping	Butterfly valves common to multiple systems.
230523.14	Check Valves for HVAC Piping	Check valves common to multiple systems.
230523.15	Gate Valves for HVAC Piping	Gate valves common to multiple systems.
230523.16	Plug Valves for HVAC Piping	Plug valves common to multiple systems.
230529	Hangers and Supports for HVAC Piping and Equipment	Single and multiple hangers, framing systems, and stands and supports.
230533	Heat Tracing for HVAC Piping	Electric cables for freeze protection.
230548	Vibration and Seismic Controls for HVAC	Vibration isolation devices and seismic restraints.
230548.13	Vibration Controls for HVAC	Vibration isolation devices.
230553	Identification for HVAC Piping and Equipment	Labels, stencils, and tags.
230566	Antimicrobial Ultraviolet Lamp Systems for HVAC	Antimicrobial ultraviolet lamp systems for mounting in air-handling units, fan coil units, and packaged unitary HVAC equipment.
230593	Testing, Adjusting, and Balancing for HVAC	Air distribution and hydronic systems.
230713	Duct Insulation	Insulation materials, jackets, and installation accessories for HVAC ducts.
230716	HVAC Equipment Insulation	Insulation materials, jackets, and installation accessories for HVAC equipment.
230719	HVAC Piping Insulation	Insulation materials, jackets, and installation accessories for HVAC piping.
230923	Direct Digital Control (DDC) System for HVAC	Direct digital control system for monitoring and controlling HVAC systems.
230923.11	Control Valves	Control valves and actuators that connect to direct digital control systems.
230923.12	Control Dampers	Control dampers and actuators that connect to direct digital control systems.
230923.13	Energy Meters	Thermal and electric power energy meters that connect to direct digital control systems.
230923.14	Flow Instruments	Airflow and liquid flow sensors, switches and transmitters, and water meters that connect to direct digital control systems.
230923.16	Gas Instruments	Carbon dioxide, oxygen, and VOC gas detection instruments and control devices that connect to direct digital control systems.

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Section No.	Section Title	Section Description
230923.17	Level Instruments	Liquid level switches, sensors, and transmitters that connect to direct digital control systems.
230923.18	Leak Detection Instruments	Leak detection switches (point type) and leak detector switches (cable type) that connect to direct digital control systems.
230923.19	Moisture Instruments	Humidity and moisture sensors and transmitters that connect to direct digital control systems.
230923.21	Motion Instruments	PIR, ultrasonic, and dual-technology type motion detection instruments that connect to direct digital control systems.
230923.22	Position Instruments	Limit switches that connect to direct digital control systems.
230923.23	Pressure Instruments	Air and liquid pressure sensors, switches, and transmitters that connect to direct digital control systems.
230923.24	Speed Instruments	Speed switches that connect to direct digital control systems.
230923.27	Temperature Instruments	Air, liquid, and steam temperature sensors, switches, transmitters and thermostat that connect to direct digital control systems.
230923.33	Vibration Instruments	Vibration switches that connect to direct digital control systems.
230923.43	Weather Stations	Weather stations that connect to direct digital control systems.
230993.11	Sequence of Operations for HVAC DDC	Direct digital control sequences for HVAC systems.
U 231113	Facility Fuel-Oil Piping	Fuel-oil piping, valves, specialties; leak-detection and monitoring systems for No. 2 fuel oil.
U 231123	Facility Natural-Gas Piping	Natural gas piping and specialties.
U 231126	Facility Liquefied-Petroleum Gas Piping	LP gas piping, specialties, and storage equipment.
231213	Facility Fuel-Oil Pumps	Simplex, duplex, and triplex transfer pumps; submersible storage tank pumps; and fuel-oil maintenance systems.
231313	Facility Underground Fuel-Oil Storage Tanks	Steel and FRP UST; accessories; liquid-level gage system; and leak-detection systems.
231323	Facility Aboveground Fuel-Oil Storage Tanks	Vertical, horizontal, containment-dike, insulated, and concrete vaulted steel AST.
U 232113	Hydronic Piping	Pipes, tubes, and fittings for heating and cooling water piping.
232113.13	Underground Hydronic Piping	Underground piping outside the building.
232113.33	Ground-Loop Heat-Pump Piping	Horizontal and vertical, direct-buried, ground-loop piping.
232116	Hydronic Piping Specialties	Specialties and special-duty valves for heating and cooling water piping.
232123	Hydronic Pumps	Base mounted and in-line; close coupled and separately coupled.
U 232213	Steam and Condensate Heating Piping	Pipes, tubes, and fittings for LP and HP steam piping.
232216	Steam and Condensate Heating Piping Specialties	Specialties and special-duty valves for LP and HP steam piping.
232223	Steam Condensate Pumps	Electric driven and pressure powered; single and duplex pumps with receivers.
U 232300	Refrigerant Piping	Piping, specialties, and refrigerant.
U 232500	HVAC Water Treatment	Auto and manual systems for hydronic systems and steam feedwater systems.
U 232513	Water Treatment for Closed-Loop Hydronic Systems	Auto and manual systems for closed-loop hydronic systems.
U 232516	Water Treatment for Open-Loop Hydronic Systems	Auto and manual systems for open-loop hydronic systems.
U 232519	Water Treatment for Steam System Feedwater	Auto and manual systems for steam feedwater systems.

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Section No.	Section Title	Section Description
U 232523	Water Treatment for Humidification Steam System Feedwater	Automatic systems for humidification steam feedwater systems.
U 232533	HVAC Makeup-Water Filtration Equipment	Water filtration systems for HVAC makeup water systems.
233113	Metal Ducts	Rectangular and round, single- and double-wall ducts, including hangers and supports.
233116	Nonmetal Ducts	Fibrous-glass, PVC, and FRP ducts, hangers, and supports. Does not include fabric.
233300	Air Duct Accessories	Volume dampers, fire and smoke dampers, vanes, duct silencers, and hardware.
233346	Flexible Ducts	Non-insulated and insulated flexible ducts and flexible duct connectors.
233413	Axial HVAC Fans	Tubeaxial and vaneaxial fans.
233416	Centrifugal HVAC Fans	BI & FC indoor type; tubular and in-line units.
233423	HVAC Power Ventilators	Roof, wall, and ceiling-mounting ventilators.
233433.13	Commercial Air Curtains	Commercial air curtain fans over entranceways, with and without heating.
233433.16	Industrial Air Curtains	Industrial air curtain fans over entranceways, with and without heating.
233439	High-Volume, Low-Speed Fans	Large diameter, high-volume, low-speed ceiling fans.
233533	Listed Kitchen Ventilation System Exhaust Ducts	Listed grease ducts.
233600	Air Terminal Units	Single-duct, dual-duct, fan-powered, induction, and diffuser types.
233713.13	Air Diffusers	Round, rectangular, perforated, and linear diffusers.
233713.23	Registers and Grilles	Fixed and adjustable registers and grilles.
233713.43	Security Registers and Grilles	Security registers and grilles.
233716	Fabric Air-Distribution Devices	Continuous tubular fabric air diffusers, connectors, and accessories.
233723	HVAC Gravity Ventilators	Unpowered ventilators and louver penthouses.
233813	Commercial-Kitchen Hoods	Type I and Type II, Standard and Listed hoods.
234100	Particulate Air Filtration	Disposable, extended surface, and roll types.
234133	High-Efficiency Particulate Air Filtration	High-efficiency particulate air filters, ultralow-penetration air (ULPA) filters, filter frames, and filter gages.
234200	Gas-Phase Air Filtration	Gas adsorbent and rechargeable media, trays and housings, frames, and filter gages.
234300	Electronic Air Cleaners	Electronic air cleaners, access housings, service frames, and filter gages.
235113.11	Draft Control Fans	Induced-draft fans.
235113.16	Vent Dampers	Barometric dampers.
235116	Fabricated Breechings and Accessories	Refractory-lined breechings and field-fabricated breechings.
235123	Gas Vents	Listed double-wall vents.
235133	Insulated Sectional Chimneys	Double-wall and refractory-lined chimneys; fabricated chimneys.
235213	Electric Boilers	HW and steam; HP and LP.
235216	Condensing Boilers	Packaged condensing boilers for small applications.
235223	Cast-Iron Boilers	HW and steam; gas and oil fired.
235233	Water-Tube Boilers	HW and steam; gas and oil fired.
235239	Fire-Tube Boilers	HW and steam; gas and oil fired.
235313	Boiler Feedwater Pumps	Condensate and vacuum pumps and receivers.
235316	Deaerators	Spray, packed column, and package tray.
235413	Electric-Resistance Furnaces	Electric furnaces.
235416.13	Gas-Fired Furnaces	Gas-fired furnaces.

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Section No.	Section Title	Section Description
235416.16	Oil-Fired Furnaces	Oil-fired furnaces.
235513.16	Gas-Fired Duct Heaters	Natural gas and propane, duct-mounted units.
235523.13	Low-Intensity, Gas-Fired, Radiant Heaters	Low intensity, gas-fired, indoor and outdoor radiant heaters.
235523.16	High-Intensity, Gas-Fired, Radiant Heaters	High-intensity, gas-fired, indoor and outdoor radiant heaters and patio heaters.
235533.13	Oil-Fired Unit Heaters	Fuel-oil unit heaters with propeller and centrifugal fans.
235533.16	Gas-Fired Unit Heaters	Natural gas and propane unit heaters with propeller and centrifugal fans.
235613.13	Heating, Flat-Plate, Solar Collectors	Liquid-type, medium-temperature, glazed solar panels.
235613.19	Heating, Solar, Vacuum-Tube Collectors	Liquid-type, vacuum-tube solar collectors, accessories, and mountings.
235700	Heat Exchangers for HVAC	Steam to water and water to water; shell-and-tube and flat-plate types.
236200	Packaged Compressor and Condenser Units	Air and water cooled.
236313	Air-Cooled Refrigerant Condensers	Remote forced-air, condenser, and fan units.
236333	Evaporative Refrigerant Condensers	Induced- and forced-draft evaporative refrigerant condensers.
236413.13	Direct-Fired Absorption Water Chillers	Natural-gas, propane, and oil fired; water cooled; two stages; and a brush-cleaning system.
236413.16	Indirect-Fired Absorption Water Chillers	Steam and hot-water generated; one and two stage.
236416	Centrifugal Water Chillers	Hermetic and open; direct and gear drives; water and air cooled.
236423.13	Air-Cooled, Scroll Water Chillers	Packaged, air-cooled, scroll water chillers.
236423.16	Water-Cooled, Scroll Water Chillers	Packaged, water-cooled, scroll water chillers.
236426.13	Air-Cooled, Rotary-Screw Water Chillers	Packaged, air-cooled indoor and outdoor rotary-screw water chillers.
236426.16	Water-Cooled, Rotary-Screw Water Chillers	Water-cooled, single- and multiple-compressor units.
236513.13	Open-Circuit, Forced-Draft Cooling Towers	Factory-assembled, open-circuit, forced-draft, towers.
236513.16	Closed-Circuit, Forced-Draft Cooling Towers	Factory-assembled, closed-circuit, forced-draft, towers.
236514.13	Open-Circuit, Induced-Draft, Counterflow Cooling Towers	Factory-assembled, open-circuit, induced-draft, counterflow towers.
236514.14	Open-Circuit, Induced-Draft, Crossflow Cooling Towers	Factory-assembled, open-circuit, induced-draft, crossflow towers.
236514.16	Closed-Circuit, Induced-Draft, Counterflow Cooling Towers	Factory-assembled, closed-circuit, induced-draft, counterflow towers.
236514.17	Closed-Circuit, Induced-Draft, Combined-Flow Cooling Towers	Factory-assembled, closed-circuit, induced-draft, combined-flow towers.
237213	Heat Wheel Air-To-Air Energy Recovery Units	Rotary heat wheel, sensible-only or total heat transfer heat exchangers.
237216	Heat Pipe Air-To-Air Energy Recovery Units	Heat pipe, sensible heat, heat exchangers utilizing passive-refrigerant heat transfer.
237219	Fixed Plate Air-To-Air Energy Recovery Units	Fixed plate, sensible and total heat transfer heat exchangers.
237223.13	Packaged Indoor Heat Wheel Energy Recovery Units	Heat wheel heat exchangers in packaged, indoor, energy-recovery units.
237223.19	Packaged Indoor Fixed Plate Energy Recovery Units	Sensible and total heat, fixed-plate heat exchangers in packaged, indoor, energy-recovery units.
237223.23	Packaged, Outdoor, Heat Wheel Energy Recovery Units	Heat wheel in outdoor packaged, sensible heat and total heat, energy-recovery units.
237223.29	Packaged, Outdoor, Fixed Plate Energy Recovery Units	Fixed-plate heat exchanger in outdoor packaged, sensible and total heat, energy-recovery units.
U 237313.13	Indoor, Basic Air-Handling Units	Units consisting of fans, coils, dampers, filters, control devices, and accessories.
U 237313.16	Indoor, Semi-Custom Air-Handling Units	Units consisting of fans, coils, dampers, filters, control devices, and accessories.

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Section No.	Section Title	Section Description
U 237333.16	Indoor, Indirect, Gas-Fired Heating and Ventilating Units	Indirect, gas-fired H&V units mounted inside the building.
U 237339	Indoor, Direct-Fired Heating and Ventilating Units	Indoor, direct gas-fired H&V units.
U 237343.16	Outdoor, Semi-Custom Air-Handling Units	Units consisting of fans, coils, dampers, filters, control devices, and accessories.
U 237416.11	Packaged, Small-Capacity, Rooftop Air-Conditioning Units	Packaged, air-cooled, rooftop HVAC, 6 tons and smaller.
U 237416.13	Packaged, Large-Capacity, Rooftop Air-Conditioning Units	Packaged, air-cooled, rooftop HVAC 7.5 tons and greater.
U 237423.13	Packaged, Direct-Fired, Outdoor, Heating-Only Makeup-Air Units	Outdoor, direct gas-fired H&V units.
U 237423.16	Packaged, Indirect-Fired, Outdoor, Heating-Only Makeup-Air Units	Outdoor, indirect gas-fired H&V units.
237433	Dedicated Outdoor-Air Units	Units capable of 100 percent outdoor air with heating and cooling.
238113.11	Packaged Terminal Air-Conditioners, Through-Wall Units	Through-the-wall; cooling only; heat pump; cooling plus hot-water heating, electric heating, and gas-fired heating.
238113.12	Packaged Terminal Air-Conditioners, Freestanding Units	Freestanding or through-the-wall; cooling only; heat pump; cooling plus hot-water heating, electric heating, and gas-fired heating.
238113.13	Packaged Terminal Air-Conditioners, Outdoor, Wall-Mounted Units	Outdoor, wall-mounted; cooling only; heat pump; cooling plus hot-water heating, electric heating, and gas-fired heating.
238119	Self-Contained Air-Conditioners	Packaged cooling, heating, filters, and controls; cabinet suitable for exposed installations.
238123.11	Small Capacity (6 Tons (21 kW) and Smaller), Computer-Room Air-Conditioners, Floor-Mounted Units	Floor-mounted water and air cooled, air conditioning systems for data centers.
238123.12	Large Capacity (7 Tons (25 kW) and Larger), Computer-Room Air-Conditioners, Floor-Mounted Units	Floor-mounted water and air cooled, air conditioning systems for data centers.
238123.13	Computer-Room Air-Conditioners, Ceiling-Mounted Units	Ceiling-mounted water and air cooled, air conditioning systems for data centers.
238123.14	Computer-Room Air-Conditioners, Console Units	Console water and air cooled, air conditioning systems for data centers.
238123.18	Computer-Room, Rack-Cooling Equipment	Water and air cooled, pumped-refrigerant, air conditioning systems for data centers.
238126	Split-System Air-Conditioners	Air-distribution equipment separate from refrigeration equipment; cabinet suitable for exposed installations.
238129	Variable-Refrigerant-Flow HVAC Systems	Variable-refrigerant-flow HVAC systems, components, and operations, including delegated design.
238146	Water-Source Unitary Heat Pumps	Concealed horizontal and vertical units.
238146.13	Water-To-Air Heat Pumps	Concealed horizontal and vertical units; vertical-stack; and exposed-console units.
238213	Valance Heating and Cooling Units	Electric and hot water radiant heaters and heating and cooling panels.
238214	Chilled Beams	Passive and active units.
238216.11	Hydronic Air Coils	Hydronic coils not integral to AHUs.
238216.12	Steam Air Coils	Steam coils not integral to AHUs.
238216.13	Refrigerant Air Coils	Refrigerant coils not integral to AHUs.
238216.14	Electric-Resistance Air Coils	Electric-resistance coils not integral to AHUs.
238219	Fan Coil Units	Hot water, steam, and electric heating; chilled or DX cooling.
238223	Unit Ventilators	Hot water, steam, and electric heating; chilled or DX cooling.
238229	Radiators	Flat-pipe steel radiators for hot-water, steam, and electric heating systems.
238233	Convectors	Convectors for hot-water, steam, and electric heating systems.

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Section No.	Section Title	Section Description
238236	Finned-Tube Radiation Heaters	HW, steam, and electric baseboard and finned-tube radiation heaters.
238239.13	Cabinet Unit Heaters	Cabinet unit heaters with hot-water, steam, and electric-resistance coils.
238239.16	Propeller Unit Heaters	Propeller unit heaters with hot-water, steam, and electric-resistance coils.
238239.19	Wall and Ceiling Unit Heaters	Wall and ceiling electric unit heaters.
238313	Radiant-Heating Electric Cables	Electric cables for ceilings and floors, snow and ice melting, and freezer-floor frost prevention.
238316	Radiant-Heating Hydronic Piping	Embedded pipes, tubes, manifolds, fittings, piping specialties, and controls.
238323	Radiant-Heating Electric Panels	Factory-fabricated panels.
238413.16	Wetted-Element Humidifiers	Water-pressure atomizing humidifiers.
238413.19	Atomizing Humidifiers	Water-pressure or compress-air types.
238413.23	Direct-Steam-Injection Humidifiers	Externally-supplied steam.
238413.29	Self-Contained Steam Humidifiers	Electric resistance, electrode cylinder, and gas-fired steam generator humidifiers.
238413.36	Heat Exchanger Humidifiers	Steam-to-steam humidifiers.
238416.13	Outdoor, Mechanical Dehumidification Units	Outdoor, refrigerant-type mechanical dehumidification equipment.
238416.16	Indoor, Mechanical Dehumidification Units	Indoor, refrigerant-type mechanical dehumidification equipment.

### DIVISION 26 - ELECTRICAL

262933	Controllers for Fire-Pump Drivers	Full- and limited-service, electric-driver controllers; and diesel-driver controllers.
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### DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

284400	Refrigerant Detection and Alarm	Monitors, alarms, breathing apparatus, and ventilation equipment interlocks.
284621.13	Conventional Fire-Alarm Systems	Small systems for buildings relying on zoned fire-alarm concept.

### DIVISION 31 - EARTHWORK

311000	Site Clearing	Clearing, grubbing, vegetation protection, stripping and stockpiling topsoil and rock, and disconnecting utilities.
U 312000	Earth Moving	Excavating, filling and backfilling, compacting, and grading.
312319	Dewatering	Temporary construction dewatering requirements for ground-water control.

### DIVISION 32 - EXTERIOR IMPROVEMENTS

321216	Asphalt Paving	Paving, overlays, surface treatments, asphalt curbs, asphalt traffic-calming devices, cold milling, and hot-mix patching.
321223	Imprinted Asphalt	Embossing patterns in new or existing asphalt pavement.
321313	Concrete Paving	Concrete curbs and gutters, walks, driveways, parking lots, and miscellaneous paving.
321713	Parking Bumpers	Wheel stops applied to asphalt or concrete pavement.
321716	Manufactured Traffic-Calming Devices	Preformed rubber or plastic traffic-calming devices applied to asphalt or concrete pavement.
321723	Pavement Markings	Painted markings applied to asphalt or concrete pavement.

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Section No.	Section Title	Section Description
323113	Chain Link Fences and Gates	Standard chain-link fencing systems with swing or horizontal-slide gates and gate operators.
328400	Planting Irrigation	Heads, pipes, and controls.

### DIVISION 33 - UTILITIES

U 330500	Common Work Results for Utilities	Basic piping materials and methods.
331113	Potable Water Supply Wells	Drilled and driven wells and well pumps.
U 334200	Stormwater Conveyance	Gravity and forced storm piping, underground structures, and specialties.
U 334600	Subdrainage	Drainage for foundations, underslabs, plaza decks, retaining walls, and landscaped areas.
336313	Underground Steam and Condensate Distribution Piping	Underground piping serving one or more buildings.

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