

5480206 RETAINING WALL SYSTEMS  
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Comments: (11-13-18)

1. Can we get a list of suppliers that meet that spec(548-2.7)? The current manufacturer that is supplying the product in the FDOT market does not have a product that meets that spec. I am curious to know what the cost difference is.

Response: At this time, we are not able to find more than one supplier whom supplies a product meeting the requirements of 548-2.7. There is a concern that products not meeting the requirements proposed in 548-2.7 will not be durable; however, since it appears that only one product currently meets the requirements, the proposed requirements have been withdrawn by Management.

2. Additionally, it appears they want the seal to be installed after the wall is built (548-8.6). “After the application of all coatings and treatments to the wall panels, seal all joints between panels of reinforced concrete panel MSE walls with compressible free draining material” I was under the impression when we met, that the time of installation of the seal was not going to change. Installing the seal after the wall is built can be difficult to do in limited access situations and may require traffic shifts just to install this product.

Response: Neither coatings nor treatments are applied after the precast yard to most of the concrete panel MSE walls constructed for the Department to date. However, should a coating or treatment (such as a sealant) be applied to the facing after the free draining seal is installed, it is likely the free draining characteristic will be compromised.

In order to make it optional for the Contractor to either protect the seal when applying coatings and sealants, or apply coatings and sealants before installing the seal, the specification has been revised to: “Protect the free draining seal during the application of coatings and sealants. Should the seal become coated or clogged, remove and replace the coated or clogged free draining seal.”

The instances of requiring traffic shifts to properly install the product are expected to be extremely rare.

3. I would assume that a coating is applicable to paint or class 5, but what is a “treatment” to the wall panel?

Response: Anything applied to the wall facing that would be absorbed by the facing such as a stain or sealant.

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Comments: (11-29-18)

Under section 548-8.5.2, third paragraph, third line, "feet" is missing after "three".

Response: Word added.

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Comments: (12-18-18)

548-8.5.2, third paragraph: at the purple arrow they are missing a unit . I think they mean three feet

Perform <del>five</del> one set of QC density tests per thick lift of the test wall on the backfill within three feet behind the wall face and one set of QC density tests per thick lift of the test wall on the backfill placed beyond three behind the wall face, at random locations <del>the test</del>
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Response: "feet" added.

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Comments: (12-21-18)

548.-8.6 Compressible Free Draining Seal Plant growth from seeds or spores that may be in retaining wall panel joints does not originate from the back face of the wall. As the current draft of this spec further explains, the seeds and spores are "transported to the joints by wind or rain". By not applying the compressible seal at the front face of the wall "after the application of all coatings and treatments to wall panels" the seeds and spores transported by wind and rain will continue to deposit within the joints at the front face of the wall and germinate with the continued exposure to sunlight. Consequently, a compressible seal that is placed in the back of the wall is not effective in preventing the wind and rain transported spores from the front of the panel joint that is exposed to sunlight. The compressible seal placed at the back of the wall is not achieving the intent of this specification (to prevent plant growth) and becomes only an added cost item to the retaining wall system. The only way "to prevent plant growth from seeds or spores that may be in the joints or transported to the joints by the wind or rain" is to place a compressible free draining seal in the front joint of the panel so as to seal the joint from sunlight. Plants cannot grow without the photosynthesis process. To this point, the most recent elimination/strike out of "after the application of all coating and treatments to the wall panels" undermines the ultimate intention of the specification which is to prevent plant growth. The plant growth in the panel joints is not only an aesthetic issue but also compromises the integrity of the retaining wall system as the plant roots grow from the front facing joint back into the retaining wall structure as sunlight continues to generate growth. The specification has been recently revised in a way that does not take into account the long-term effects of vegetation growth on state owned and maintained infrastructure assets but through the lens of short-term cost and convenience. While the installing contractor may be more inclined to install the compressible seal while the panels are being constructed for ease of installation and production reasons, this

should not override the proper sequence that is necessary in order for the compressible seal to be effective in preventing plant growth. It is of upmost importance that sealing MSE wall joints be performed after the wall has initially settled.

Response: The Department is not convinced that “It is of upmost importance that sealing MSE wall joints be performed after the wall has initially settled” ... “for the compressible seal to be effective in preventing plant growth.” However, we agree that the seal should not be installed flush with the back face of the panel, particularly where it could be clogged by the adhesive used to secure the geotextile covering the inside of the joints.

Language added: “Install the seal at least one and one-half inches from both the front and rear faces of the panel.”

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Comments: (12-27-18)  
548-8.5.2

1. The backfill may be constructed in successive courses of not more than 10 inches compacted thickness. The 10 inch thick lift seems excessive and may not work.

Response: This is why this sub-article describes an optional trial. When it does not work, the trial fails. No change made.

2. The backfill may be constructed in successive courses of not more than 10 inches compacted thickness. It may be hard to plot the 10 inch lifts and densities in the earthwork record system and construction documentation will be difficult. Also, you may not know that the contractor is proposing to use thick lifts when the density log books are put together.

Response: This was anticipated, and it will need to be addressed by SCO & SMO. No change made.

3. The height of the test wall shall be at least 20 feet or the highest wall on the project. Many walls are variable height over their length and the test densities should include those areas that are not in the highest part of the wall.

Response: Agree. Per the existing and proposed language, density tests are required for every lift and lot placed during the construction of the wall construction with or without a test wall and subsequent construction. No change made.

4. The height of the test wall shall be at least 20 feet or the highest wall on the project. If the test wall passes can the contractor use thick lifts on all walls on the project regardless of height?

Response: Yes, for the same backfill materials and compaction procedures, until compaction tests show unacceptable results. No change made.

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