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Acura Services LLC

Soil Vapor & Radon Mitigation Services
Anthony G. Hendricks P.E.

August 3, 2020

Post Mitigation Report

Project: Home at 416 4th Ave. SW, Cedar Rapids, IA

Mr. Terry Tiedemann, PE
City of Cedar Rapids, Iowa
500 15th Ave. SW
Cedar Rapids, IA 52404

Project Summary

Acura Services LLC installed a mitigation system in this home July 29, 2020. The house is older and in the process of being remodeled. The foot print is approximately 21 feet wide by 35 feet long with a small addition on the west side of about 10 ft. by 10 ft.

Soil Gas Pickup Point

Communication testing was performed before starting excavation. Test holes near the perimeter of the building pulled up very moist dark thick material.

Based on communication testing and the layout of the home a central point near the basement window was chosen for the pickup point.

A hole was opened up through the concrete floor and excavated 36 inches from the top of the concrete. The concrete was approximately 3 inches thick.

A flat sump lid was caulked and sealed to the floor and a 3 inch hub installed on the lid to connect the pickup point and piping. Three inch piping was run to the outside of the building. The fan was mounted on an upturned elbow. Discharge piping was then run up the side of the building to above eave height for final discharge. An Ice/Debris trap with clean out was installed above the fan.

Manometer

A U-tube manometer to indicate operation was installed on the riser pipe on the main pickup point. A label with startup information and contact information was installed beside the manometer.

Ice/Debris Trap

The Ice/Debris Trap is installed above the fan. The device is a PVC tee with a stainless steel screen and cleanout. The Trap protects the fan from debris that might get into the discharge pipe and ice that may build up and fall into the fan. The Trap should be opened up yearly to check for debris. The tee can be opened as a temporary way to relive freezing issues during the winter if the discharge piping should freeze up.

Fan Description

The fan is specially designed & fabricated for use in mitigation systems. The fan installed is an AMG Eagle; 160 watts, 1.37 amps max., 3150 rpm, capable of pulling 4.0 inches w g.

Fan Startup

After initial startup the manometer read 3.7 inches w.g.

Sealing Description

Many sealing issues were found. A bead of caulk was run over the cracks and pushed into the cracks with a putty knife.

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Electrical

Electrical connection was made to the fan with a weather proof box & lockable on/off switch for servicing the fan.

Testing To Validate Performance

Drilled holes used for communication testing were used to verify depressurization.

Hole 1: Approximately 10 feet from the main pickup point.
Hole2: Approximately 16 feet from main pickup point.

Depressurization Readings

Hole 1: minus -0.018
Hole 2: minus -0.070

Warranty

The fan comes with a manufacture's warranty for five years from date of startup. The startup date was written on a sticker affixed to the riser pipe along with installer, installer's phone number and initial inches of w.g.

Conclusion

After startup of the fan readings taken in the test holes with a micro manometer indicates that successful depressurization beneath the basement floor has been accomplished.

Report Prepared by;

Anthony G. Hendricks P.E / Owner