

# MASTERSPEC®

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### DIVISION 01 - GENERAL REQUIREMENTS

02/10	011000	SUMMARY	Summary of the Work, phased construction, purchase contracts, Owner-furnished products, access to site, and work restrictions.
02/10	011200	MULTIPLE CONTRACT SUMMARY	Responsibilities of each contract for the Work, coordination, and temporary facilities and controls.
02/10	012100	ALLOWANCES	Provisions for cash allowances including lump-sum, unit cost, contingency, and testing and inspecting allowances.
02/10	012200	UNIT PRICES	Provisions for unit prices.
02/10	012300	ALTERNATES	Provisions for change-of-scope and cost-comparison type alternates.
02/10	012500	SUBSTITUTION PROCEDURES	Procedural requirements for requests for substitutions during construction.
02/10	012600	CONTRACT MODIFICATION PROCEDURES	Procedural requirements for changes to the Contract.
02/10	012900	PAYMENT PROCEDURES	Administrative requirements for Contractor's Applications for Payment.
02/10	013100	PROJECT MANAGEMENT AND COORDINATION	Administrative requirements for project meetings; preconstruction, preinstallation, and project closeout conferences; RFIs; and project Web sites.
02/10	013200	CONSTRUCTION PROGRESS DOCUMENTATION	Contractor's Construction Schedule including Gantt charts and CPM schedules; Contractor's reports.
02/10	013233	PHOTOGRAPHIC DOCUMENTATION	Construction photographs, video recordings, and web-based photographic documentation.
02/10	013300	SUBMITTAL PROCEDURES	Procedures for Action and Informational Submittals including Delegated-Design Submittals and Submittals Schedule.
02/10	013591	HISTORIC TREATMENT PROCEDURES	General protection and treatment of historic spaces; historic removal and dismantling; and bird-excrement removal.
02/10	014000	QUALITY REQUIREMENTS	Quality-assurance and -control requirements, special tests and inspections, and Contractor's quality-control plan.
02/10	014200	REFERENCES	Common definitions and terms; and acronyms and trade names of associations, government agencies, and other entities referenced in MasterSpec.
02/10	015000	TEMPORARY FACILITIES AND CONTROLS	Temporary utilities and facilities for construction support, security, and protection.
02/10	016000	PRODUCT REQUIREMENTS	Administrative and procedural requirements for product, material, and equipment selection and handling; warranties; and comparable products.
02/10	017300	EXECUTION	General requirements for product installation, cutting and patching, protection, field engineering, and progress cleaning.
02/10	017419	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL	Salvaging, recycling, and disposing of non-hazardous demolition and construction waste.
02/10	017700	CLOSEOUT PROCEDURES	Contract closeout including Substantial Completion and Final Completion procedures, warranties, and final cleaning.
02/10	017823	OPERATION AND MAINTENANCE DATA	Emergency, operation, and maintenance manuals for products and equipment.
02/10	017839	PROJECT RECORD DOCUMENTS	Record record Drawings, Specifications, and Product Data.
02/10	017900	DEMONSTRATION AND TRAINING	Administrative and procedural requirements for instructing Owner's personnel in operation and maintenance.
02/10	018113.13	SUSTAINABLE DESIGN REQUIREMENTS - LEED FOR NEW CONSTRUCTION AND MAJOR RENOVATIONS	General requirements and procedures for LEED for New Construction and Major Renovations.

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02/10	018113.16	SUSTAINABLE DESIGN REQUIREMENTS - LEED FOR COMMERCIAL INTERIORS	General requirements and procedures for LEED for Commercial Interiors.
02/10	018113.19	SUSTAINABLE DESIGN REQUIREMENTS - LEED FOR CORE AND SHELL DEVELOPMENT	General requirements and procedures for LEED for Core and Shell Development.
02/10	018113.23	SUSTAINABLE DESIGN REQUIREMENTS - LEED FOR SCHOOLS	General requirements and procedures for LEED for Schools.
02/10	019113	GENERAL COMMISSIONING REQUIREMENTS	Administrative requirements and procedures for commissioning all systems.

### DIVISION 02 - EXISTING CONDITIONS

02/10	024116	STRUCTURE DEMOLITION	Complete structure removal.
02/10	024119	SELECTIVE STRUCTURE DEMOLITION	Demolition and removal of selected portions of buildings and site elements.

### DIVISION 03 - CONCRETE

02/10	033000	CAST-IN-PLACE CONCRETE	General building and structural applications; concrete mixtures, formwork, reinforcing, finishing, and curing.
02/10	033053	MISCELLANEOUS CAST-IN-PLACE CONCRETE	Cast-in-place concrete for limited applications.

### DIVISION 05 - METALS

02/10	055000	METAL FABRICATIONS	Metal items (not sheet metal) made from iron and steel shapes, stainless steel, and non-ferrous metals.
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### DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

02/10	061000	ROUGH CARPENTRY	Wood framing, furring, grounds, nailers, and blocking.
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### DIVISION 07 - THERMAL AND MOISTURE PROTECTION

02/10	076200	SHEET METAL FLASHING AND TRIM	Custom-fabricated roof and wall flashings and roof-drainage systems, and manufactured through-wall flashing and reglets.
02/10	077200	ROOF ACCESSORIES	Roof curbs, equipment supports, roof hatches, heat and smoke vents, gravity ventilators, pipe supports, roof walkways and stairs, and preformed flashing sleeves.
02/10	078413	PENETRATION FIRESTOPPING	Systems installed in fire-resistance-rated walls, horizontal assemblies, and smoke barriers.
02/10	079200	JOINT SEALANTS	Elastomeric, latex, solvent-release-curing, preformed, and acoustical sealants.

### DIVISION 08 - OPENINGS

02/10	083113	ACCESS DOORS AND FRAMES	Wall, ceiling, and floor units.
02/10	083113.53	SECURITY ACCESS DOORS AND FRAMES	Wall and ceiling units.
02/10	089000	LOUVERS AND VENTS	Fixed and adjustable louvers; wall vents.

### DIVISION 09 - FINISHES

02/10	099113	EXTERIOR PAINTING	Exterior painting.
02/10	099123	INTERIOR PAINTING	Interior painting.
02/10	099600	HIGH-PERFORMANCE COATINGS	Tile-like coatings for use on exterior and interior substrates.
02/10	099633	HIGH-TEMPERATURE-RESISTANT COATINGS	High-temperature-resistant coatings for use on exterior and interior substrates.

### DIVISION 10 - SPECIALTIES

02/10	104413	FIRE EXTINGUISHER CABINETS	Fire-protection cabinets and security fire-protection cabinets.
02/10	104416	FIRE EXTINGUISHERS	Portable and wheeled fire extinguishers.

### DIVISION 21 - FIRE SUPPRESSION

03/10	210513	COMMON MOTOR REQUIREMENTS FOR FIRE SUPPRESSION EQUIPMENT	Universal default values for small and medium, ac motors.
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	03/10 210517	SLEEVES AND SLEEVE SEALS FOR FIRE-SUPPRESSION PIPING	Sleeves and sleeve seals for piping at floor and wall penetrations.
	03/10 210518	ESCUTCHEONS FOR FIRE-SUPPRESSION PIPING	Escutcheons and floor plates for piping at ceiling, floor, and wall penetrations.
U	03/10 210533	HEAT TRACING FOR FIRE-SUPPRESSION PIPING	Electric cables for freeze protection.
	03/10 210548	VIBRATION AND SEISMIC CONTROLS FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT	Vibration isolation devices and seismic restraints.
	03/10 210553	IDENTIFICATION FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT	Labels, stencils, and tags.
	03/10 210700	FIRE-SUPPRESSION SYSTEMS INSULATION	Equipment and pipe insulation.
	03/10 211100	FACILITY FIRE-SUPPRESSION WATER-SERVICE PIPING	Fire suppression piping and specialties outside the building.
	03/10 211200	FIRE-SUPPRESSION STANDPIPES	Piping, specialties, valves, hose valves, and hose stations.
	03/10 211313	WET-PIPE SPRINKLER SYSTEMS	Piping, specialties, valves, and sprinklers for wet-pipe sprinkler systems.
	03/10 211316	DRY-PIPE SPRINKLER SYSTEMS	Piping, specialties, valves, and sprinklers for dry-pipe and preaction sprinkler systems.
	03/10 211339	FOAM-WATER SYSTEMS	Fixed, low-expansion, AFFF systems for flammable-liquid fires.
	03/10 212113.13	HIGH-PRESSURE CARBON-DIOXIDE FIRE-EXTINGUISHING SYSTEMS	Piping, fittings, and specialties for systems that deliver carbon dioxide for fire extinguishing and suppression.
	03/10 212113.16	LOW-PRESSURE CARBON-DIOXIDE FIRE-EXTINGUISHING SYSTEMS	Piping, fittings, and specialties for systems that deliver carbon dioxide for fire extinguishing and suppression.
	03/10 212200	CLEAN-AGENT FIRE-EXTINGUISHING SYSTEMS	Piping, containers, detection and alarms, and controls for clean-agent systems.
	03/10 213113	ELECTRIC-DRIVE, CENTRIFUGAL FIRE PUMPS	End-suction, in-line, and split-case fire pumps; accessories, specialties, and flowmeter systems.
	03/10 213116	DIESEL-DRIVE, CENTRIFUGAL FIRE PUMPS	End-suction, in-line, and split-case fire pumps; accessories, specialties, and flowmeter systems.
	03/10 213213	ELECTRIC-DRIVE, VERTICAL-TURBINE FIRE PUMPS	Fire pumps, accessories, specialties, and flowmeter systems.
	03/10 213216	DIESEL-DRIVE, VERTICAL-TURBINE FIRE PUMPS	Fire pumps, accessories, specialties, and flowmeter systems.
	03/10 213400	PRESSURE-MAINTENANCE PUMPS	Multistage, regenerative turbine, submersible, and vertical-turbine pumps; pump controllers.
	03/10 213900	CONTROLLERS FOR FIRE-PUMP DRIVERS	Full- and limited-service, electric-driver controllers; and diesel-driver controllers

### DIVISION 22 - PLUMBING

	03/10 220513	COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT	Universal default values for small and medium, ac motors.
	03/10 220516	EXPANSION FITTINGS AND LOOPS FOR PLUMBING PIPING	Expansion joints and loops.
	03/10 220517	SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING	Sleeves and sleeve seals for piping at floor and wall penetrations.
	03/10 220518	ESCUTCHEONS FOR PLUMBING PIPING	Escutcheons and floor plates for piping at ceiling, floor, and wall penetrations.
	03/10 220519	METERS AND GAGES FOR PLUMBING PIPING	Temperature, pressure, and flow.
	03/10 220523	GENERAL-DUTY VALVES FOR PLUMBING PIPING	Gate, globe, check, butterfly, & ball valves common to multiple systems.
	03/10 220529	HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT	Single and multiple hangers, framing systems, and stands and supports.
U	03/10 220533	HEAT TRACING FOR PLUMBING PIPING	Electric cables for freeze protection, snow and ice melting, and temperature maintenance.

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03/10	220548	VIBRATION AND SEISMIC CONTROLS FOR PLUMBING PIPING AND EQUIPMENT	Vibration isolation devices and seismic restraints.
03/10	220553	IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT	Labels, stencils, and tags.
03/10	220716	PLUMBING EQUIPMENT INSULATION	Insulation materials, jackets, and installation accessories for plumbing equipment.
03/10	220719	PLUMBING PIPING INSULATION	Insulation materials, jackets, and installation accessories for plumbing piping.
03/10	221113	FACILITY WATER DISTRIBUTION PIPING	Utility service, domestic, and fire-protection water, specialties, and valves.
03/10	221116	DOMESTIC WATER PIPING	Potable-water distribution within the building.
03/10	221119	DOMESTIC WATER PIPING SPECIALTIES	Specialties, valves, and fittings for domestic water piping.
03/10	221123	DOMESTIC WATER PUMPS	In-line separately coupled, close-coupled, centrifugal pumps.
03/10	221123.13	DOMESTIC-WATER PACKAGED BOOSTER PUMPS	Water-pressure boosters, simplex and multi-plex; constant- and variable speed pumps.
03/10	221216	FACILITY ELEVATED, POTABLE-WATER STORAGE TANKS	Above-ground water storage.
03/10	221219	FACILITY GROUND-MOUNTED, POTABLE-WATER STORAGE TANKS	Surface-mounted water storage.
03/10	221223	FACILITY INDOOR POTABLE-WATER STORAGE TANKS	Water storage; compression and diaphragm.
03/10	221313	FACILITY SANITARY SEWERS	Sanitary sewerage and underground structures outside the building.
03/10	221316	SANITARY WASTE AND VENT PIPING	Soil, waste, and vent piping within the building.
03/10	221319	SANITARY WASTE PIPING SPECIALTIES	Floor, trench, and channel drains; interceptors; and piping specialties.
03/10	221323	SANITARY WASTE INTERCEPTORS	Grease, oil, and sand interceptors for sewerage systems outside the building.
03/10	221329	SANITARY SEWERAGE PUMPS	Effluent pumps; automatic, packaged; basins and covers.
03/10	221343	FACILITY PACKAGED SEWAGE PUMPING STATIONS	Pump, compressor, tank, and controls.
03/10	221353	FACILITY SEPTIC TANKS	Tank, distribution box, and drainage pipe.
03/10	221413	FACILITY STORM DRAINAGE PIPING	Stormwater piping within the building.
03/10	221423	STORM DRAINAGE PIPING SPECIALTIES	Roof drains, cleanouts, trench drains, channel drains, and piping specialties.
03/10	221429	SUMP PUMPS	Submersible, wet-pit volute, and package drainage-pump units; basins and covers.
03/10	221513	GENERAL-SERVICE COMPRESSED-AIR PIPING	Nonmedical piping, equipment, and accessories.
03/10	221519	GENERAL-SERVICE PACKAGED AIR COMPRESSORS AND RECEIVERS	Nonmedical air compressors, filters, and dryers.
03/10	223100	DOMESTIC WATER SOFTENERS	Domestic and general use, not treatment.
03/10	223200	DOMESTIC WATER FILTRATION EQUIPMENT	Separators; and bag, cartridge, carbon, sand, and greensand filters.
03/10	223300	ELECTRIC, DOMESTIC-WATER HEATERS	Household and commercial; tankless, instantaneous, and storage types.
03/10	223400	FUEL-FIRED, DOMESTIC-WATER HEATERS	Household and commercial; gas and oil fired; instantaneous and storage types.
03/10	223500	DOMESTIC-WATER HEAT EXCHANGERS	Steam and hot-water heat exchangers; instantaneous and storage types.
03/10	224100	RESIDENTIAL PLUMBING FIXTURES	Residential water closets, lavatories, sinks, bathtubs, and shower receptors and basins.
03/10	224213.13	COMMERCIAL WATER CLOSETS	Commercial water closets, supports, flushometer valves, and supplies.

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03/10	224213.16	COMMERCIAL URINALS	Commercial urinals, supports, and flushometer valves.
03/10	224216.13	COMMERCIAL LAVATORIES	Commercial lavatories, supports, faucets, traps, and supplies.
03/10	224216.16	COMMERCIAL SINKS	Commercial sinks, supports, faucets, traps, and supplies.
03/10	224223	COMMERCIAL SHOWERS, RECEPTORS, AND BASINS	Shower receptors, basins, enclosures, faucets, and heads.
03/10	224233	WASH FOUNTAINS	Stone, metal, and plastic wash fountains.
03/10	224300	MEDICAL PLUMBING FIXTURES	Plumbing fixtures for healthcare facilities.
03/10	224500	EMERGENCY PLUMBING FIXTURES	Individual and combination emergency eyewash and shower units.
03/10	224600	SECURITY PLUMBING FIXTURES	Detention facility plumbing fixtures.
03/10	224713	DRINKING FOUNTAINS	Pedestal, antifreeze pedestal, wheelchair accessible, wall mounted.
03/10	224716	PRESSURE WATER COOLERS	Freestanding, wall mounted, and wheelchair accessible.
03/10	224723	REMOTE WATER COOLERS	Remote water chillers.
03/10	226113	COMPRESSED-AIR PIPING FOR LABORATORY AND HEALTHCARE FACILITIES	Piping for nonmedical laboratory air, medical air, dental air, instrument air, and medical laboratory air.
03/10	226119	COMPRESSED-AIR EQUIPMENT FOR LABORATORY AND HEALTHCARE FACILITIES	Compressors, filters, and dryers.
03/10	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.
03/10	226219	VACUUM EQUIPMENT FOR LABORATORY AND HEALTHCARE FACILITIES	Vacuum pumps and oral evacuation equipment.
03/10	226313	GAS PIPING FOR LABORATORY AND HEALTHCARE FACILITIES	Piping for CO <sub>2</sub> , helium, NO <sub>2</sub> , and O <sub>2</sub> .
03/10	226400	MEDICAL GAS ALARMS	Alarms for medical gas systems.
03/10	226600	CHEMICAL-WASTE SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES	Single- and double-wall piping and specialties, neutralization tanks, and leak detection.
03/10	226700	PROCESSED WATER SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES	Pipe, fittings, and specialties for deionized, distilled, and reverse osmosis water.

### DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING

	03/10	230130.51	HVAC AIR DUCT CLEANING	Cleaning HVAC air-distribution equipment, ducts, plenums, air outlets and inlets, and duct accessories.
	03/10	230513	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT	Universal default values for small and medium, ac motors.
	03/10	230516	EXPANSION FITTINGS AND LOOPS FOR HVAC PIPING	Expansion joints and loops.
	03/10	230517	SLEEVES AND SLEEVE SEALS FOR HVAC PIPING	Sleeves and sleeve seals for piping at floor and wall penetrations.
	03/10	230518	ESCUTCHEONS FOR HVAC PIPING	Escutcheons and floor plates for piping at ceiling, floor, and wall penetrations.
	03/10	230519	METERS AND GAGES FOR HVAC PIPING	Temperature, pressure, and flow.
	03/10	230523	GENERAL-DUTY VALVES FOR HVAC PIPING	Gate, globe, check, butterfly, & ball valves common to multiple systems.
	03/10	230529	HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT	Single and multiple hangers, framing systems, and stands and supports.
U	03/10	230533	HEAT TRACING FOR HVAC PIPING	Electric cables for freeze protection.
	03/10	230548	VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT	Vibration isolation devices and seismic restraints.
	03/10	230553	IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	Labels, stencils, and tags.
	03/10	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	Air distribution and hydronic systems.

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03/10	230713	DUCT INSULATION	Insulation materials, jackets, and installation accessories for HVAC ducts.
03/10	230716	HVAC EQUIPMENT INSULATION	Insulation materials, jackets, and installation accessories for HVAC equipment.
03/10	230719	HVAC PIPING INSULATION	Insulation materials, jackets, and installation accessories for HVAC piping.
03/10	230800	COMMISSIONING OF HVAC	Administrative requirements and procedures for commissioning HVAC systems.
03/10	230900	INSTRUMENTATION AND CONTROL FOR HVAC	Electric, electronic, pneumatic, and DDC equipment and devices.
03/10	230993	SEQUENCE OF OPERATIONS FOR HVAC CONTROLS	Control sequences for HVAC systems.
03/10	231113	FACILITY FUEL-OIL PIPING	Transfer and storage equipment and piping.
03/10	231123	FACILITY NATURAL-GAS PIPING	Natural gas piping and specialties.
03/10	231126	FACILITY LIQUEFIED-PETROLEUM GAS PIPING	LP gas piping, specialties, and storage equipment.
03/10	232113	HYDRONIC PIPING	Hot-, chilled-, and condenser-water piping.
03/10	232113.13	UNDERGROUND HYDRONIC PIPING	Underground piping outside the building.
03/10	232113.33	GROUND-LOOP HEAT-PUMP PIPING	Horizontal and vertical, direct-buried, ground-loop piping.
03/10	232123	HYDRONIC PUMPS	Base mounted and in-line; close coupled and separately coupled.
03/10	232213	STEAM AND CONDENSATE HEATING PIPING	LP and HP piping and specialties.
03/10	232223	STEAM CONDENSATE PUMPS	Electric driven and pressure powered; single and duplex pumps with receivers.
03/10	232300	REFRIGERANT PIPING	Piping, specialties, and refrigerant.
03/10	232500	HVAC WATER TREATMENT	Steam boiler feedwater and hot-, chilled-, and condenser-water treatment.
03/10	233113	METAL DUCTS	Rectangular and round, single- and double-wall ducts, including hangers and supports.
03/10	233116	NONMETAL DUCTS	Fibrous-glass, PVC, and FRP ducts, hangers, and supports.
03/10	233119	HVAC CASINGS	Factory and field fabricated; single and double wall.
03/10	233300	AIR DUCT ACCESSORIES	Volume dampers, fire and smoke dampers, vanes, duct silencers, and hardware.
03/10	233413	AXIAL HVAC FANS	Tubeaxial and vaneaxial fans.
03/10	233416	CENTRIFUGAL HVAC FANS	BI & FC indoor type; tubular and in-line units.
03/10	233423	HVAC POWER VENTILATORS	Roof, wall, and ceiling-mounting ventilators.
03/10	233433	AIR CURTAINS	Fans over entrances with and without heating.
03/10	233600	AIR TERMINAL UNITS	Single-duct, dual-duct, fan-powered, induction, and diffuser types.
03/10	233713	DIFFUSERS, REGISTERS, AND GRILLES	Round, rectangular, perforated, and linear diffusers; fixed and adjustable registers and grilles.
03/10	233723	HVAC GRAVITY VENTILATORS	Unpowered ventilators and louver penthouses.
03/10	233813	COMMERCIAL-KITCHEN HOODS	Type I and Type II, Standard and Listed hoods.
03/10	234100	PARTICULATE AIR FILTRATION	Disposable, extended surface, and roll types.
03/10	234133	HIGH-EFFICIENCY PARTICULATE FILTRATION	High-efficiency particulate air filters, ultralow-penetration air (ULPA) filters, filter frames, and filter gages.
03/10	234200	GAS-PHASE AIR FILTRATION	Gas adsorbent and rechargeable media, trays and housings, frames, and filter gages.
03/10	234300	ELECTRONIC AIR CLEANERS	Electronic air cleaners, access housings, service frames, and filter gages.
03/10	235100	BREECHINGS, CHIMNEYS, AND STACKS	Double-wall and refractory-lined breechings and stacks; fabricated breechings.

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03/10	235113	DRAFT CONTROL DEVICES	Induced-draft fans and barometric dampers.
03/10	235213	ELECTRIC BOILERS	HW and steam; HP and LP.
03/10	235216	CONDENSING BOILERS	Packaged condensing boilers for small applications.
03/10	235223	CAST-IRON BOILERS	HW and steam; gas and oil fired.
03/10	235233	WATER-TUBE BOILERS	HW and steam; gas and oil fired.
03/10	235239	FIRE-TUBE BOILERS	HW and steam; gas and oil fired.
03/10	235313	BOILER FEEDWATER PUMPS	Condensate and vacuum pumps and receivers.
03/10	235316	DEAERATORS	Spray, packed column, and package tray.
03/10	235400	FURNACES	Gas-, electric-, and oil-fired furnaces.
03/10	235513	FUEL-FIRED DUCT HEATERS	Gas- and oil-fired units.
03/10	235523	GAS-FIRED RADIANT HEATERS	Natural and LP gas units.
03/10	235533	FUEL-FIRED UNIT HEATERS	Gas- and oil-fired units.
N 03/10	235613.13	HEATING, FLAT-PLATE, SOLAR COLLECTORS	Liquid-type, medium-temperature, glazed solar panels.
03/10	235700	HEAT EXCHANGERS FOR HVAC	Steam to water and water to water; shell-and-tube and flat-plate types.
03/10	236200	PACKAGED COMPRESSOR AND CONDENSER UNITS	Air and water cooled.
03/10	236313	AIR-COOLED REFRIGERANT CONDENSERS	Remote forced-air, condenser, and fan units.
03/10	236333	EVAPORATIVE REFRIGERANT CONDENSERS	Induced- and forced-draft evaporative refrigerant condensers.
03/10	236413.13	DIRECT-FIRED ABSORPTION WATER CHILLERS	Natural-gas, propane, and oil fired; water cooled; two stages; and a brush-cleaning system.
03/10	236413.16	INDIRECT-FIRED ABSORPTION WATER CHILLERS	Steam and hot-water generated; one and two stage.
03/10	236416	CENTRIFUGAL WATER CHILLERS	Hermetic and open; direct and gear drives; water and air cooled.
03/10	236419	RECIPROCATING WATER CHILLERS	Water and air cooled.
03/10	236423	SCROLL WATER CHILLERS	Water and air cooled.
03/10	236426	ROTARY-SCREW WATER CHILLERS	Water-cooled, single- and multiple-compressor units; air-cooled indoor and outdoor units.
03/10	236500	COOLING TOWERS	Factory-assembled, open- and closed-circuit, induced- and forced-draft, cross- and counter-flow towers.
03/10	237200	AIR-TO-AIR ENERGY RECOVERY EQUIPMENT	Heat wheels, heat pipes, fixed-plate heat exchangers, and packaged units.
03/10	237313	MODULAR INDOOR CENTRAL-STATION AIR-HANDLING UNITS	Units consisting of fans, coils, dampers, filters, control devices, and accessories.
03/10	237333	INDIRECT-FIRED H&V UNITS	Gas- and oil-fired indoor and outdoor units.
03/10	237339	DIRECT-FIRED H&V UNITS	Gas-fired indoor and outdoor units.
03/10	237413	PACKAGED, OUTDOOR, CENTRAL-STATION AIR-HANDLING UNITS	Packaged, rooftop HVAC.
03/10	237433	DEDICATED OUTDOOR-AIR UNITS	Units capable of 100 percent outdoor air with heating and cooling.
03/10	238113	PACKAGED TERMINAL AIR-CONDITIONERS	Freestanding or through-the-wall; cooling only; heat pump; cooling plus hot-water heating, electric heating, and gas-fired heating.
03/10	238119	SELF-CONTAINED AIR-CONDITIONERS	Packaged cooling, heating, filters, and controls; cabinet suitable for exposed installations.
03/10	238123	COMPUTER-ROOM AIR-CONDITIONERS	Floor- and ceiling-mounted console; water and air cooled; electric, hot-water, and steam heat.
03/10	238126	SPLIT-SYSTEM AIR-CONDITIONERS	Air-distribution equipment separate from refrigeration equipment; cabinet suitable for exposed installations.
03/10	238146	WATER-SOURCE UNITARY HEAT PUMPS	Concealed horizontal and vertical units; vertical-stack, rooftop, exposed-console units; and unit ventilators.

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03/10	238213	VALANCE HEATING AND COOLING UNITS	Electric and hot water radiant heaters and heating and cooling panels.
03/10	238216	AIR COILS	Water, steam, refrigerant, and electric heat-transfer coils.
03/10	238219	FAN COIL UNITS	Hot water, steam, and electric heating; chilled or DX cooling.
03/10	238223	UNIT VENTILATORS	Hot water, steam, and electric heating; chilled or DX cooling.
03/10	238233	CONVECTORS	Hot water, steam, and electric baseboard and finned-tube radiators and convectors.
03/10	238239	UNIT HEATERS	Cabinet and propeller unit heaters, and wall and ceiling heaters.
U 03/10	238313	RADIANT-HEATING ELECTRIC CABLES	Electric cables for ceilings and floors, snow and ice melting, and freezer-floor frost prevention.
03/10	238316	RADIANT-HEATING HYDRONIC PIPING	Embedded pipe and fittings.
U 03/10	238323	RADIANT-HEATING ELECTRIC PANELS	Factory-fabricated panels.
03/10	238413	HUMIDIFIERS	Steam and evaporative types.
03/10	238416	MECHANICAL DEHUMIDIFICATION UNITS	Refrigerant-type mechanical dehumidification equipment.

### DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

03/10	283500	REFRIGERANT DETECTION AND ALARM	Monitors, alarms, breathing apparatus, and ventilation equipment interlocks.
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### DIVISION 31 - EARTHWORK

02/10	311000	SITE CLEARING	Clearing, grubbing, vegetation protection, topsoil stripping, and disconnecting utilities.
02/10	312000	EARTH MOVING	Excavating, filling and backfilling, compaction, and grading.
02/10	312319	DEWATERING	Construction dewatering and groundwater controls.

### DIVISION 32 - EXTERIOR IMPROVEMENTS

02/10	321216	ASPHALT PAVING	Paving, overlays, and surface treatments.
02/10	321313	CONCRETE PAVING	Concrete paving for site construction applications.
02/10	323113	CHAIN LINK FENCES AND GATES	Standard chain-link fencing systems.
02/10	328400	PLANTING IRRIGATION	Heads, pipes, and controls.

### DIVISION 33 - UTILITIES

03/10	330500	COMMON WORK RESULTS FOR UTILITIES	Basic piping materials and methods.
03/10	332100	WATER SUPPLY WELLS	Drilled and driven wells and well pumps.
03/10	334100	STORM UTILITY DRAINAGE PIPING	Gravity and forced storm piping, underground structures, and specialties.
03/10	334600	SUBDRAINAGE	Drainage for foundations, underslabs, plaza decks, retaining walls, and landscaped areas.
03/10	336313	UNDERGROUND STEAM AND CONDENSATE DISTRIBUTION PIPING	Underground piping serving one or more buildings.

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