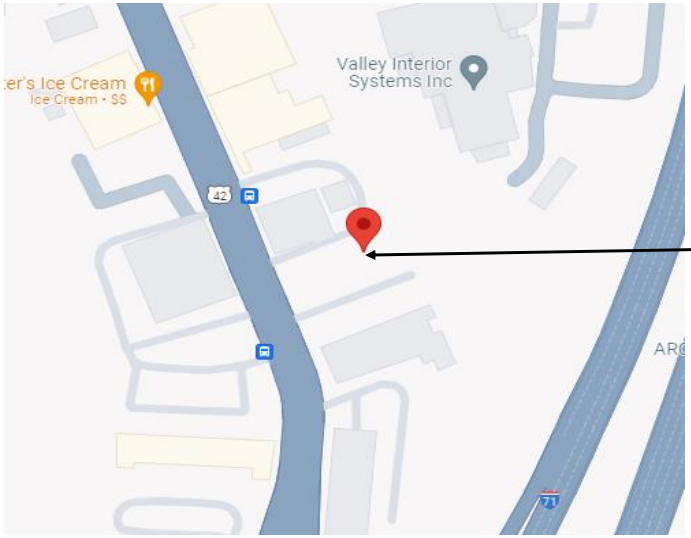
VAPOR INTRUSION MITIGATION SYSTEM

THE CROSSROADS CENTER
2114 READING ROAD, CINCINNATI, OHIO 45202



Project Location

Drawing Index

WESTECH Environmental Solutions

8090 Furlong Drive
Cleves, Ohio 45002
***Telephone** : 513.353.0700*

Source: EmbossDesign, 08/02/2024

Notes:

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General Information
Vapor Intrusion Mitigation System
2114 Reading Road
Cincinnati, Ohio 45202

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24.820.191	August 16, 2024	0
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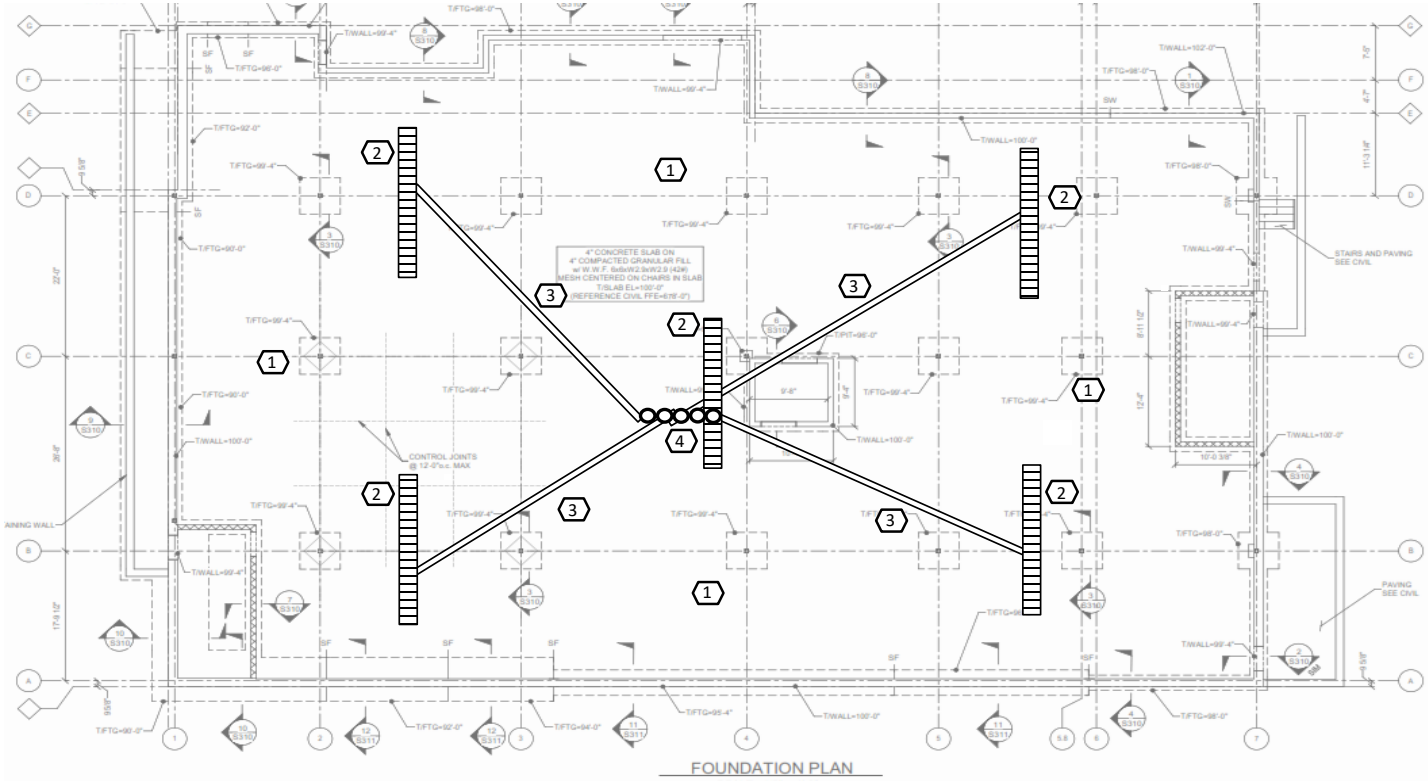
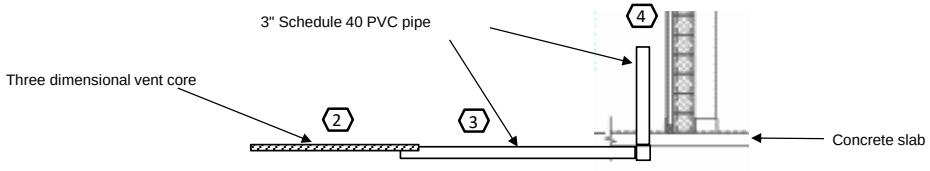


Sub-Slab Extraction Pipe Detail



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Notes:

1. A mimimum 20-mil vapor barrier meeting ASTM E 1745 for Class A barriers having a puncture rating of 202.7 newtons, tensile strength of 63 lbf/in and benzene permeation coefficient of <1.1x10^{-10} m^2/second. Barrier installed over the three-dimensional vent core (see note 2) and across the building footprint. All pipes and conduits penetrating the vapor barrier must be sealed, the vapor barrier must overlap 12 inches at the seams and be sealed to the perimeter foundation walls.

2. A three-dimensional vent core wrapped in a non-woven, needle-punched filter fabric installed across the top of the sub-slab aggregate. The vent core must measure 12 inches wide and 1 inch deep and must comply with the following specifications:

CORE PROPERTY	RESULT	FABRIC PROPERTY	RESULT
Compressive Strength	8,500 - 11,000 psf (407 - 527 kN/m2)	A.O.S.	70 US Sieve (0.212 mm)
Thickness	1.0 in. (2.54 cm)	Grab Tensile Strength	100 lbs. (0.45 kN)
Flow Rate (Hydraulic gradient = 1)	30 gpm/ft width (372 lpm/m)	CBR Puncture Strength	250 lbs. (1.11 kN)
		Flow Rate	140 gpm/ft2 (5,704 lpm/m2)

3. Install 3-inch PVC Schedule 40 pipe horizontally in sub-slab aggregate with appropriate slope to allow for drainage of any acculated water. Terminate end of pipe under vent core.

4. Use 90º PVC fitting to connect horizontal 3-inch PVC Schedule 40 pipe to vertical section of 3-inch PVC Schedule 40 pipe installed vertically through concrete slab and extending 24 inches above floor, install a temporary 3"PVC cap on pipe riser, and label riser "radon".

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Foundation Plan and Detail

Vapor Intrusion Mitigation System

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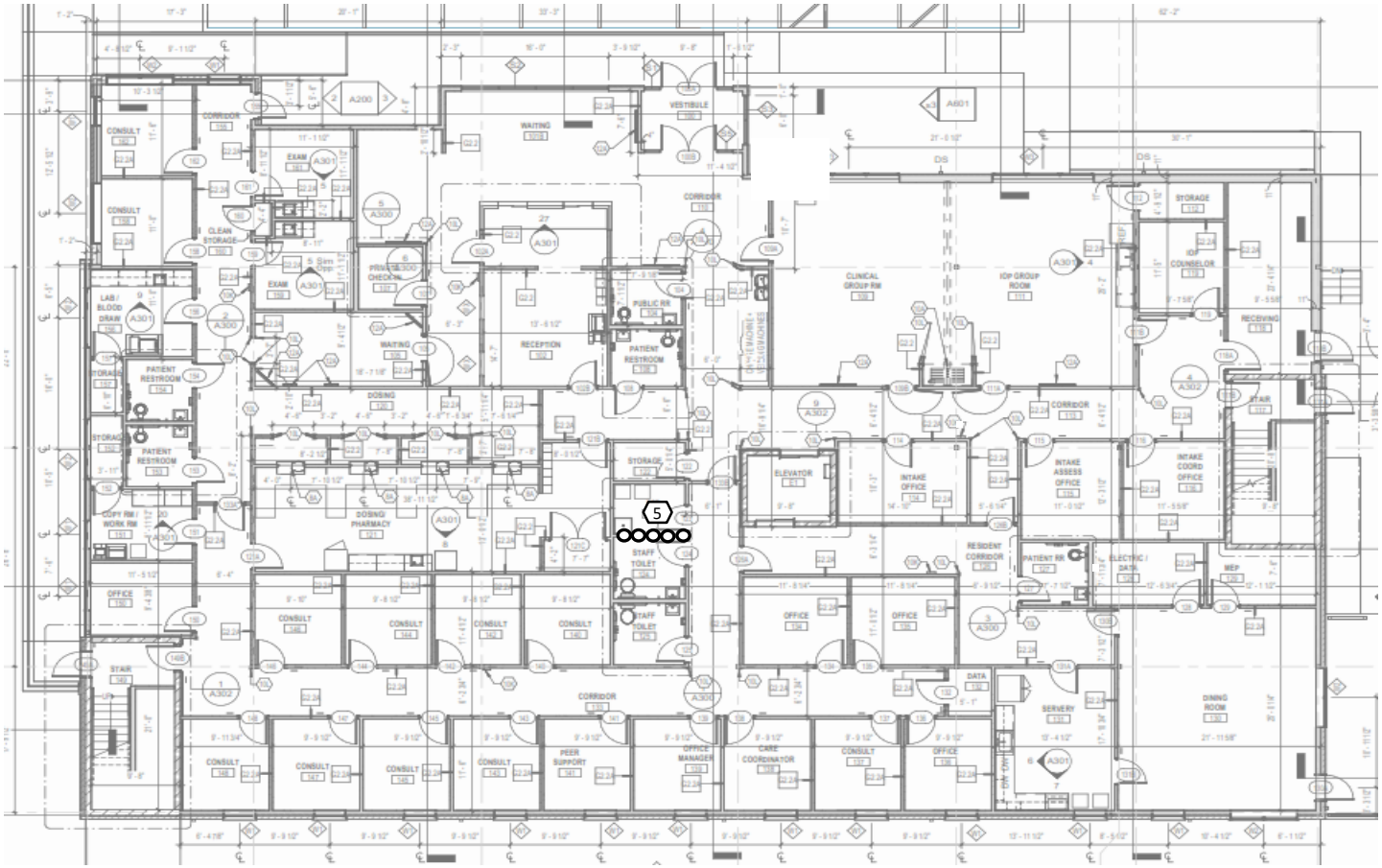

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5 Following the framing of the structure, extend 3" Sched. 40 PVC riser pipes in 2x6 wall separating room 123 from room 124 above ceiling height. Extend riser pipe horizontally in between floor trusses to below location of wall between second floor rooms 218B and 220. See Second Floor Plan for location of wall above. Install nail plates, pipe support, and fire stop as necessary to comply with applicable codes. Coordinate installation of riser pipe with MEP contractors.

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First Floor Plan

Vapor Intrusion Mitigation System

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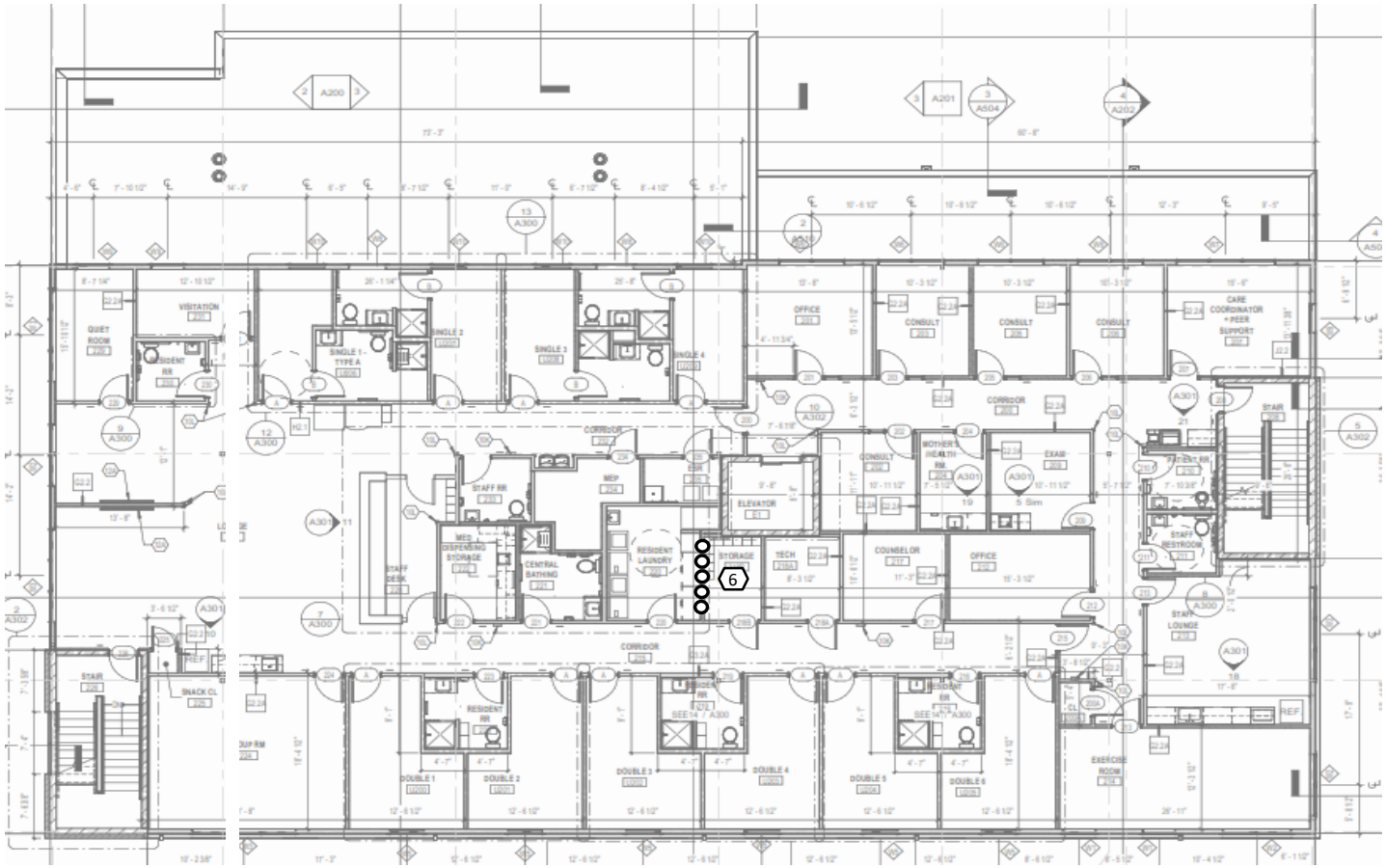

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Notes:

6 Install 3" Sched. 40 PVC riser pipe vertically through the through wall cavity between rooms 218B and 220 on 2nd floor and into 3rd floor. Attach riser pipe using pipe hangers and/or riser clamps as necessary to support pipe. Install nail plates, pipe support, and fire stop as necessary to comply with applicable codes. Coordinate installation of riser pipe with MEP contractors.

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Second Floor Plan

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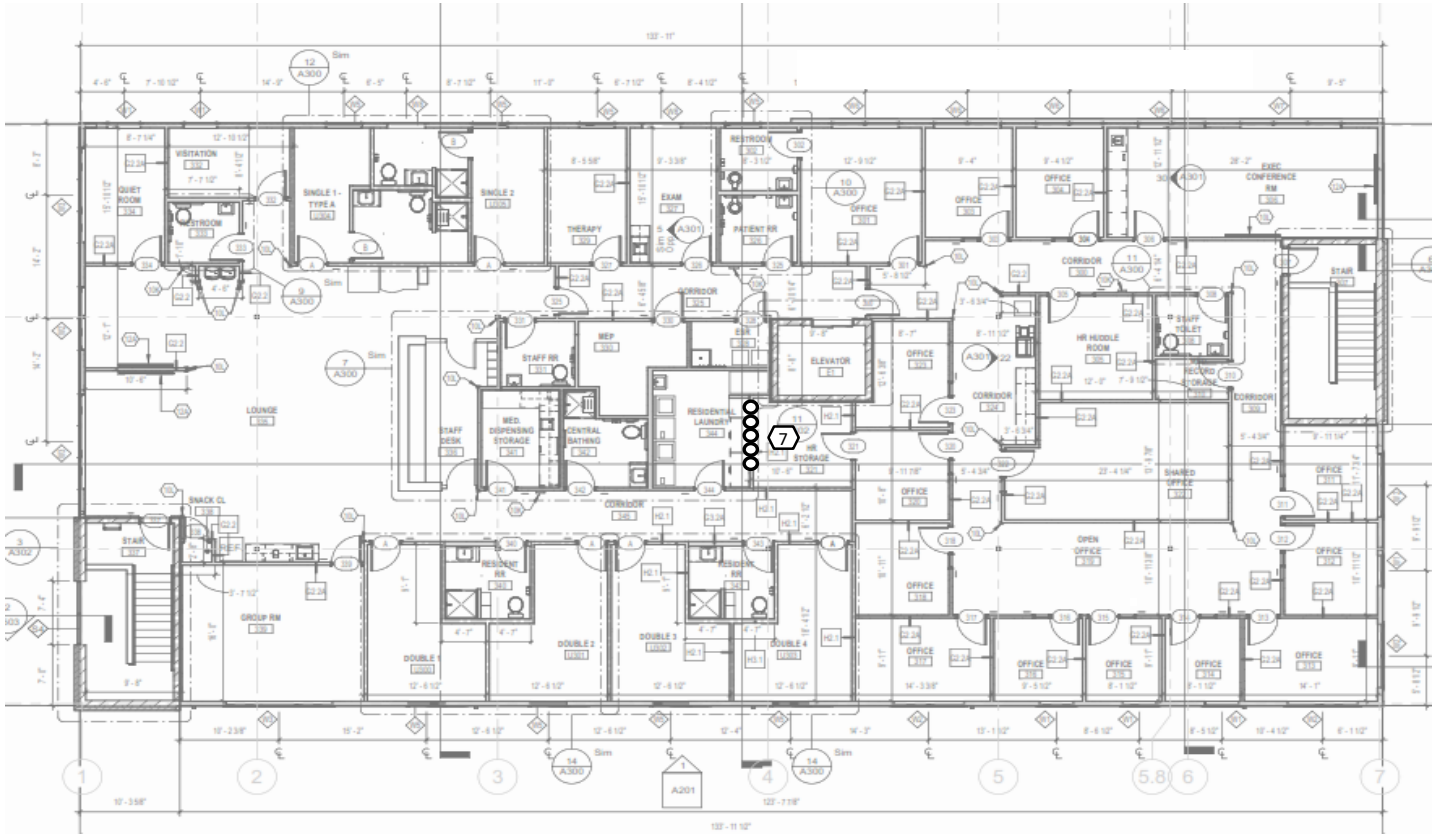

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Notes:

7 Install 3" Sched. 40 PVC riser pipe vertically through the through wall cavity between rooms 321 and 344 on 3rd floor and through roof above. Attach riser pipe using pipe hangers and/or riser clamps as necessary to support pipe. Install nail plates, pipe support, and fire stop as necessary to comply with applicable codes. Coordinate installation of riser pipe with MEP contractors.

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Third Floor Plan

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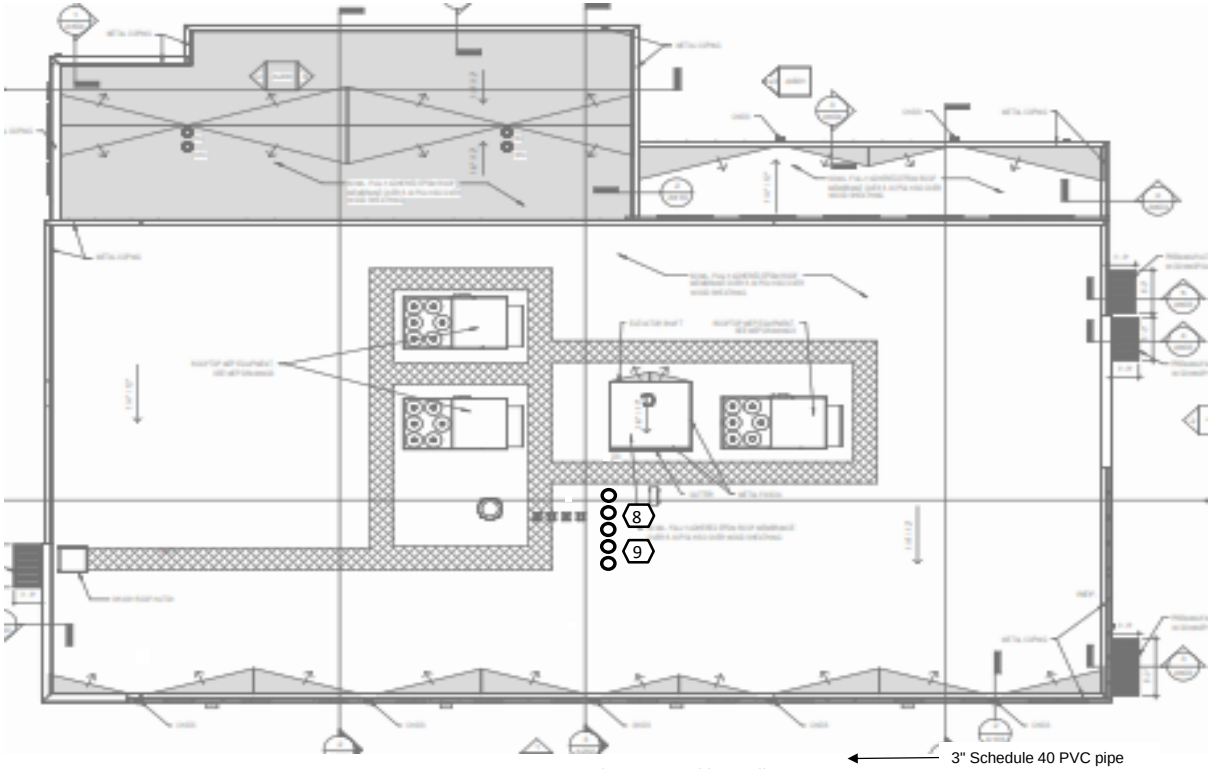
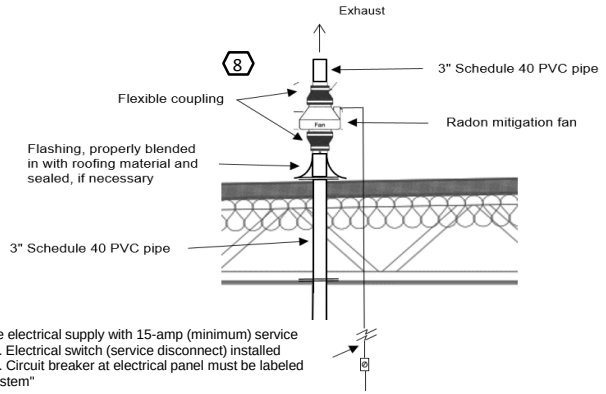


Fan and Vent Assembly Details



120-volt, single-phase electrical supply with 15-amp (minimum) service from a "house" circuit. Electrical switch (service disconnect) installed within ten feet of fans. Circuit breaker at electrical panel must be labeled "Radon Reduction System"

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Notes:

8 Mitigation fan/vent assemblies installed on roof consist of: 3" Sched. 40 PVC pipes terminating a minimum of 12" above the roof. Flashing boots installed around riser pipes at roof and sealed; RadonAway RP 145 mitigation fan (or equivalent); Indiana Seal flexible couplings #156-64 (or equivalent); weatherproof electrical boxes are wired to a dedicated 120-volt, single-phase, 15-amp minimum electric source located on central electrical panel. Install one U-tube fluid manometer below the fan in a weatherproof box on each riser pipe.

9 Exhaust pipes must be a minimum of 10 feet from fresh-air intakes, windows or any opening to the building.

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Roof Plan and Detail

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