



U.S. DEPARTMENT OF
ENERGY

Office of
Science

SBN Far Detector Building Conventional Facilities Update

Steve Dixon

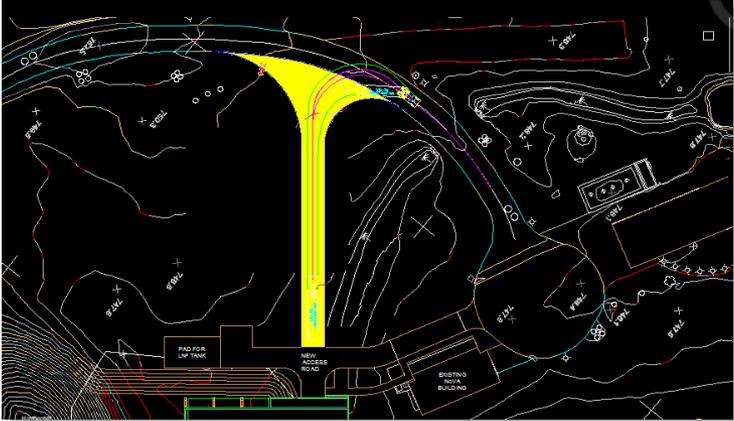
WG3 Workshop

11 September 2014

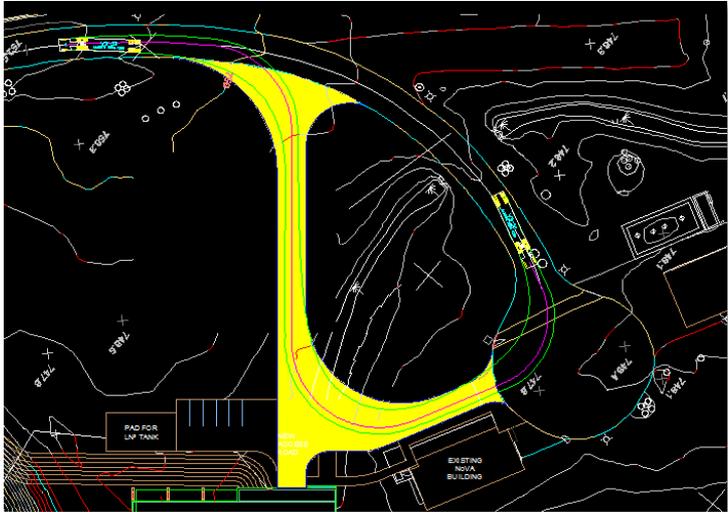
Agenda

- Truck Access
- Wetlands
- Far Detector Building Options
- What's Next

Truck Access Options



Option 1



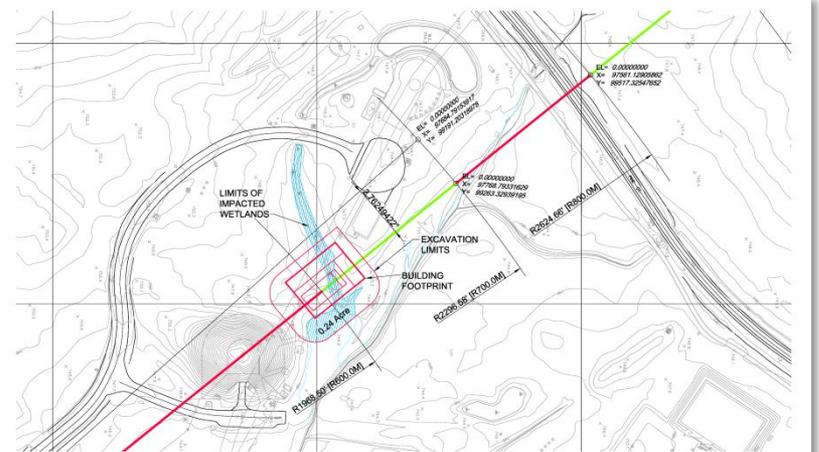
Option 2

Wetlands

Process

- Delineation - complete
- Report - complete
- Discussion with USACOE – in progress
 - Visited the Site - complete
 - Submit Permit - complete
 - Additional Information Requested – in progress
- Mitigation Options
 - Create Wetland
 - Purchase Credit – Preferred Option

Wetlands

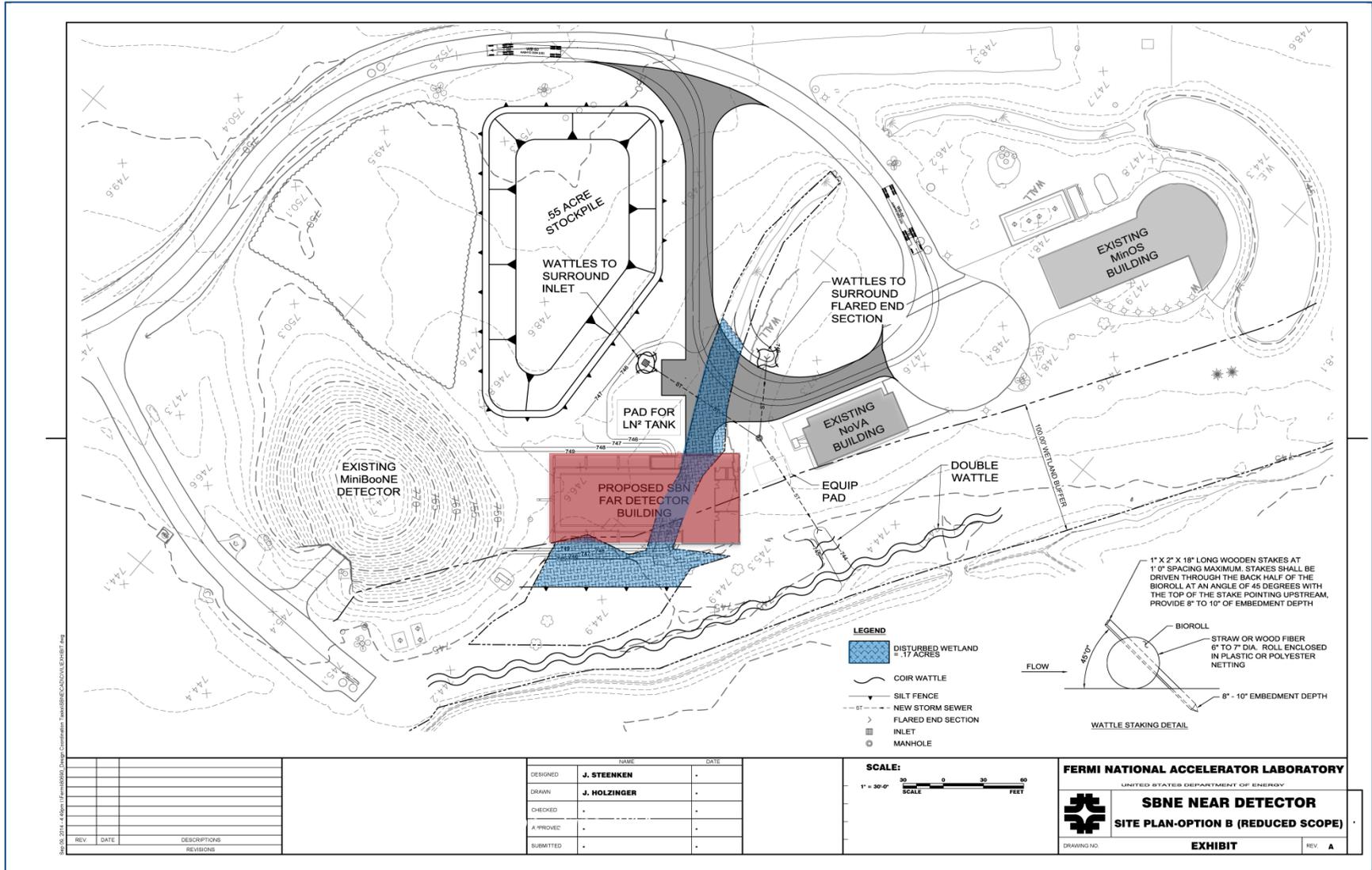


Wetland Goals

- Less Impact is better
- <0.1 acre = Letter of No Objection
- <0.25 acre = Regional Permit
- >0.25 acre = Standard Permit

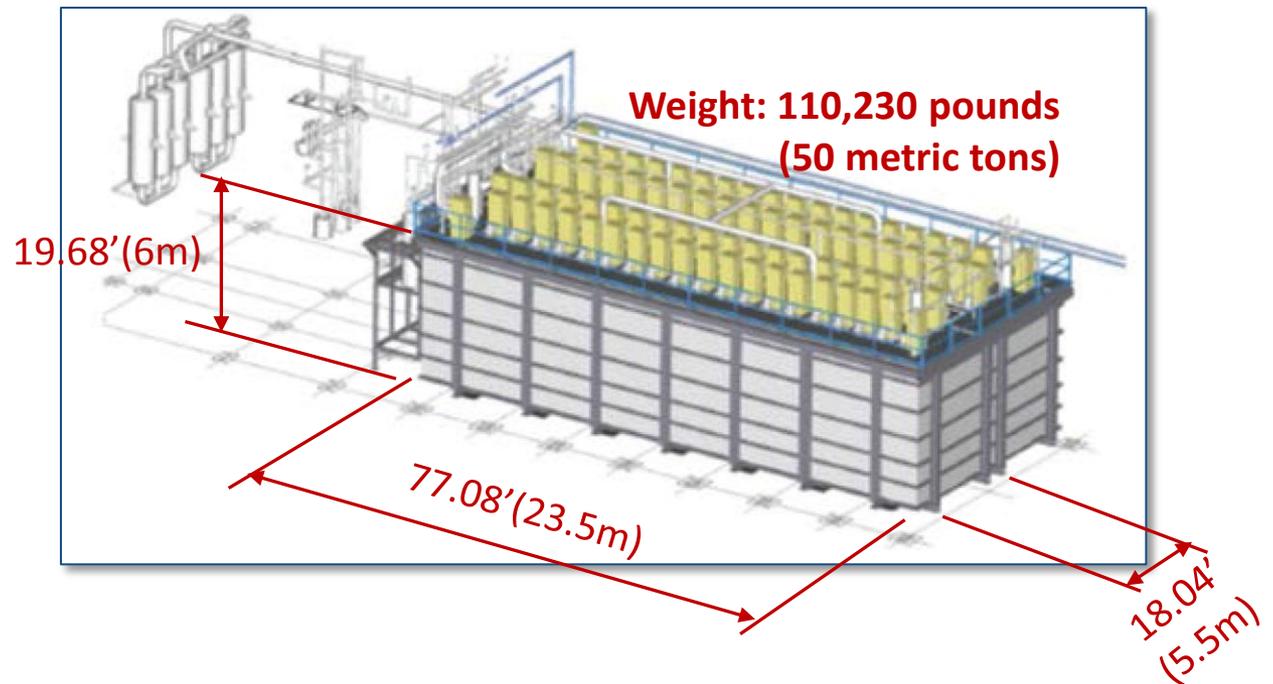
- July 2014: 0.24 acres
- September 2014: 0.17 acres

Wetlands – Reduced Building and Access Road



Far Detector Building Options

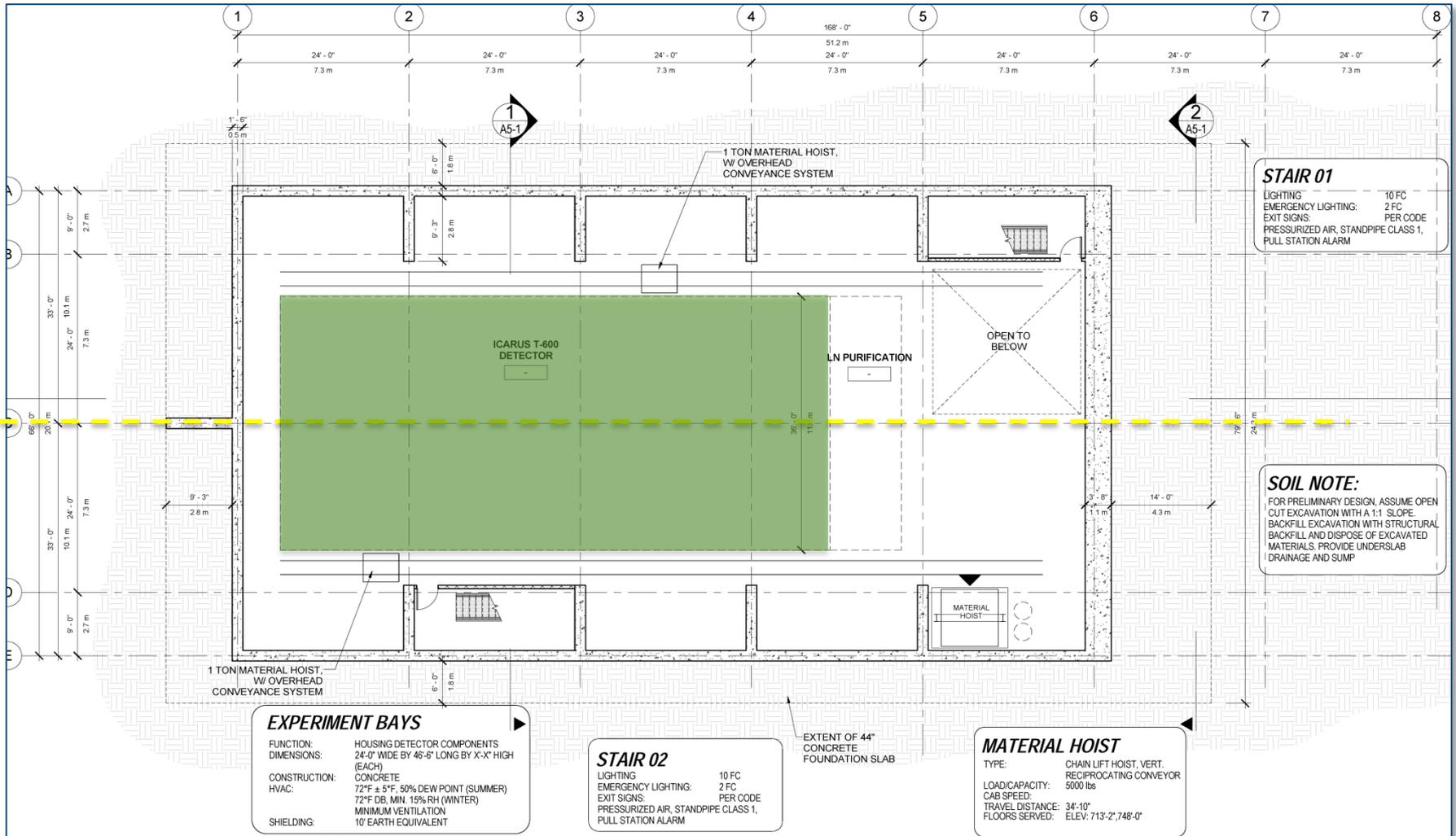
- Option 1 - Surface Building
- Option 2 – **Shielded Enclosure**
- Option 3 – **Removable Roof + Shielding**



Design/Cost Estimate Process – Shielded Enclosure

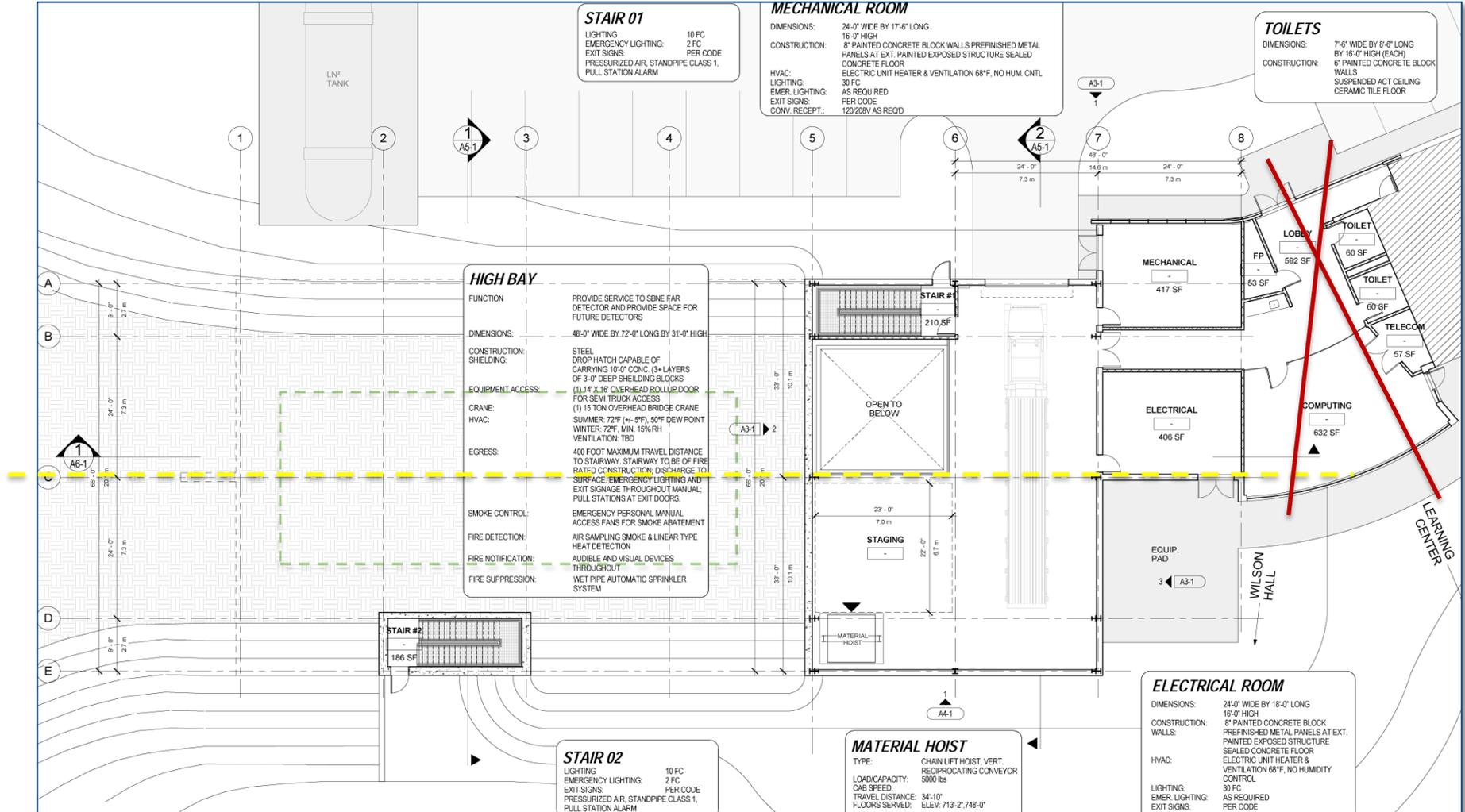
- Refined July 2014 Design
- *External Estimate - \$13.5m (total project cost)*
- *Reduced Size of Surface Building*
- *External Estimate - \$12.4m (total project cost)*
- *Separated “lid” from Enclosure/Building*
- *External Estimate*
 - *\$8.9m (Enclosure/Building) – Fits within GPP envelope*
 - *\$3.5m (Lid and Shielding) – Assumes funded separately*
 - *\$12.4m total of all both projects*

Shielded Enclosure Option



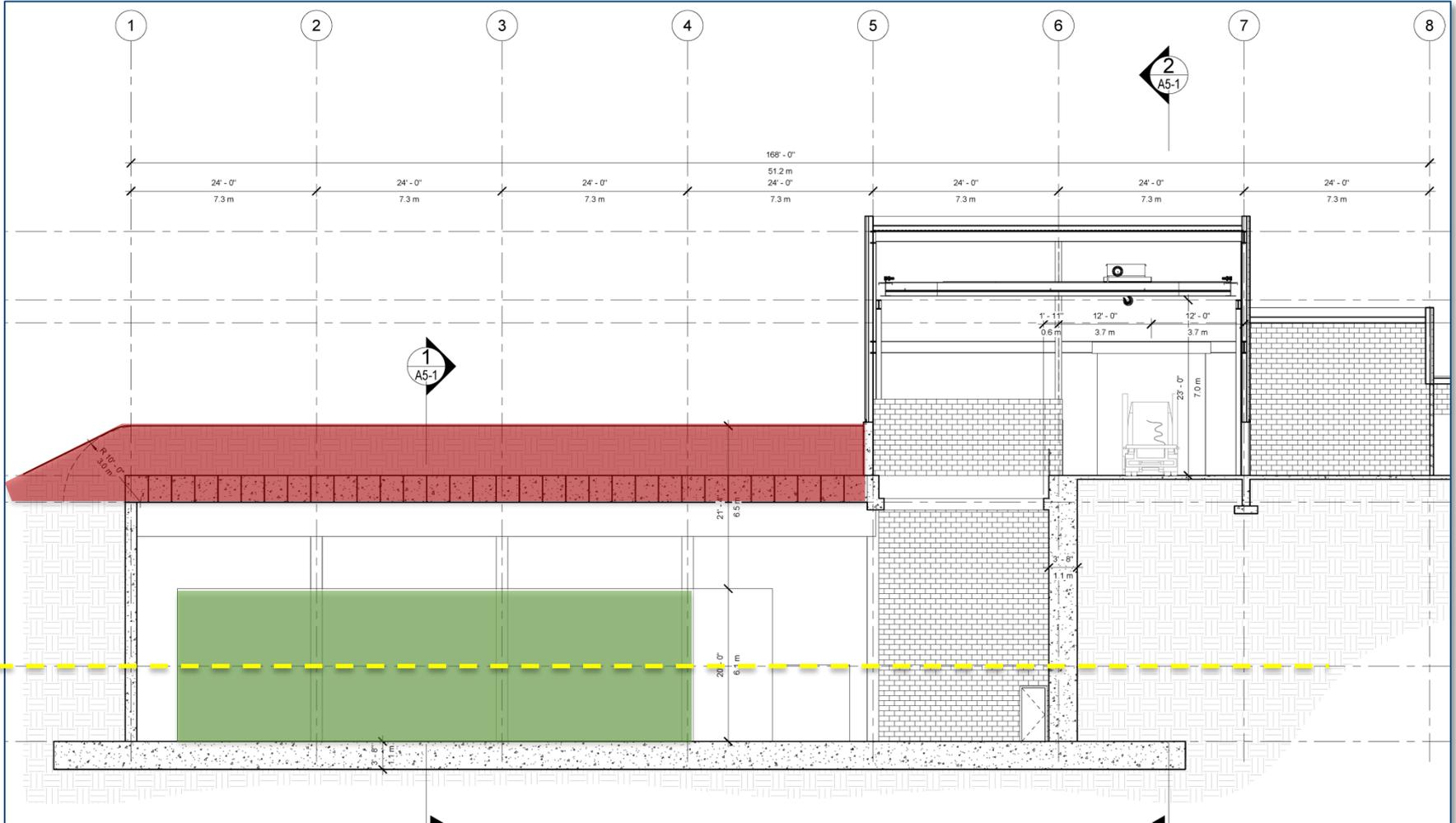
Plan at Detector Level

Shielded Enclosure Option



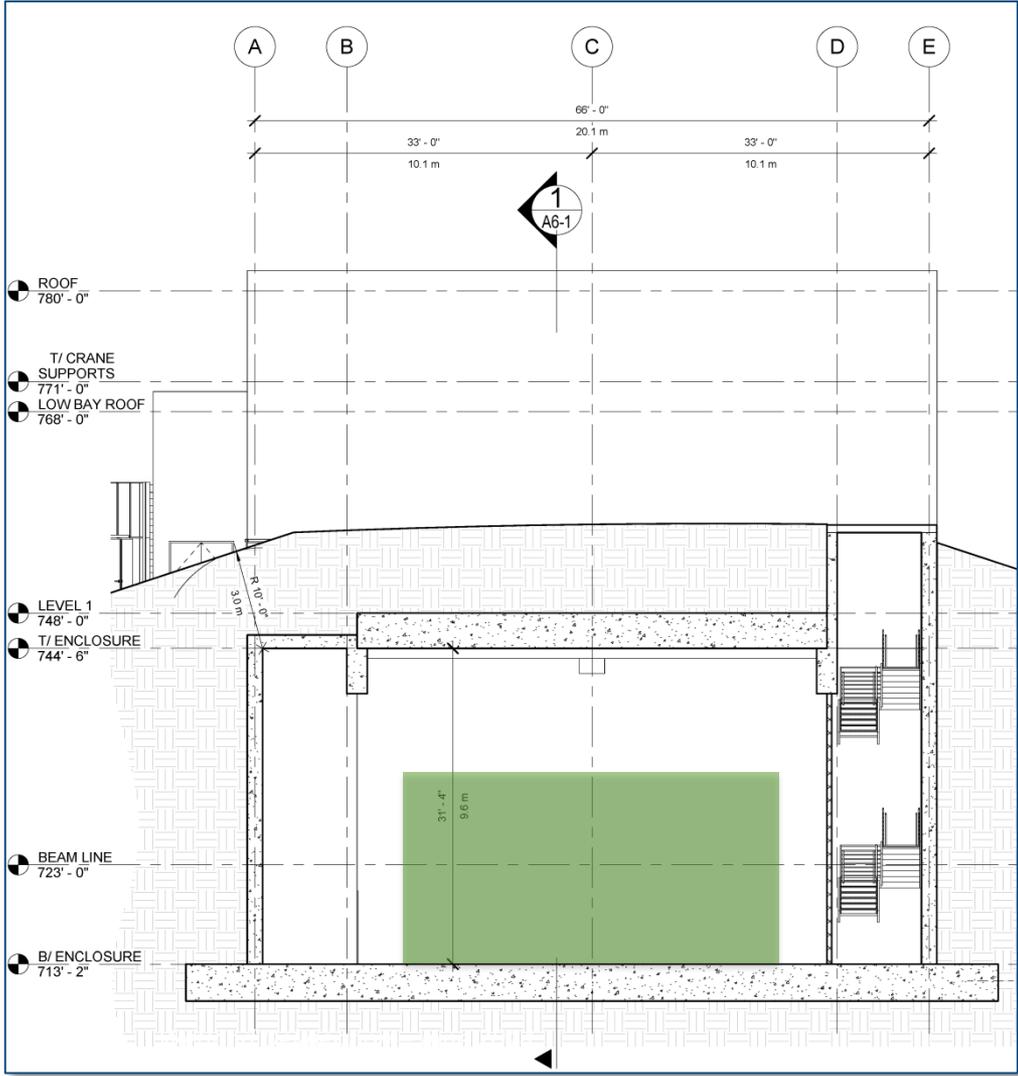
Plan at Grade Level

Shielded Enclosure Option



Section

Shielded Enclosure Option

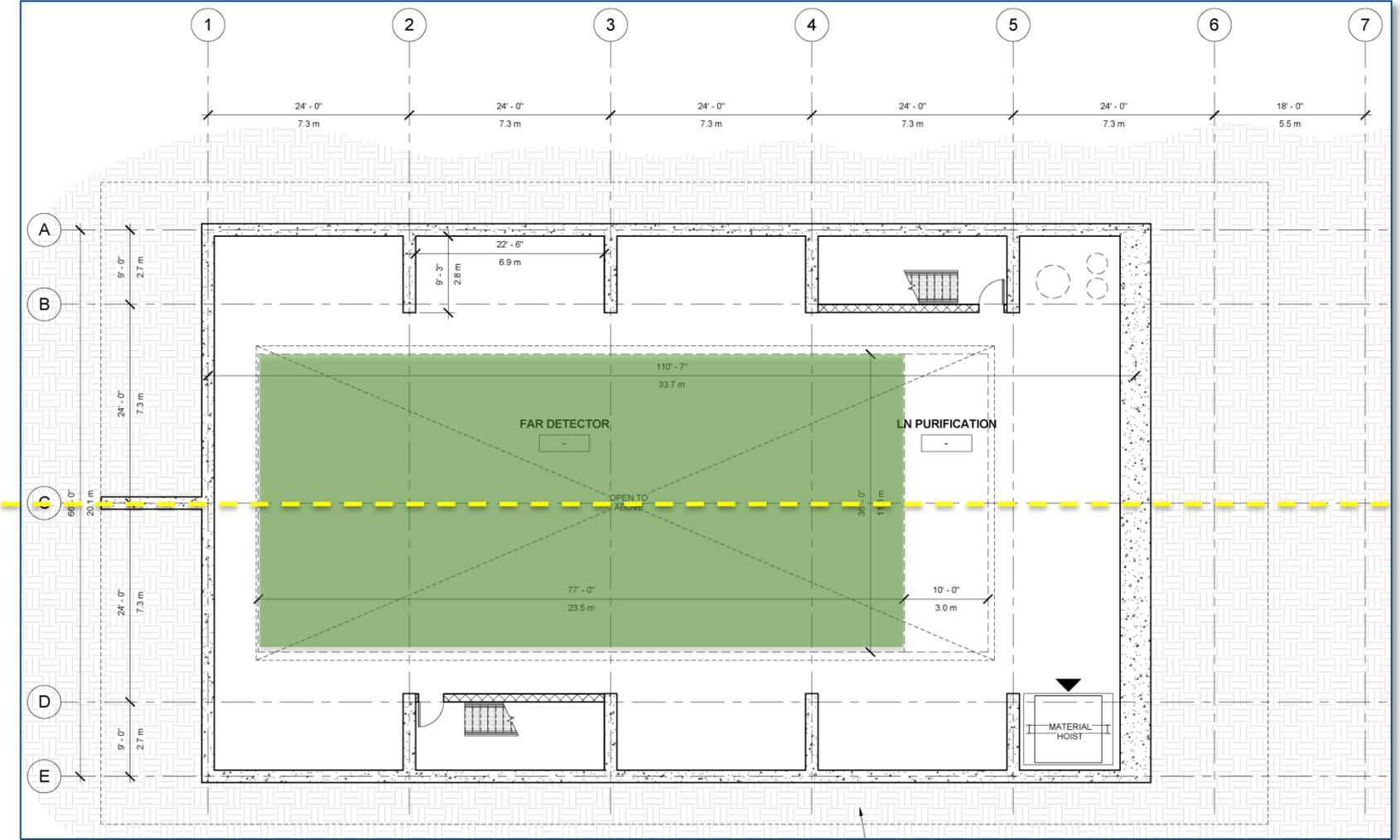


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Design/Cost Estimate Process – Removable Roof+Shielding

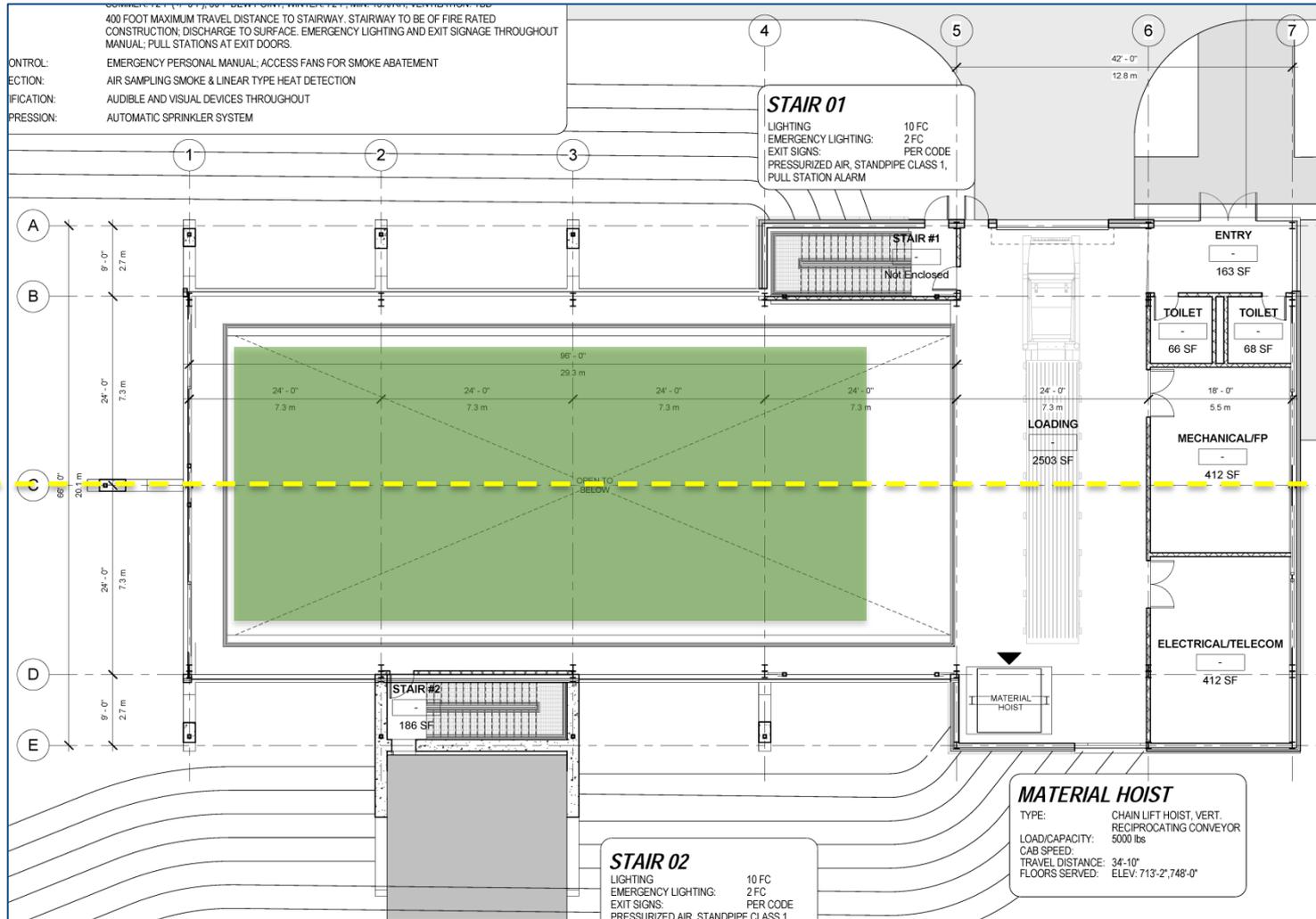
- Refined July 2014 Design
- *External Estimate - \$16.1m (total project cost)*
- *Reduced Size of Surface Building*
- *External Estimate - \$15.6m (total project cost)*
- *Reduced Size of Surface Building Again*
- *External Estimate - \$14.3m (total project cost)*
- *Separated Projects*
 - *\$9.8m (Building with Removable Roof) – Fits with GPP Limit*
 - *\$1.5m (Site Prep and Utilities) – Assumes funded separately*
 - *\$3.6m (Shielding and Crane) – Assumes funded separately*
 - *\$14.9m total of all three projects*

Removable Roof + Shielding



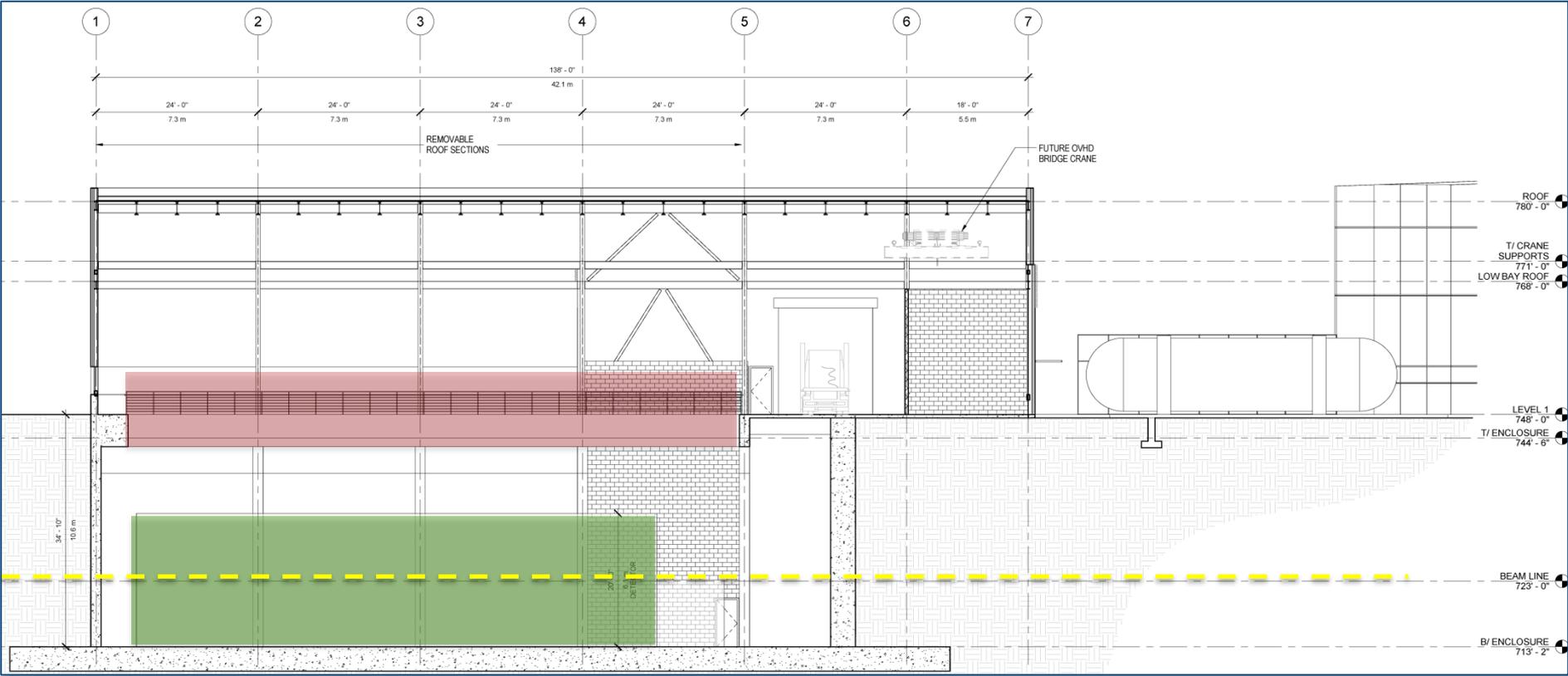
Plan at Detector Level

Removable Roof + Shielding



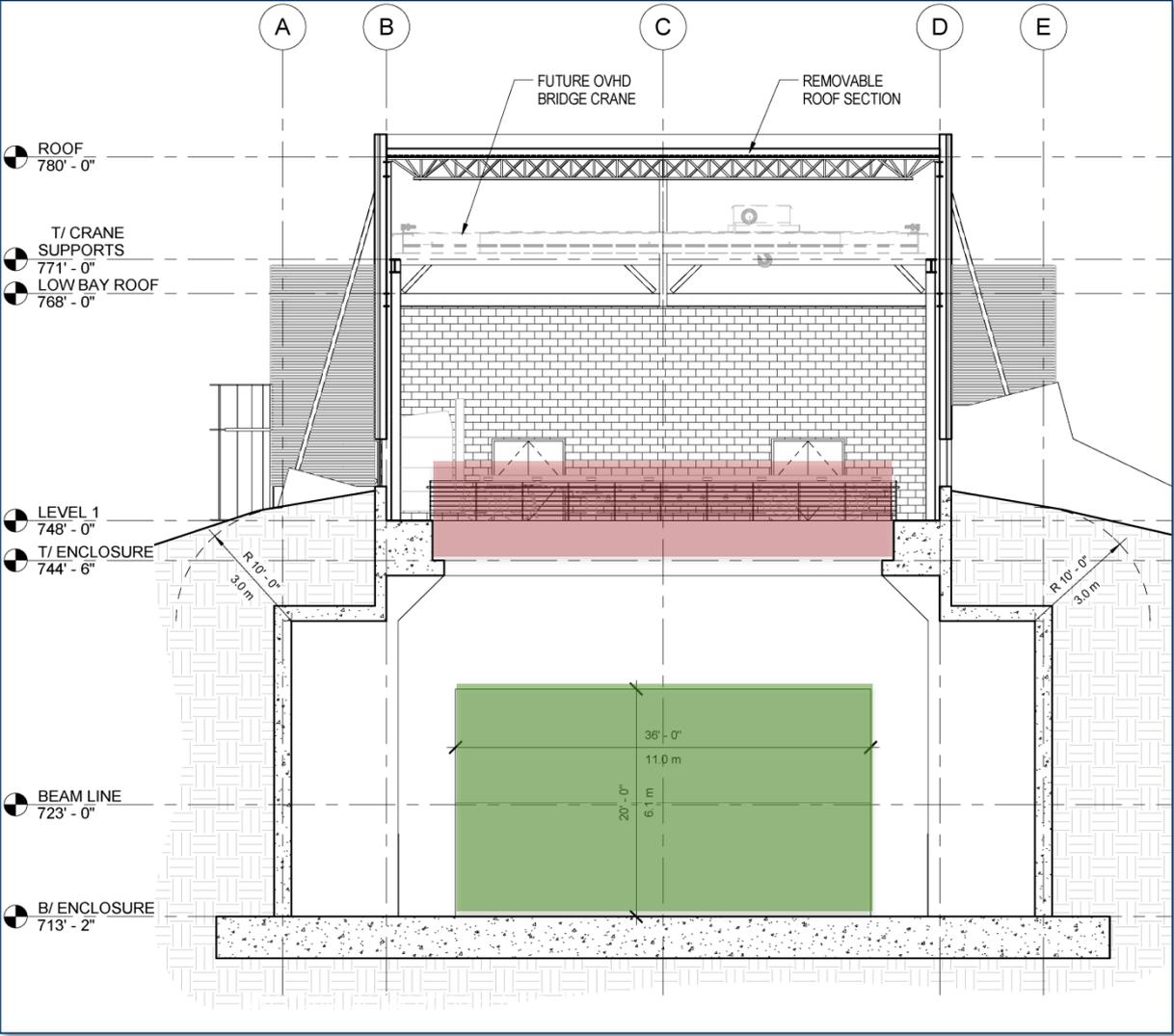
Plan at Grade Level

Removable Roof + Shielding



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Removable Roof + Shielding



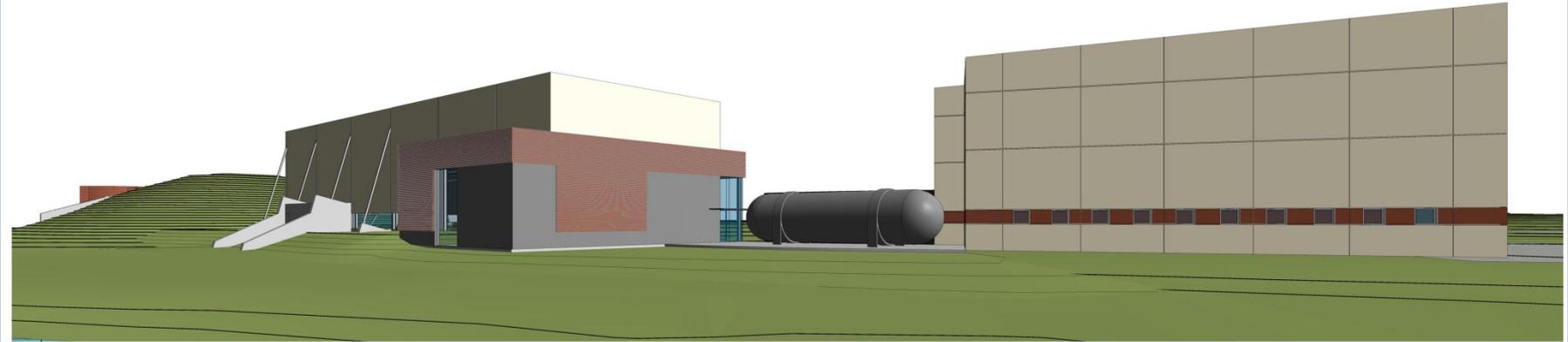
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Removable Roof + Shielding



SITE PERSPECTIVE 1

SCALE: N.T.S.



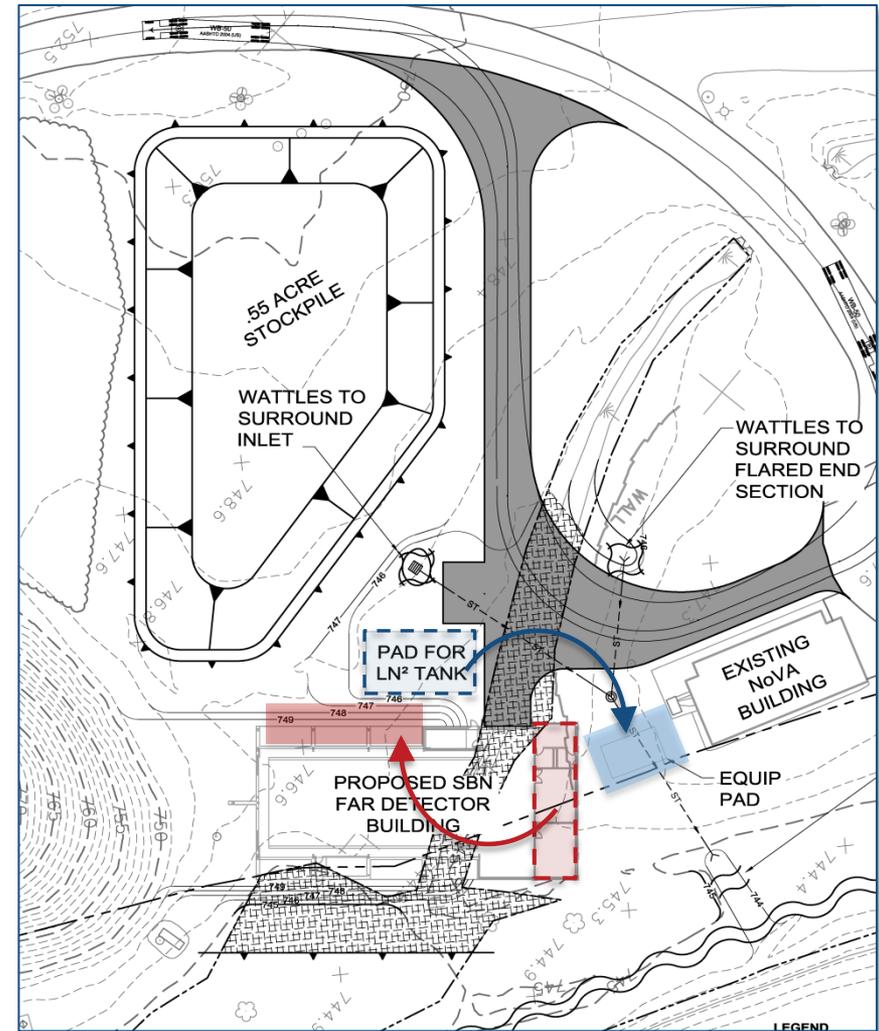
SITE PERSPECTIVE 2

SCALE: N.T.S.

Removable Roof + Shielding

Potential Changes

- Consolidate Tanks
- Relocate Service Bay
- Rigging for Detector Install



What's Next

Wetland Mitigation

- Updated information to US Corps Of Engineers
- Regional Permit Process

Project Plan

- Goal was to have completed by 10OCT14
- Text 85% complete, Drawings 95% complete
- Funding needs to be determined before issued for 2 week review
- 3 weeks after funding determination to complete

What's Next

Final Design

- Have Soil Boring Proposal (~\$20k)
- Need requirements – November 2014
- Start Final Design Request for Proposal – October 2014

Questions
