PART 1 - GENERAL

1.01 OVERVIEW

A. This section addresses sanitary waste and vent systems within and to five feet beyond parking garage building perimeter.

PART 2 - DESIGN CRITERIA

2.01 GENERAL

A. Sanitary waste and vent systems shall be provided for all plumbing fixtures and all other domestic waste producing drains, equipment, systems and devices that are required by code to discharge into the sanitary sewer.

B. Waste and vent systems shall be designed using fixture drain loads established by code and provide proper operation during periods of peak demand.

C. Waste and vent stacks shall be located to minimize space requirements and shall not interfere with the flow of vehicular traffic or parking. All unburied piping shall be protected from vehicular damage by utilizing chases, steel bollards, be located adjacent to columns or by other means approved by the Owner.

D. All floor drains susceptible to vehicular traffic shall have load bearing capacities capable of withstanding anticipated loads.

E. No buried waste line shall be smaller than 2 inches inside diameter (I.D.). No vent line shall be smaller than 1-1/2 inches I.D. No vent terminal shall be smaller than 3 inches I.D. Waste piping serving water closets shall not be smaller than 4 inches I.D.

F. Locate all sanitary vent terminals a minimum of 25 feet horizontally from or 3 feet vertically above all air intakes and 7 feet above pedestrian traffic.

G. Avoid locating drains above sensitive equipment or areas where water leakage would cause a safety hazard or property loss, including but not limited to elevator equipment, pedestrian walkways, vehicle parking, etc.

H. Do not locate drainage or vent piping within stairways, electrical or telecommunications rooms.

I. All traps shall be properly vented in accordance with the 2000 Uniform Plumbing Code.
J. Provide automatic trap primers for all floor, floor sinks and hub drains that may be susceptible to trap seal evaporation. Trap seal guard inserts may be provided in lieu of automatic trap primers on condition that the inserts are applied in accordance with the manufacturer’s published product data.

K. The design of sanitary waste and vent systems shall prevent the entrance of storm water.

L. Provide submersible sump pump(s) in each elevator pit in accordance with the 2007 edition of ASME A17.1 and the State of Texas Elevator Safety and Licensing requirements. Pump effluent shall discharge indirectly into the sanitary waste system. The elevator pit pumping system shall be designed to prevent pump effluent, sewage, odors and gases from entering building spaces and the elevator pit. Provide a sanitary indirect waste receptor having a capacity greater than the maximum flow rate discharge of the pump(s). Pump electrical service shall be connected to emergency power source.

PART 3 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

3.01 GENERAL

A. Develop plans, schedules, isometric or flat riser diagrams and details indicating all information required to clearly illustrate the intent of system design. All piping shall be located and sized on the Contract Drawings.

B. Floor plans and riser diagrams shall include, but not be limited to identification of all sanitary waste piping from fixtures to connection to exterior sewer, all vent piping from fixtures and stacks to termination, cleanouts, fixture and equipment identification, traps and trap primer lines.

C. Calculated fixture units used for system design shall be noted at house drains exiting the garage building, base of stacks, floor branch connections at stacks, ejector pump system discharge and interceptor inlets.

D. Invert elevations shall be noted at all drains exiting the garage building perimeter, connections to exterior sewers, uppermost point of each main and branch line located below ground level, and all other points where required to clearly establish proper slope and coordination with other piping systems and garage building components.

E. Bottom of pipe elevations shall be noted for unburied piping at locations where close coordination is required to prevent conflicts with other systems, structural components, pedestrian traffic and/or vehicular traffic.

F. Clearly convey support requirements for all sanitary piping and vent stack terminals.
G. Graphically identify each stack on plans and riser diagrams. Stack identification on riser diagrams shall correspond to stack identification on the plans. Graphically indicate floor levels and floor elevations on riser diagrams.

H. Details shall be provided for; cleanouts, roof penetrations, floor and wall penetrations, sump pump systems and all other components that require installation explanation beyond the information included within plans and riser diagrams.

I. Schedules shall clearly identify: Capacity, size, model, options and other requirements for all floor drains and sump pump equipment.

PART 4 - PRODUCTS

4.01 GENERAL

A. Refer to Master Construction Specifications.

B. Schedule 40 PVC DWV piping complying with the International Plumbing Code may be specified as an alternate to piping specified within Owner’s Master Construction Specifications when determined appropriate by the Engineer of Record.

PART 5 - DOCUMENT REVISION HISTORY

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Element D Services
Plumbing
D203001 Sanitary Waste and Vent for Open Parking Garages

END OF ELEMENT D203001