

02740 - Flexible Pavement - Asphalt Pavement

Sub-base materials shall be as specified in plans. The base course shall be bituminous concrete consisting of coarse and fine aggregate combined with asphalt cement, resulting in a mixture of Type BM-2. The surface course shall be bituminous concrete consisting of crushed stone, crushed slag or crushed gravel and the fine aggregate slag or stone screenings or combination thereof combined with asphalt cement, resulting in a mixture of Type SM-2A.

Grading - Thoroughly grade and prepare the sub-grade. Base coat shall be a minimum uniform thickness after compaction of dimensions indicated. Base course shall be placed over finished sub-grade and compacted (ex: compacted thickness shall be 4 inches for driveways and aisles of parking areas).

Asphalt Installation - Areas to be paved shall be covered with a layer of hot asphalt concrete surfacing not less than the thickness indicated after compaction (ex: compacted thickness shall be 2 inches for parking stalls and 2 inches for roads, driveways and aisles of parking areas). Paving asphaltic concrete shall be delivered, laid, rolled and finished in accordance with local guidelines. Install a liquid asphalt prime coat, pavement reinforcing fabric, a tack coat, finish coat and seal coat. Finish paving shall conform to slopes, lines and finish grades indicated, and drain properly.

02750 - Concrete Pads and Walks

Provide light duty paving at automobile parking areas consisting of a 4" thick slab on sub-grade compacted to 98 percent density with 3000 psi concrete. A 4" thick concrete walkway will be provided from front door to the driveway. Consult site plan for additional information. Expansion joints shall be installed as in standard concrete practices. Control joints shall be installed at pre-determined locations no later than 12 hours after installation.

For color, texture and imprinting: While the concrete is still in a plastic state, apply the desired pattern to the surface. Tools shall be properly stamped into the surface to achieve desired texture. Seal as required. See site plan for additional information.

Manufacturer: specify manufacturer

Color: specify color

Texture: specify texture

Pattern: specify pattern.

DIVISION 15. MECHANICAL

15000 - General

Contractor shall review construction documents and provide labor and materials pertaining to the mechanical systems as required in said documents and as specified herein, while complying with all applicable building codes.

15100 - Plumbing

Plumbing shall be a fully operational system of hot and cold water. Provide and install all piping, soil, vents, drains, sewage removal and water supply systems to connect with appropriate water and sewage systems. Provide and install appropriate insulation around piping. All permits and inspections are to be obtained by contractor as required by local building codes and the Uniform Plumbing Code.

Sewer and Waste Piping - Drainage system shall be [Schedule 40 PVC pipe, or cast iron](#). All connections shall have [PVC cement or appropriate joint compound](#) and assembled tight for no leakage. Condensate drains shall be constructed of Schedule 40 PVC. Valves shall be Milwaukee Brand or equal. Building sewer shall be [vitrified clay pipe or approved Schedule 40 PVC pipe](#). Connection to public sewer system shall comply with all local requirements. Caulk joints or provide neoprene gaskets for all sewer lines. Pitch shall be a minimum 1/8" per foot for soil lines larger than 3" diameter and a minimum of 1/4" per foot for soil lines 3" diameter or less. Insulate all interior drain/waste piping with batt insulation for sound attenuation. Clay pipes may be used for decorative drainage in yards.

Water Pipes - From public water line, install [Type "L" or "K" 1.5" \(minimum\) copper pipes](#), located below frost line. From the meter to the building, install [1.5"](#) supply water lines. Use [1/2", 3/4"](#) minimum lines from supply lines to each plumbing fixture as required. At water heaters and hose bibs install a minimum [3/4"](#) pipe. From water heater install [3/4"-1"](#) pipe to each room with branches to fixtures as described above. Fittings shall be wrought copper, soldered with 95-5 solder and suitable flux. Use polished chrome adjustable brass P-traps with wall escutcheons at all exposed locations.

Provide shut-off valves at sinks, toilets, water heater and other fixtures as required. Test all pipes under [100 lbs](#) pressure per building code requirements.

Waste Drainage - Install sewage clean-out at the end of each horizontal drainage run and every [100](#) feet per building code requirements. Vents shall be installed throughout plumbing connections and connected with the vertical stacks and vented through the roof. Check with local building code officials for specific venting requirements.

Optional Plumbing - If required install necessary plumbing requirements for [Septic tank and disposal system, solar water system, well and pump, etc.](#)

15410 - Plumbing Fixtures

Provide necessary piping, water and drains for plumbing fixtures as shown on the construction documents and listed herein. Fixtures allowances are listed in Contract Documents.

15700 - Heating, Venting, and Air Conditioning

HVAC shall be a fully operational Split Pack system designed to meet local weather conditions and building requirements. All permits and inspections shall be obtained by contractor as required by applicable building codes.

15900 - HVAC Instruments and Controls

Install [Pneumatic/Digital](#) control systems. Zone rooms together as specified by drawings or electrical contractor. The location of controls shall be coordinated to avoid conflicts with furnishings or uses for the rooms in which controls are located.

DIVISION 16. ELECTRICAL

16000 - General

Contractor shall review construction documents and provide labor and materials pertaining to the electrical system as required in construction documents and as specified herein, while complying with all applicable building codes, local utility requirements and building restrictions.

16100 - Electrical

From electrical meter box, install [above or below ground](#) wiring to building. Raceways to be buried shall be PVC #2 Plastic Electrical conduit. Where permitted by code, non-metallic sheathed cable may be used. Type THW or THWN 600 volt insulation conductors shall be used, minimum wire size shall be #12. Aluminum wire shall not be permitted. Wiring shall connect into metal recessed electrical panel, as shown on construction documents. Electrical service shall be rated at [200](#) amps. Wiring from the outside meter box shall be SE cable.

16120 - Conductors and Cables

Provide and install necessary circuits and breakers for appliances as stated in manufacturer's recommendations per applicable building code requirements. [For general illumination, provide a minimum 15 amp circuit for each 500 sf of living area \(load 3 watts per sq.ft.\)](#)

Branch circuits shall be wired with No. [12](#) gauge wire.

Install GFI circuits with No. [12](#) gauge wire in all wet areas, baths and exterior outlets.

Appliance circuits shall be installed as follows per applicable building code requirements.

Range: No. [6](#) gauge wire

Dryer: No. [10](#) gauge wire

Disposal: No. [6](#) gauge wire

Dishwasher: No. [12](#) gauge wire

For [furnace, heat pump, water pump and air conditioning units](#), install [10](#) gauge wire per applicable building code requirements.

16130 - Raceway and Boxes

Flexible or rigid conduits, couplings, supports and nonmetallic ducts. Install conduit concealed in all areas, excluding mechanical and electrical rooms/areas, connections to motors and connections to surface cabinets. Coordinate installation of conduit in masonry work. Unless indicated otherwise, do not install conduit larger than 2 1/2 inches in concrete slabs. Provide a minimum concrete cover around conduits of 2 inches. Install conduit free from dents and bruises. Plug ends to prevent entry of dirt and moisture. Minimize crossovers. Provide flashing and pitchpockets, making watertight joints where conduits pass through roof or waterproofing membranes. Route all exposed conduits parallel or perpendicular to building lines. All fittings shall be UL approved.

Fasten raceways securely in place. Firmly fasten within 3 feet of each outlet, junction box, cabinet or fitting. Support every 10 feet.

16140 - Wiring Devices

VA101V-16-R-0421 Additional Specifications

Install [beige, white, brass, etc.](#) receptacles, switches and cover plates as per construction documents and finish schedules. For exterior receptacles install [gray](#) cover plates. When two or more switches or receptacles are located together, gang with one common faceplate. If they cannot be ganged, install with a minimum distance between units. Install all receptacles at 18" on center (OC) above finished floor (AFF), unless otherwise noted. At counters, locate receptacles at 44" on center (OC), above finished floor (AFF). Install switches at 48" on center (OC) above finished floor (AFF). Locate light switch cover plates 6" from frame of door or corner of wall. Switches shall be: [Toggle, slide, wide slider, motion sensor, dimmer, etc.](#)

16440 - Panelboards

Panelboards shall be [Square "D", G.E. or ITE](#). Provide typewritten directory of circuits mounted in box. Use dead front panelboards with one-piece cabinets constructed from code gauge steel, finished with rust inhibiting primer and baked enamel finish and manufacturer's standard color.. Use factory assembled panelboards with amp rating units indicated. Provide spare units and blank spaces as indicated.

[Voltage: 277/480, volts, 3 phase, 4 wire, S/N , equipped with automatic circuit breakers](#)

[Circuit Breakers: Minimum interrupting capacity of 14,000 amps at 277 volts, Use breakers that are UL rated for use as switches](#)

[Voltage: 120/208, volts, 3 phase, 4 wire, S/N , equipped with automatic circuit breakers](#)

[Circuit Breakers: Minimum interrupting capacity of 10,000 amps at 120 volts.](#)

16500 - Light Fixtures

Provide necessary circuits and wiring for light fixtures as listed below. All lighting shall be switched as noted on construction documents. For exact locations of fixtures, see construction documents and finish schedules. Fixture allowances are listed in Contract Documents.

Special Items - Provide necessary receptacle requirements and wiring for additional items as listed below. Locate as shown on construction documents.

Bath Vent Fans - install in all bathrooms, [specify manufacturer and model number](#)

Thermostat - install for each HVAC unit, [specify manufacturer and model number](#)

Smoke Detectors - install per code at bedrooms and kitchen, [specify manufacturer and model number](#)

Doorbells - located in [adjacent front and garage entry doors](#)

Telephone outlets - located in [great room, kitchen, study, all bedrooms, etc](#)

Cable outlets - located in [great room, kitchen, study, all bedrooms, etc](#)

Specialty Appliances - [appropriate wiring](#)

Computer equipment - [isolated circuits or internet and network wiring access](#)

Garage Door/ Overhead Door opener - locate ceiling hook-up and push button at door, [specify manufacturer and model number](#)

Security System - [pre-wire for security system, specify manufacturer and model number](#)

Intercom System - [pre-wire for intercom system, specify manufacturer and model number](#)

Attic Fan - [specify quantity, manufacturer and model](#)