



# CAC Meeting Construction Update

April 8, 2014

## Transbay Transit Center

**TJPA**





# Period Summary

- There have been over 1,000,000 craft hours completed, excluding demolition, through March 31, 2014. An increase of nearly 50,000 hours since our last construction update in February.
- On March 28<sup>th</sup> a first aid incident occurred when a bundle of shoring frames fell over and briefly pinned a worker's leg to the ground. The worker was assisted by his co-workers, no injuries were reported.
- On March 31<sup>st</sup> in which a worker hurt his hand when an extension ladder came down onto the workers thumb. The injury required stitches making it a recordable and lost time incident.
- On April 2<sup>nd</sup> a workers boot was punctured by a nail. The worker received a tetanus shot and was placed on modified duty making the incident recordable.



# Period Summary

- Re-Bracing continues following wall pours in the west and central areas of the project (also known as zones 1 and 2).
- Concrete column forming and placement continues between the rail level and the Lower Concourse level in the west and central zones.
- Shoring for the Lower Concourse slab is in progress in the central area. First Concourse Slab pour is scheduled mid-May.
- Geothermal and Grounding is now complete in 13 of 14 Fields and will finish the eastern area of the project (also known as zone 4) in April. There has been minimal impact to this work resulting from the discovery of the Native American remains in Field 11.
- Preparations for mud slab and follow-on Waterproofing and Protection Slab completed for the next mat foundation slab pouring in early May.



# Micropile Installation Completed

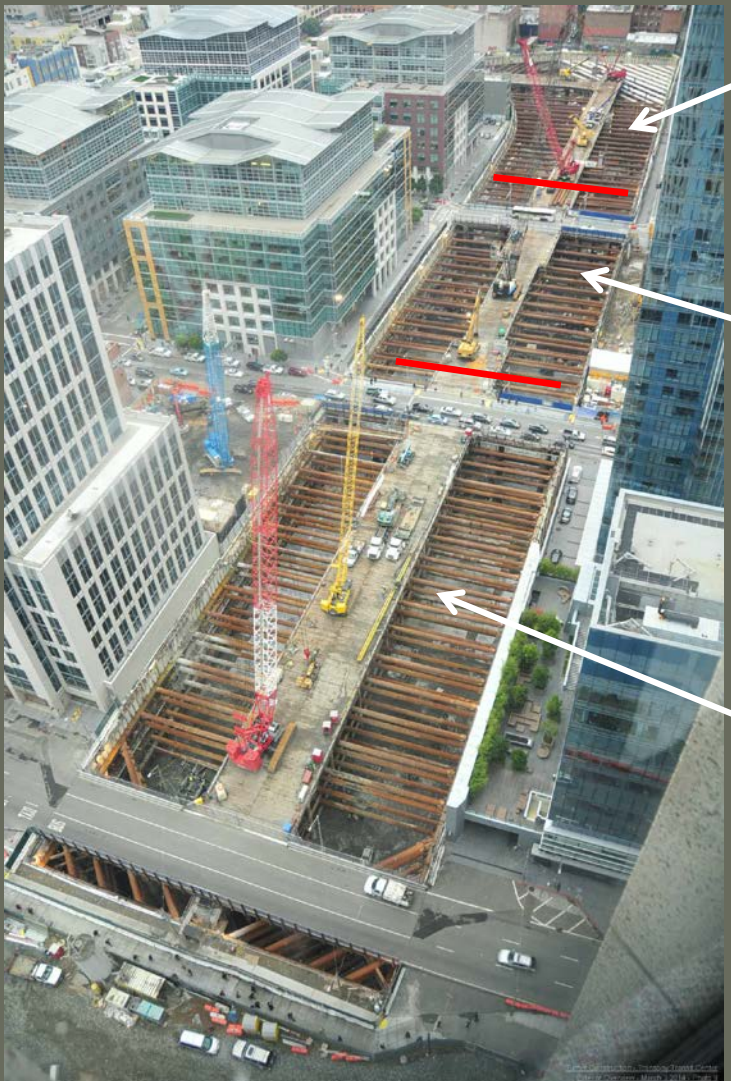
- A total of 1,896 micropiles have been installed throughout the project.
- The work was completed in two mobilizations:
  - Oct. 2012 to Jul. 2013; 1258 piles installed in 35 weeks, ave. rate of 36/wk
  - Dec. 2013 to Feb. 2014; 638 piles installed in 13 weeks, ave. rate of 49/wk (included a night shift)
- All piles continue to pass load testing, 45 remain to be tested, mid-April completion is anticipated.





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# Current Project Overview



Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20

Eastern Zone – Gridlines 20 to 35





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# Below Grade Project Status as of April 1, 2014

Transbay Transit Center Construction Progress  
April 1, 2014

**Bracing**

- Bracing Installed/Stripped
- Rebracing Installed/Stripped
- Rebracing Installed/Not Stripped

**Microspiles**

- Microspiles
- 1896 Installed/1896 Stripped

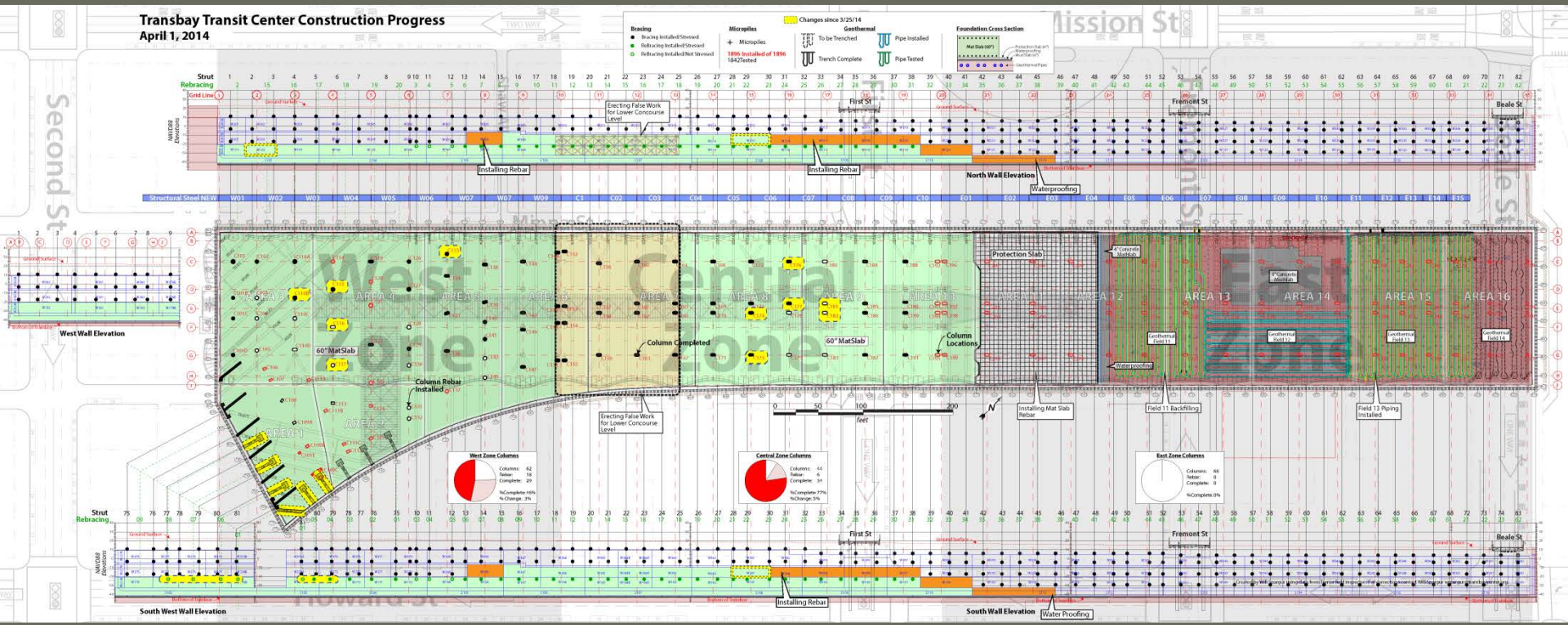
**Changes since 3/25/14**

**Geothermal**

- To be Trenched
- Trench Complete
- Pipe Installed
- Pipe Tested

**Foundation Cross Section**

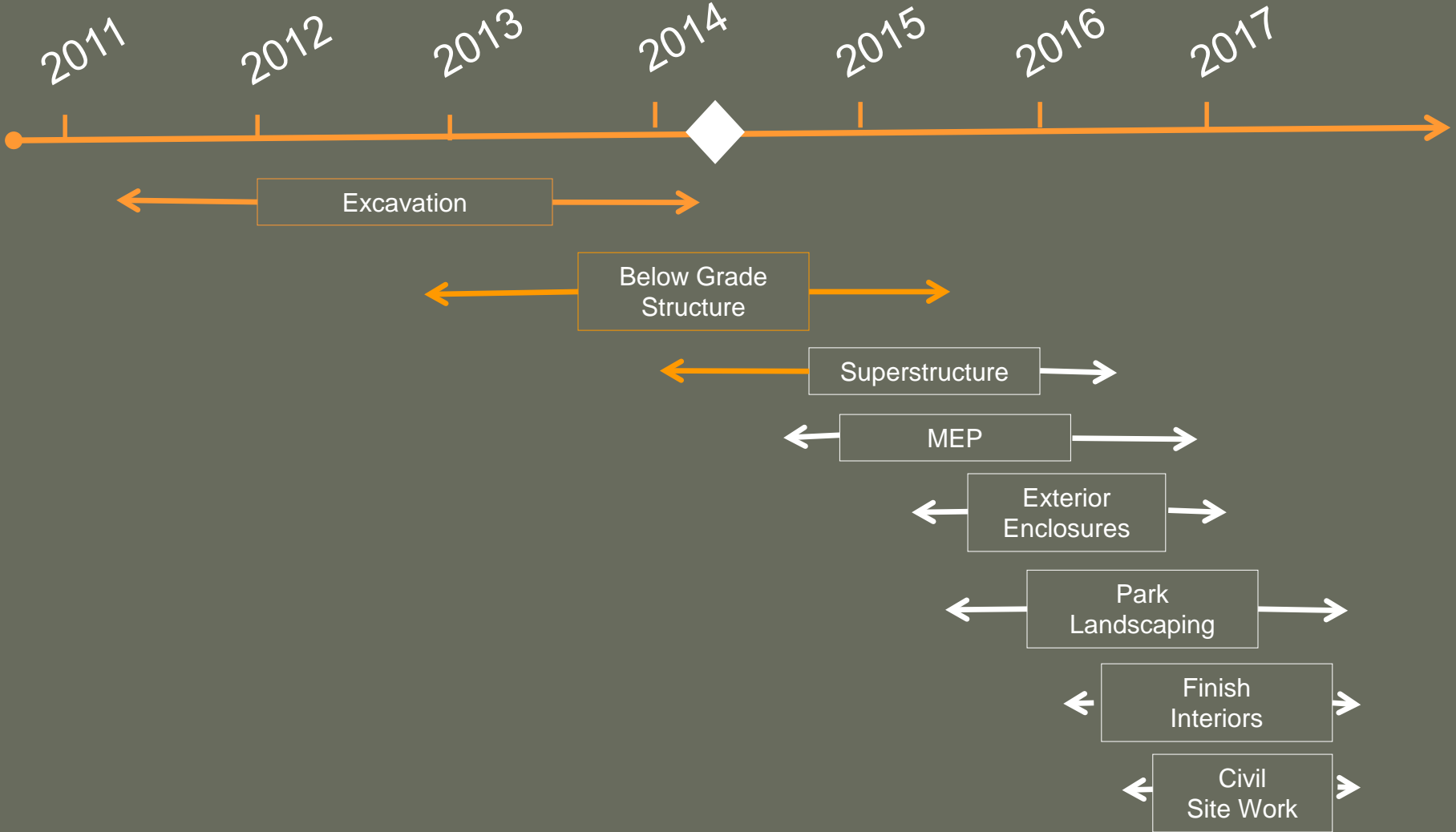
- Structural Steel
- Rebar
- Waterproofing
- Protection Slab
- 60" Mat Slab
- Column Locations
- Field 11 Backfilling
- Field 13 Piping Installed





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# Construction Timeline Summary





# Construction Milestones

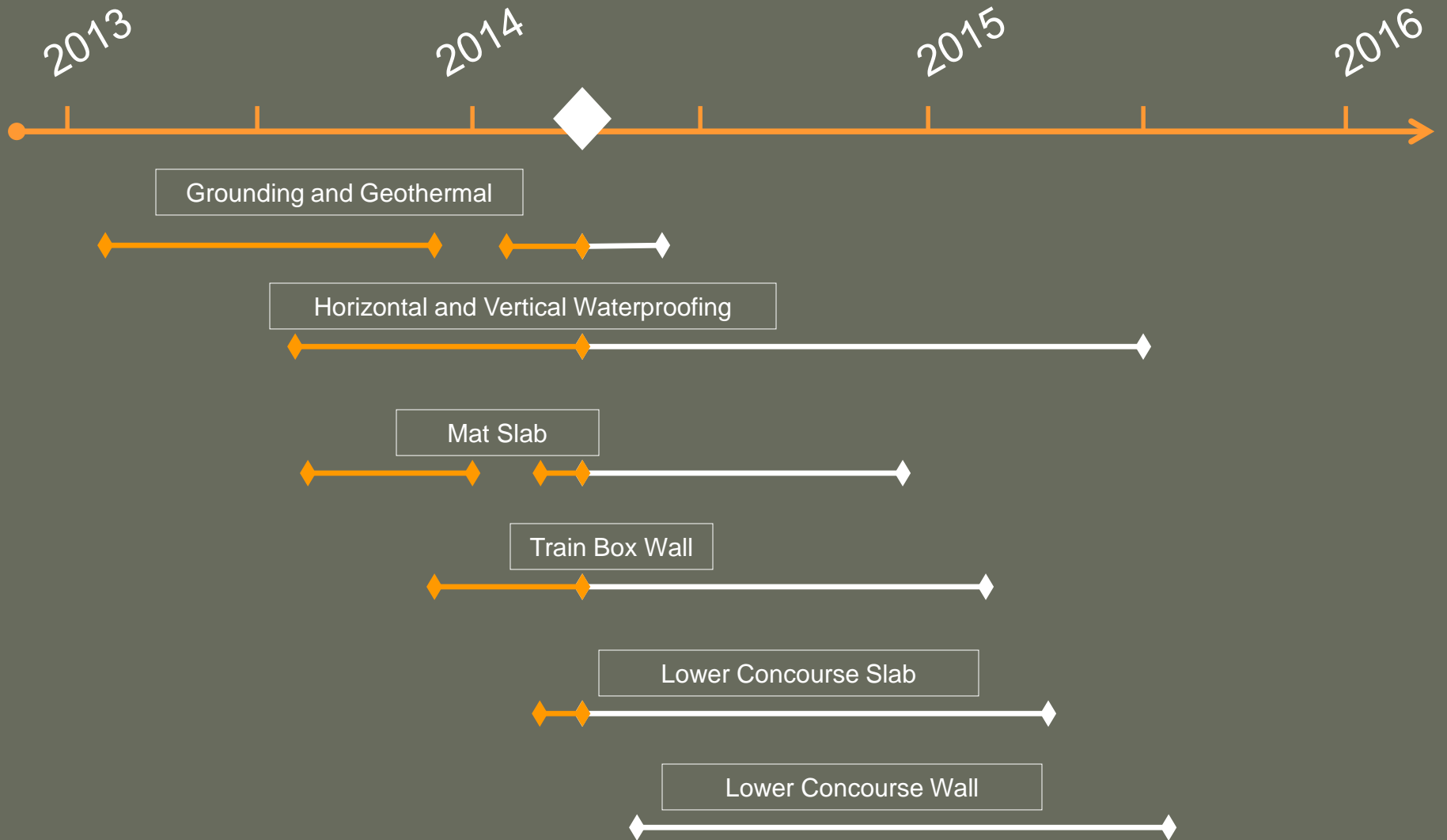
Key Schedule Dates	Baseline	27-Jan-14		Float
Complete Utility Relocations	8-Jul-13	7-May-14		857
Complete First Mat Pour	8-Jul-13	9-Sep-13	A	
Complete Zone 2 Mat Pour	27-Aug-13	24-Nov-13	A	
Complete Excavation	6-Jan-14	31-Jan-14	A	
Complete Zone 1 Concourse Level Deck	7-Mar-14	20-Oct-14		1
Begin Steel Erection	6-Jun-14	18-Jul-14		0
Complete Steel Superstructure	19-Nov-15	1-Dec-15		0
Connect Bus Ramps to Transit Center	1-May-16	25-Aug-16		44
Complete Rough Interiors	17-Aug-16	1-Dec-16		11
Complete Exterior Curtain Wall	5-Jan-17	23-Nov-16		35
Complete Finish Interiors	25-Jul-17	25-Jul-17		11
Begin Bus Operations	23-Oct-17	23-Oct-17		0
Final Completion	28-Mar-18	21-Jan-18		0

A = Actual Completion Date





# Below Grade Concrete Timeline Summary





# Western Zone Activity (zones 1 and 2)



West end wall pour,  
future tunnel entry  
point.







# Western Zone Activity (zones 1 and 2)



Column placement



2<sup>nd</sup> Lift Wall placement





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# Central Zone Activity (zones 2 and 3)



Bracing removal continues in preparation for wall and Lower Concourse formwork

© 2014 Transbay Transit Center  
Side-by-Side - February 24, 2014 - Photo 18



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# Central Zone Activity (zones 2 and 3)



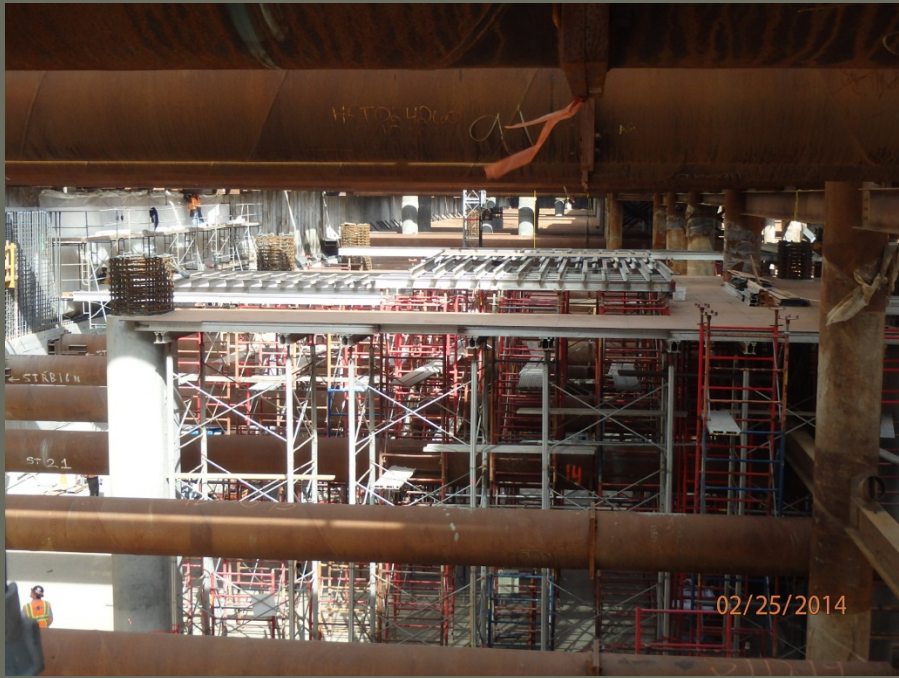
Started forming for Lower Concourse





# Central Zone Activity (zones 2 and 3)

Started forming for Lower  
Concourse







# Eastern Zone Activity (zones 3 and 4)



Sub grade and mud slab preparation





# Eastern Zone Activity (zones 3 and 4)



Sub grade and mud slab preparation





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# Cast Node Fabrication as of March 31, 2014

Cast Nodes	Bradken Casting Totals	In-Process Pattern Completion	In-Process Casting Machining	Shipped to Skanska First Release – March 24th	Shipped to Skanska 2nd Release – (6 Shipments)
Ground Level	35	12	23	0	8
Bus Deck Level	75	19	19	0	16
Roof Level	138	2	26	32	0
Light Columns	56	22	28	0	0
<b>Total Cast Nodes</b>	<b>304</b>	<b>55</b>	<b>96</b>	<b>32</b>	<b>24</b>

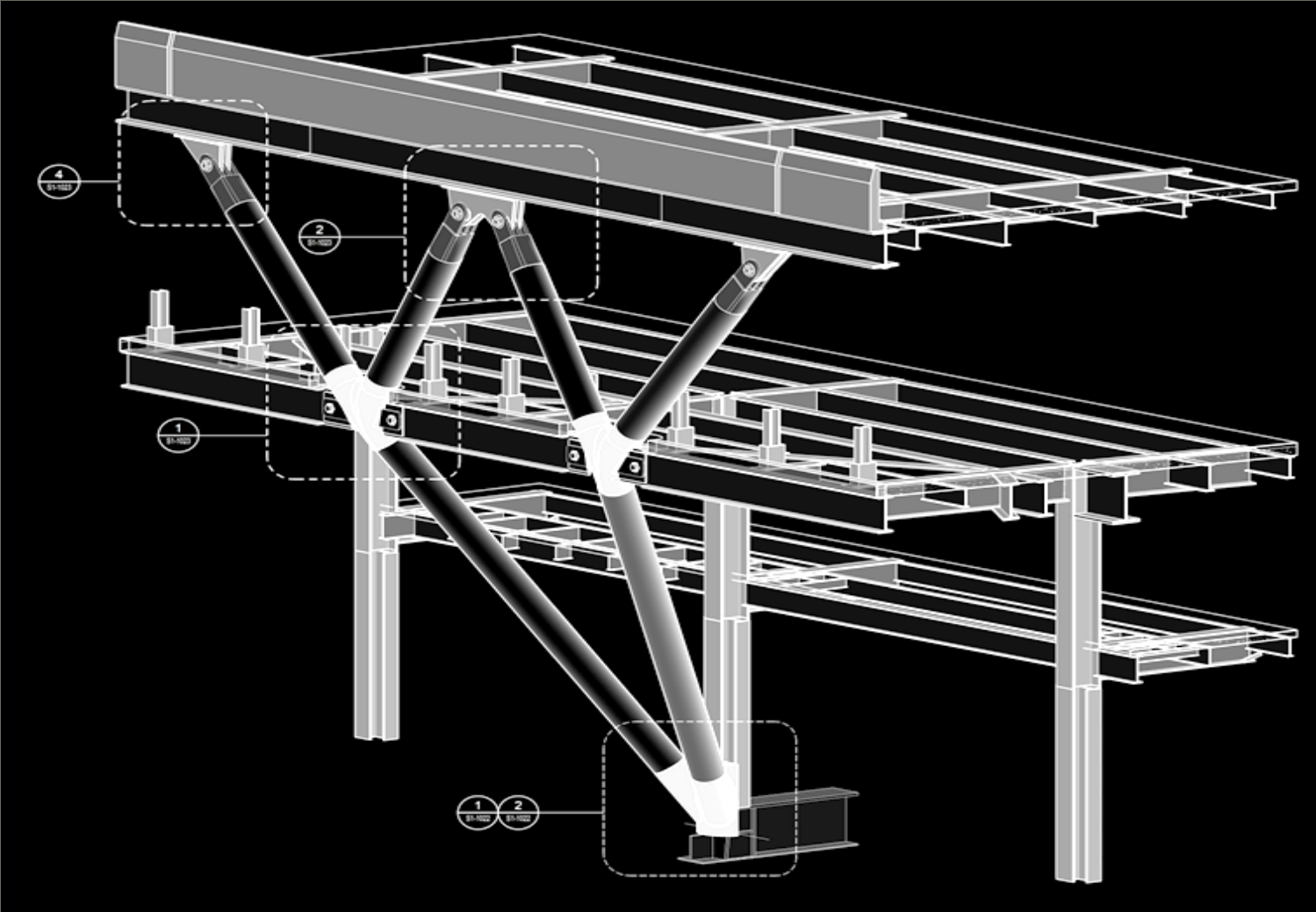
Note: The project QA/QC Team visited both Bradken Foundries (Kansas and Louisiana) the week of 2/10/14





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# Cast Node Fabrication





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# Cast Node Fabrication



Base nodes from Bradken's Amite, Louisiana foundry



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# Cast Node Fabrication



Roof Deck nodes





# Utility Relocation - AWSS Installation Update

AWSS work continues at night at direction of SFMTA/MUNI to accommodate bus traffic. Mission Street repaving completed First to Second and Main to Beale Streets.

Mission Street AWSS System

Completed :

First – Second Street

Main – Beale Street

To Go- In Progress :

First – Fremont Street

Fremont – Beale Street







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# Utility Relocation - AWSS Installation Update

- AWSS work continues at night to accommodate bus traffic.
- Road repairs were completed between Main and Beale Streets





# Construction

## The Next 90 Days

- Next 30 Days (April)
  - Continue foundation walls in central and west areas.
  - Complete Zone 4 grounding and geothermal installation.
  - Continue Cast Node fabrication, second and third shipments of nodes.
  - Continue AWSS work along Mission Street.
  - Continue work on Lower Concourse slab in the central and western zones.
  - Place mat slab 11 in Zones 3
  - Complete Zone 4 micropile testing on top of mud slab.
- In 60 Days (May)
  - Complete Zone 4 mud slab, waterproofing and protection slab installation.
  - Continue foundation walls, columns and re-bracing in West & Central zones.
  - Place mat slab 12 and 13 in Zones 3 and 4.
- In 90 Days (June)
  - Pour Lower Concourse slab, as well as columns and walls in central and west areas.
  - Pour mat slab 14 and 15 in Zone 4.
  - Continue Structural Steel fab.





Questions?