

Pfeiffer, Jane K - DNR

From: Pfeiffer, Jane K - DNR
Sent: Wednesday, June 23, 2021 2:38 PM
To: Robert Reineke
Cc: Pratap Singh; Mylotta, Pamela A - DNR (Pamela.Mylotta@wisconsin.gov)
Subject: RE: Community Within the Corridor - East Block (02-41-263675) - Review of Updated Remedial Action Design Report Letter

Hi Robert,

Thank you for speaking with me today regarding the above-referenced site. As I stated on the phone, based on the information received by the DNR to-date, the DNR recommends that a more protective vapor barrier than the proposed 10-mil barrier be installed at the CWC-East Block site. That being said, it is K. Singh's responsibility as the environmental consultant working on this case to use your professional judgement to determine what actions are necessary to ensure that the site conditions are protective and that the conditions for Wis. Admin. NR 726 case closure are met. Therefore, the type and thickness of the vapor barrier installed at this site is ultimately up to you and your client.

Moving forward, if you and your client would like a DNR review and written response to any technical questions, please submit a technical assistance request with its associated fee.

Thank you,

Jane

From: Robert Reineke <rreineke@ksinghengineering.com>
Sent: Wednesday, June 23, 2021 10:15 AM
To: Pfeiffer, Jane K - DNR <jane.pfeiffer@wisconsin.gov>
Cc: Pratap Singh <psingh@ksinghengineering.com>
Subject: RE: Community Within the Corridor - East Block (02-41-263675) - Review of Updated Remedial Action Design Report Letter

Jane,

I just called and left a message.

I wanted to speak to you re: the vapor barrier under the building as I was reviewing best practices as far as engineering specifications as to puncture resistance, etc.

I arrived at this document from EPA and reviewed it for further guidance [Engineering Issue: Indoor Air Vapor Intrusion Mitigation Approaches \(epa.gov\)](#) and was evaluating how it applies to our project.

Specifically this section:

Vapor barrier— geomembrane	Impermeable geomembrane placed beneath building.	Residential and commercial build- ings only in new construction—not feasible as a retrofit. Feasibility depends on foundation design, typically combined with a sub foundation vent system. Maintenance is easy. Less environmental concerns. Can use HDPE (40–60 mil), LDPE, or VDPE (30 mil).	Capital: \$0.75–\$1.50 per sq ft. Annual O&M: N/A. Note: This estimate assumes ap- propriate bedding material will be provided.
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Engineering Issue: Indoor Air Vapor Intrusion Mitigation Approaches

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EPA is saying that it's not feasible as a retrofit and only should be used in new construction. As this is a retrofit, I'm not seeing the point of a thicker vapor barrier.

The RADR approval letter stated the following.

- C. In the Report, K. Singh proposes to install a 10-mil plastic vapor barrier in the area o excavation prior to the placement of the new concrete floor. The DNR recommends t install a more protective barrier than what is proposed. More advanced vapor barrier (i.e., thicker barrier, etc.) must be considered at this site given the high concentration the sub-slab vapors that exists directly beneath the planned residential units. Addition vapor barrier should be sealed to the foundation features, any utility piercing, and all stairwell pits or sumps of the building to promote the effectiveness of the barrier. All be tested in an appropriate manner to assure seals are properly performing.

Based on my review of EPA's guidance, our consideration of a thicker barrier is that it's not a feasible alternative based on EPA guidance and therefore there is no benefit to anything thicker than a 10-mil barrier. As such, we are not proposing to install a thicker barrier on East Block or West Block than 10-mil.

We'd appreciate any comments you have.

Robert T. Reineke, P.E.

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