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# Design Work, New Developments since 6/12

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# Summary

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- This presentation gives a brief summary of design work and new developments since the 6/12 absorber review. Some of these have already been mentioned in the presentation on the response to recommendations of the 6/12 review. Ernie Villegas will cover the design work in more detail.



# Design Changes

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- welded water joints between pipes and modules
- water manifold moved to bypass tunnel (next to RAW skid)
- no tube guides, no plan for module replacement
- method of supporting, aligning aluminum modules on core carrier plate
- method of lifting modules with Mini-Jack crane
- staggering of blocks to eliminate crack lineup
- Lazer forklift instead of Twin-Lift (no diesel fumes)



# Design Progress

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- Lifting fixture for concrete shield blocks designed-  
-mounts on Lazer forklift
- Mini-Jack crane bridge designed & analyzed
- Hook carriers designed, attachment to Duratek  
blocks designed; both analyzed
- Lifting fixture for core modules being designed  
(hangs from hook carrier)
- Engineering Note for Mini-Jack crane nearly  
complete



# New Developments

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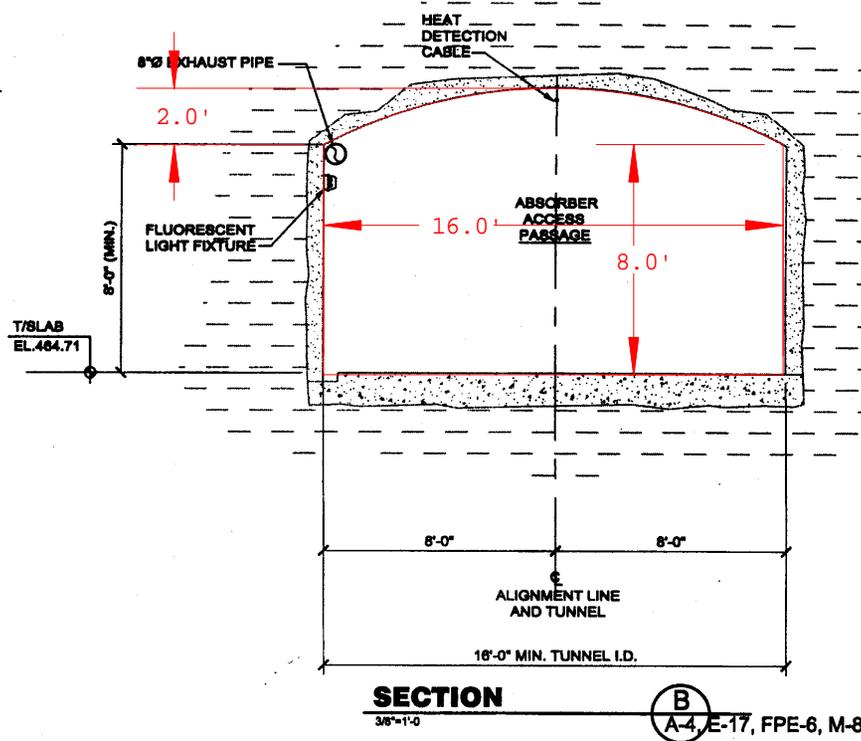
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- Cost, schedule developed for 9/11-13 DOE Review
- Integrated schedule in progress
- Mars modeling mature & underway
- Kamran Vaziri has studied RAW activation
- RAW system design has matured
- shielding upstream of absorber will be simplified by the absence of the access port in the decay pipe extension
- access passage is more constricting than we thought



# Access Passage

Access Cross Section from NuMI Outfitting Drawings



Lazer forklift as quoted has a 95" high mast with 0" "free lift". There is no guarantee that the crown shown here will exist--plus the 32 RAW pipes will now be hung on the ceiling. We will need to upgrade to the 95" mast with 36.7" free lift. Ernie's wish list is that this passage be 10' tall.