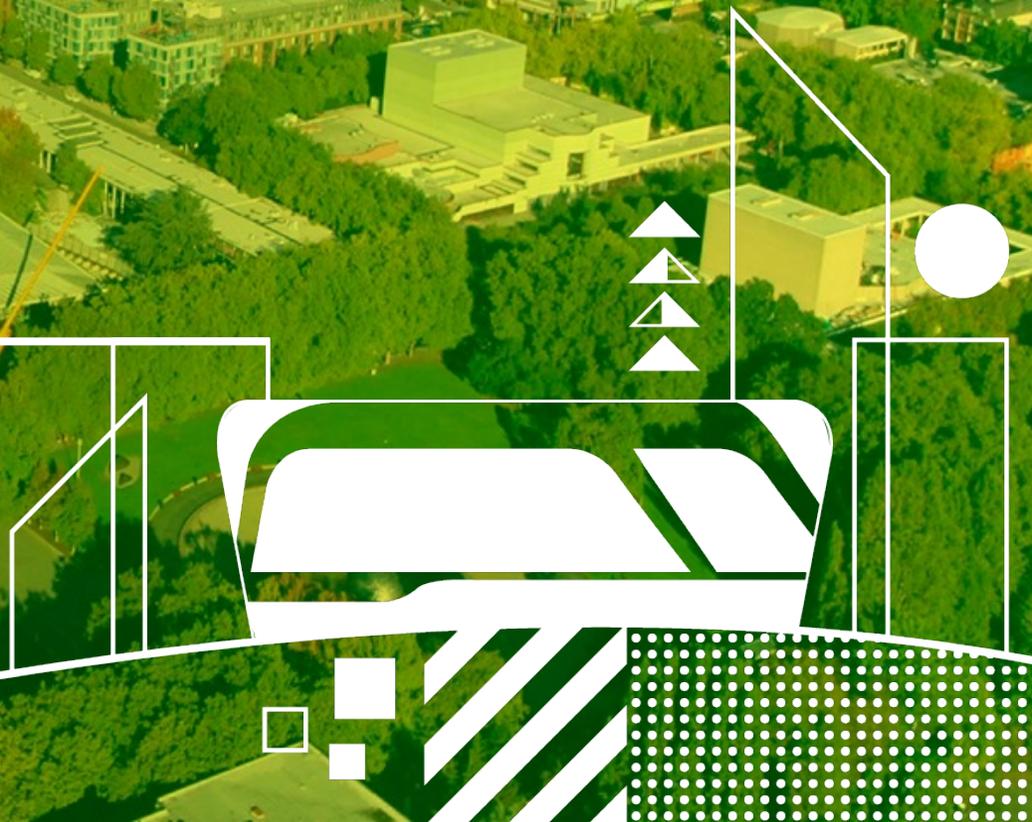


LET'S REDEFINE POSSIBLE™

Climate Pledge Arena

September 26, 2022

CFMA Conference Presentation



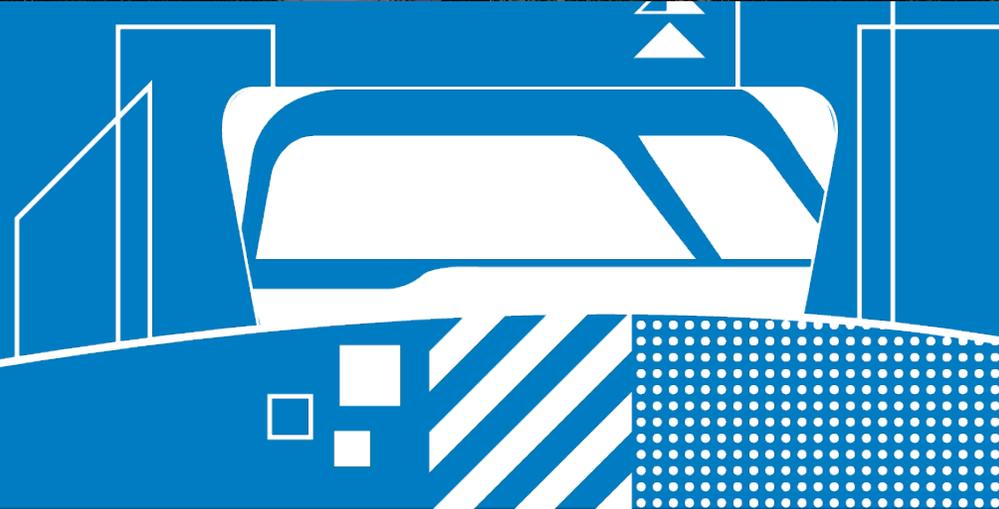
▶▶ PRESENTERS

▶ Danny Keim, Project Executive

▶ Josh Broussard, Project Manager

▶▶▶ AGENDA

- ▶ Introductions
- ▶ Project Overview/Background
- ▶ Key Features/Unique Challenges
 - Historical Preservation
 - Service Tunnel/Subterranean Build
 - Sustainability
- ▶ Community Impacts/Partnerships
- ▶ Q&A



LET'S REDEFINE POSSIBLE™

FAMILY-OWNED FIRM



REGIONAL OFFICE LOCATIONS

TOP BUILDER IN THE UNITED STATES

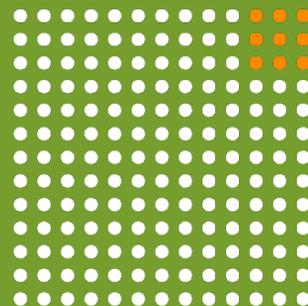


ENR Top 400 Contractors every year since 1969



34

BEST WORKPLACE AWARDS in the last 5 years



5,000+

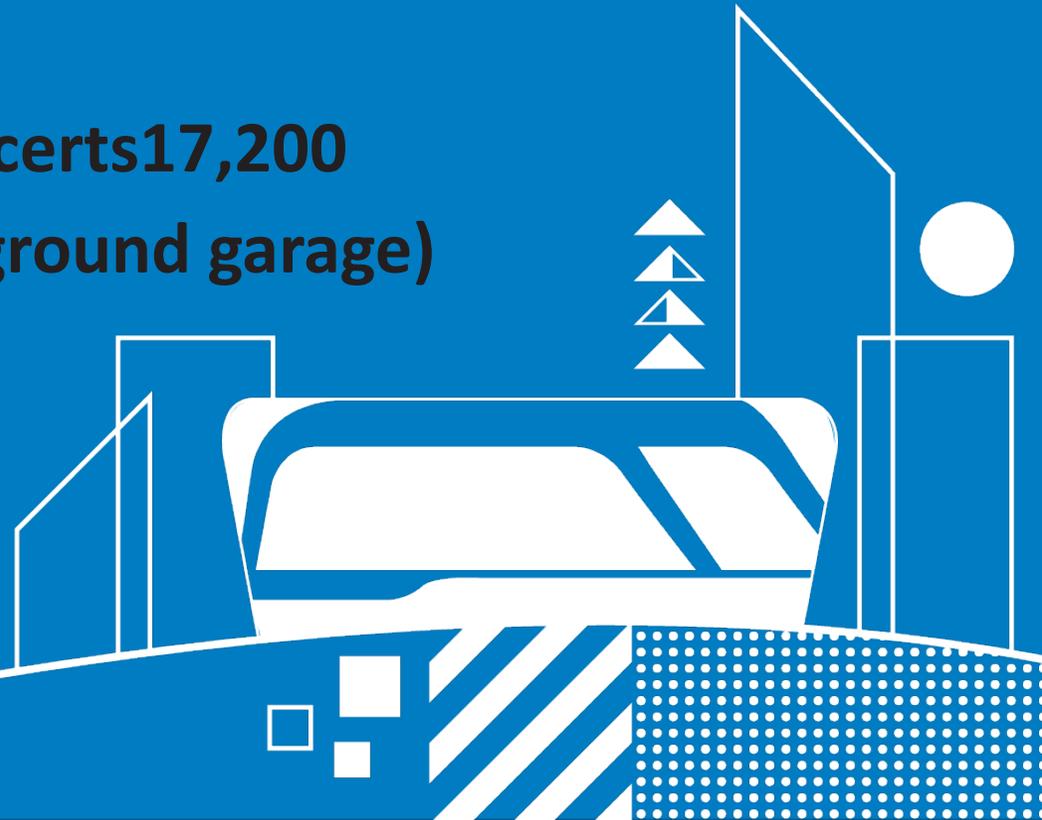
TEAM MEMBERS

\$4.8_B

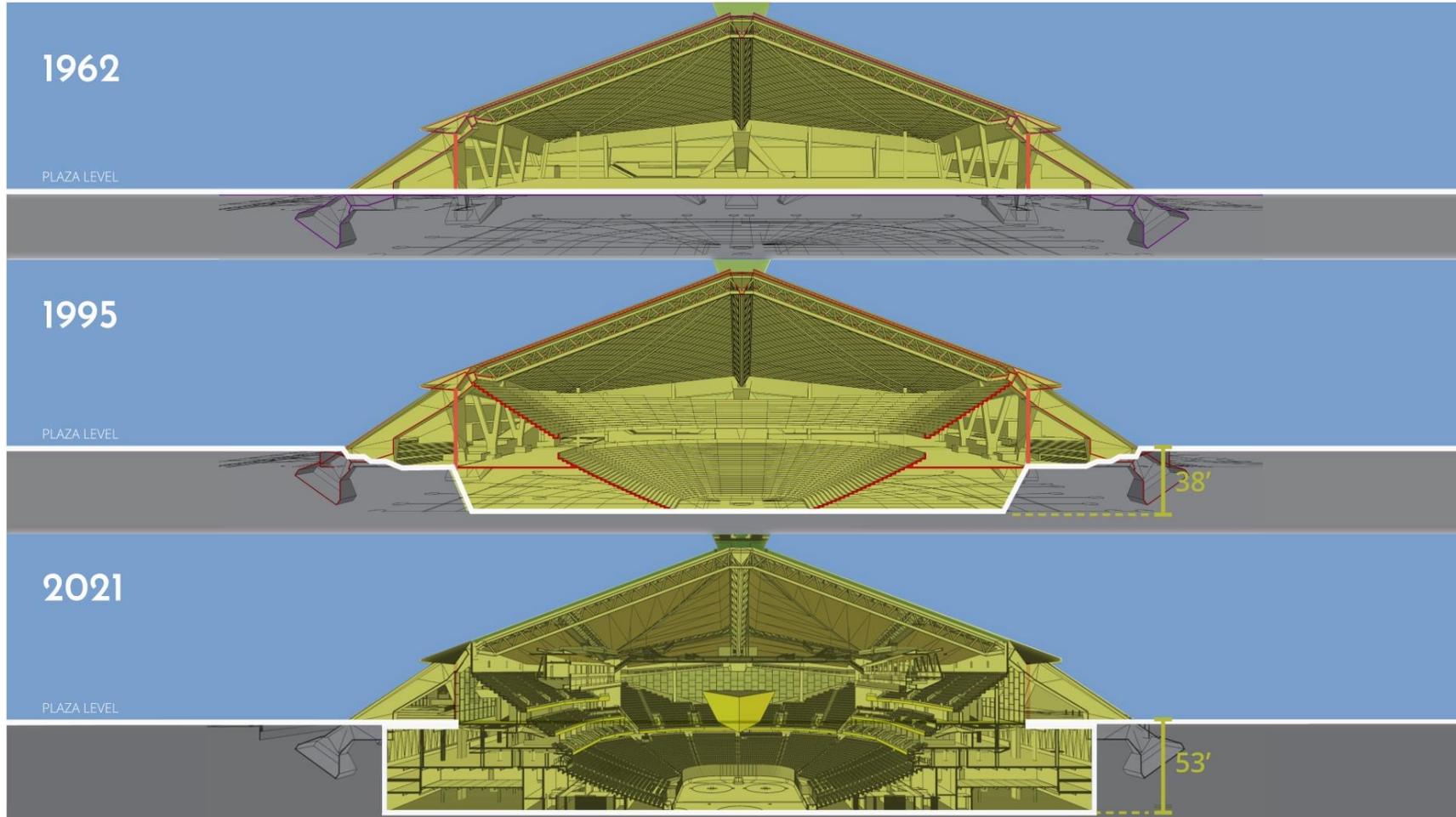


IN ANNUAL REVENUE

- ▶ **Oakview Development | Populous**
- ▶ **1.15B Project Cost**
- ▶ **200 + Annual Events**
- ▶ **Hockey 17,085 | Basketball 18,224 | Concerts 17,200**
- ▶ **740,000 SF | 932,000 SF (450 stall underground garage)**
- ▶ **5 acres concrete plaza paving**
- ▶ **Groundbreaking - Dec 2018**
- ▶ **Opening – October 2021**

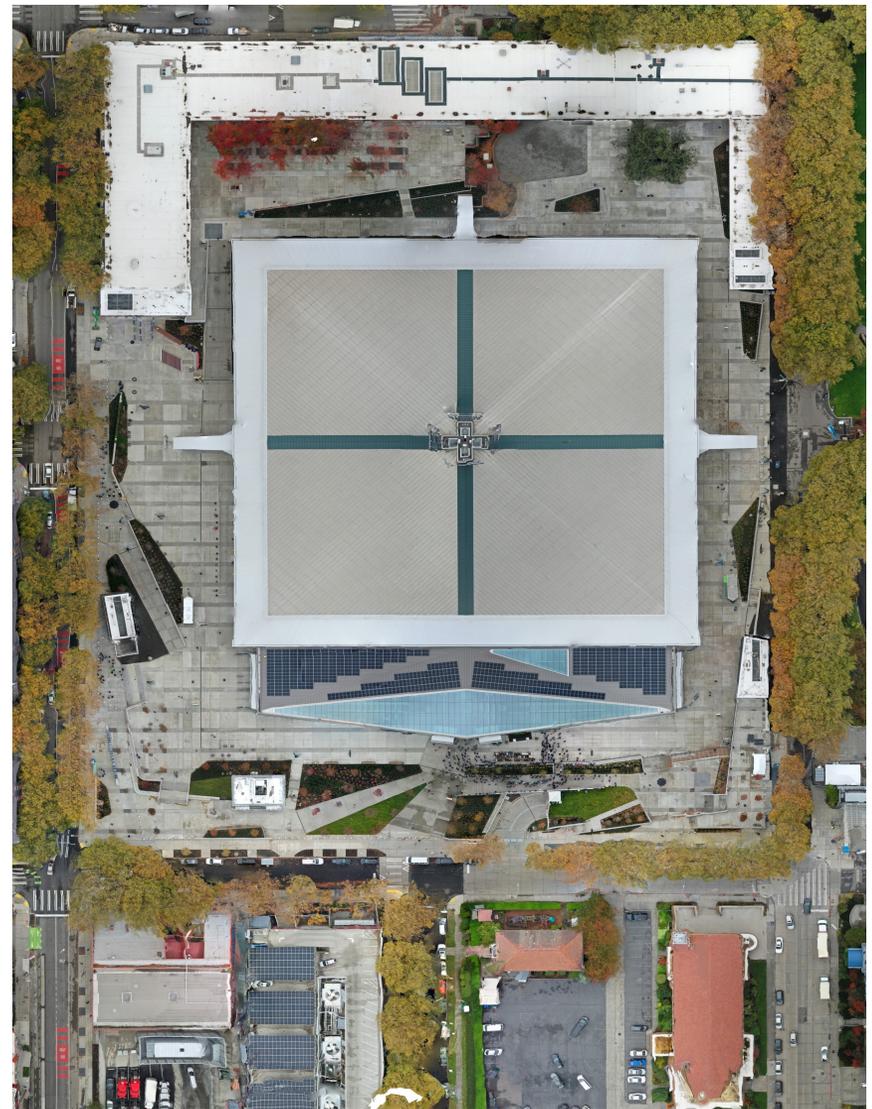


ARENA EVOLUTION





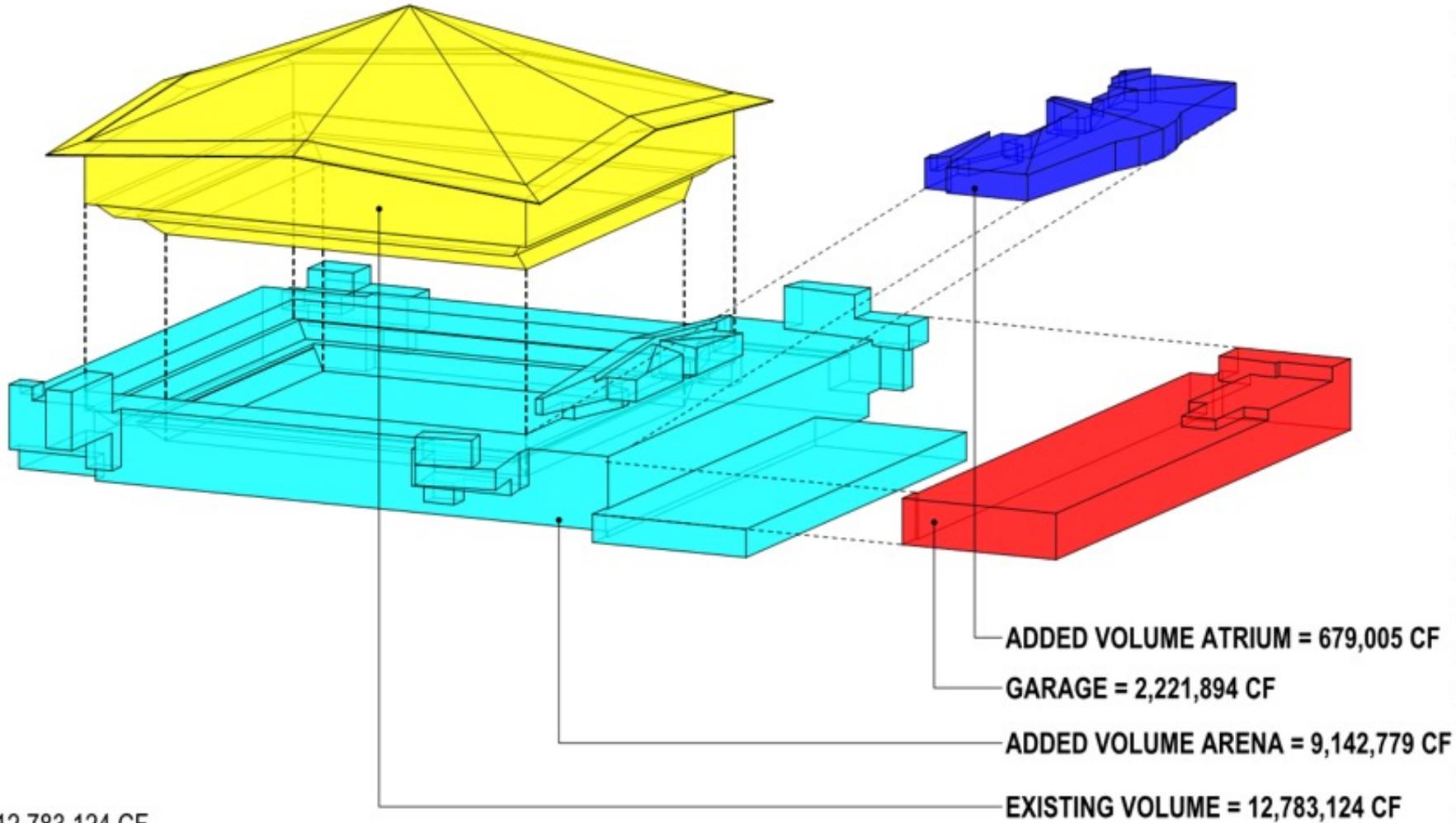
February 2019



October 2021



May 2020



Existing Volume = 12,783,124 CF
Added Volume Arena = 9,142,779 CF
Added Volume Atrium = 679,005 CF
New Volume Total (Existing + Added) = 22,604,908 CF
Garage = 2,221,894 CF

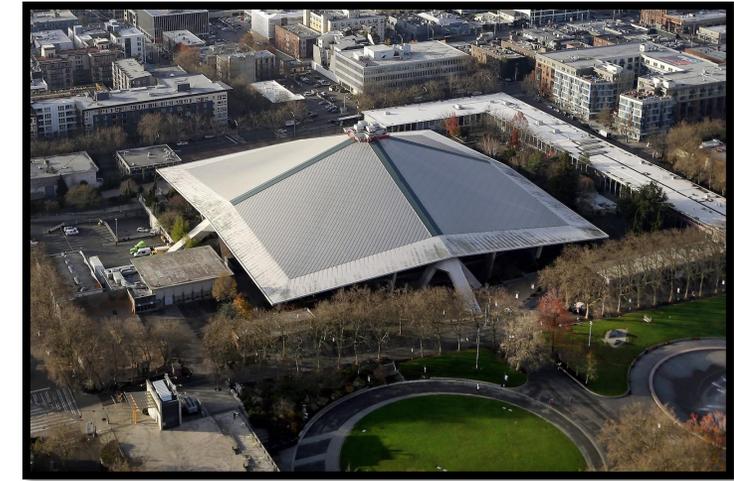
▶▶ TIMELAPSE



HISTORICAL PRESERVATION



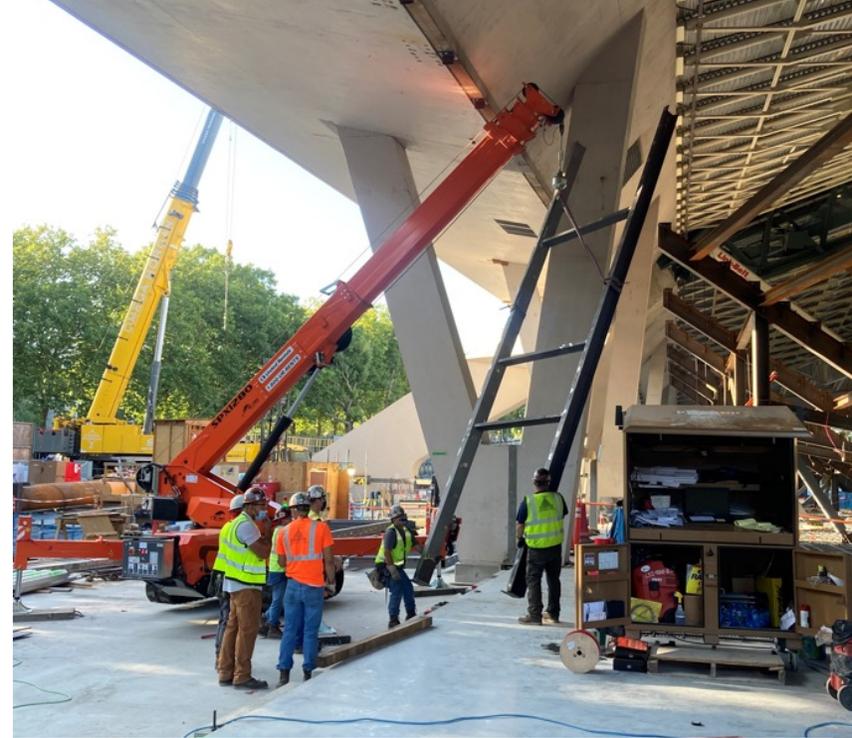
**Steel Framed
Curtainwall**



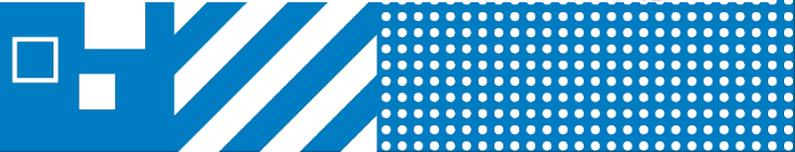
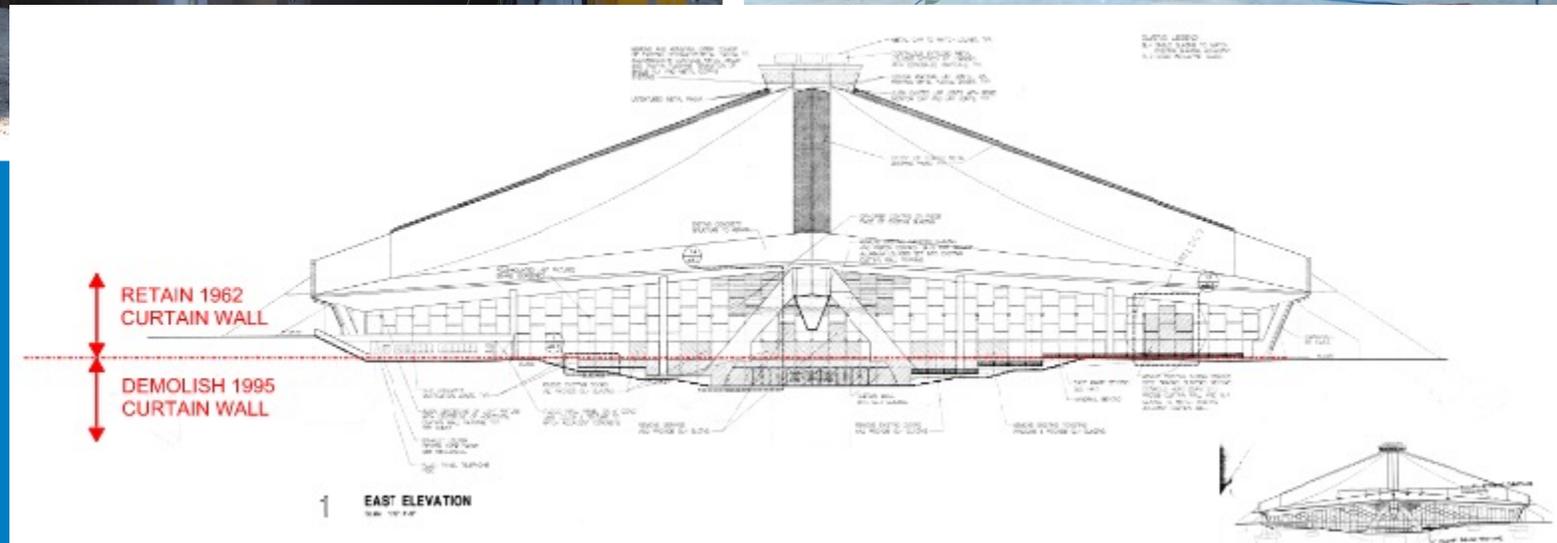
**44 Million lb.
Roof**



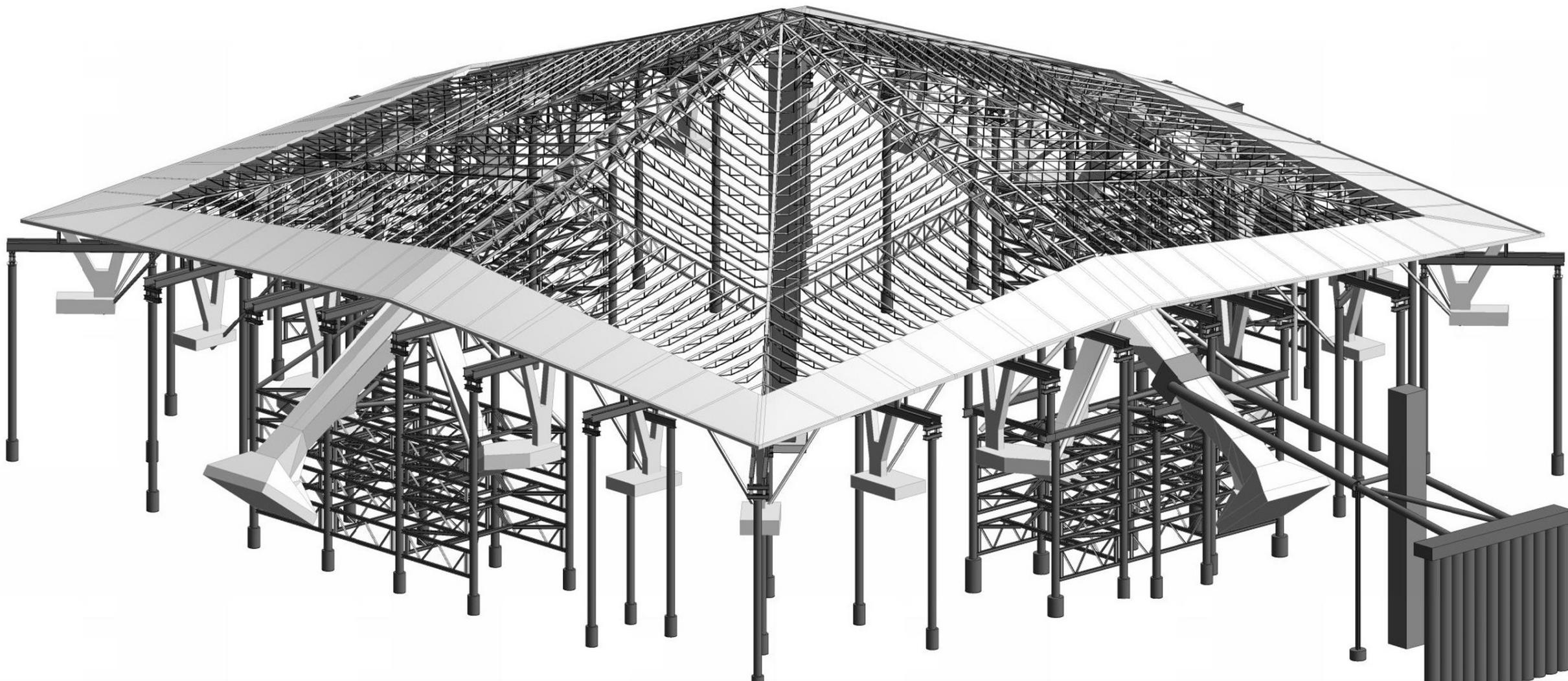
**Landmark
Trees**



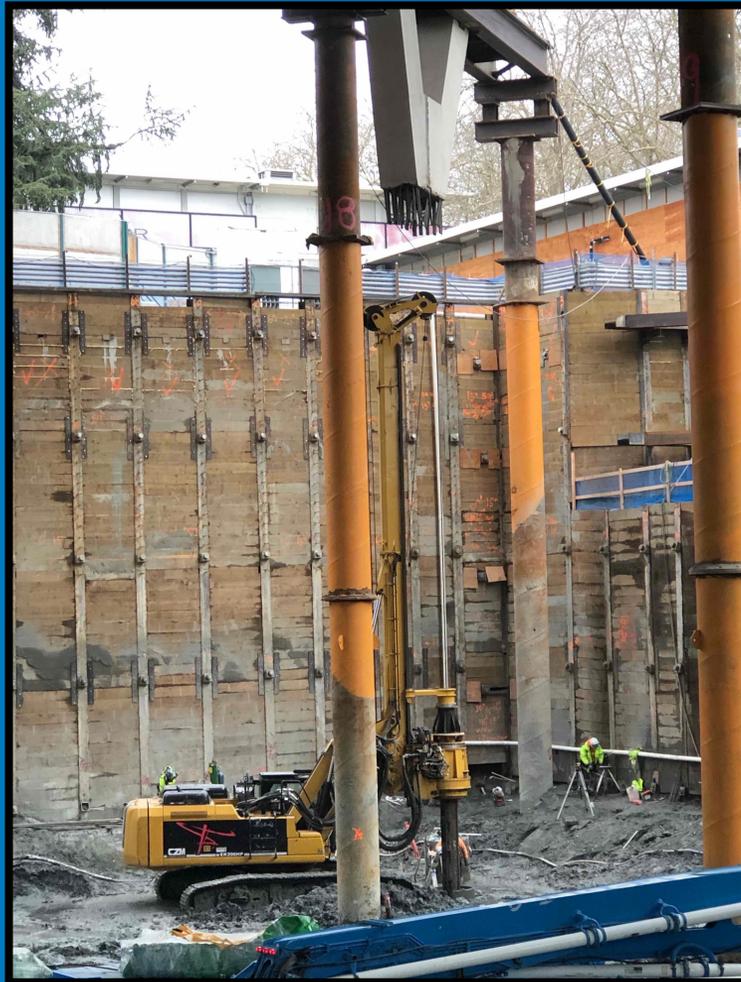
Historic Curtain Wall Preservation



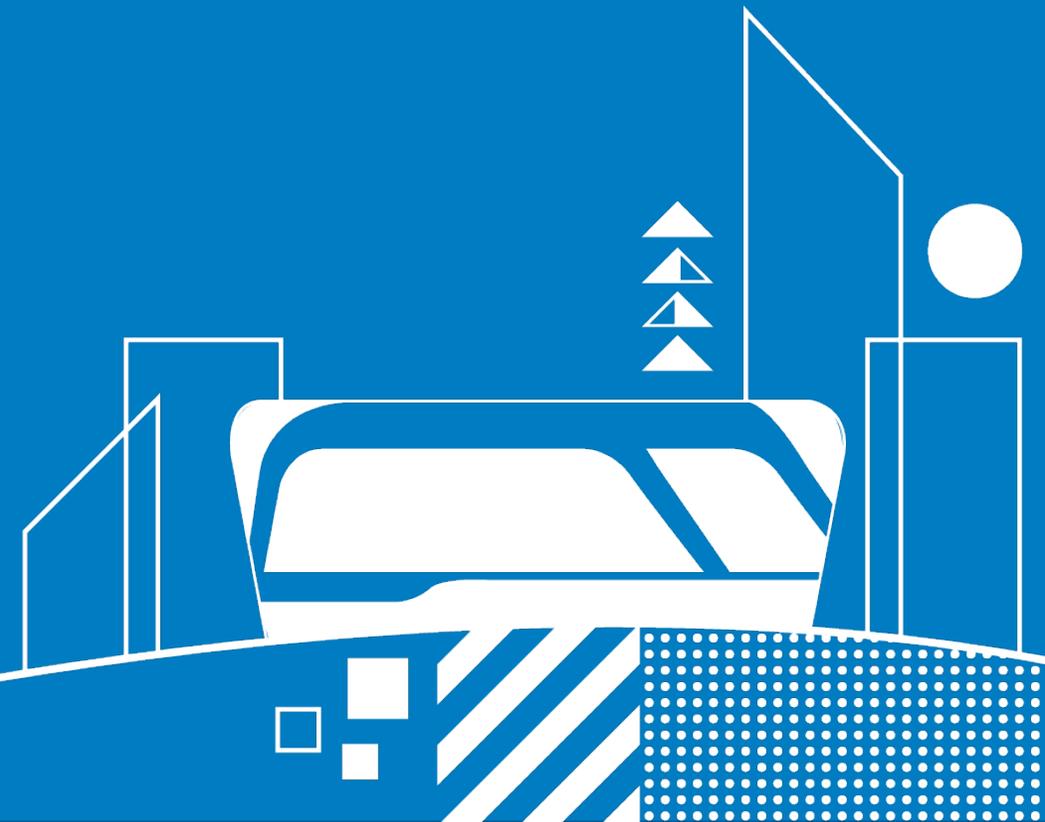
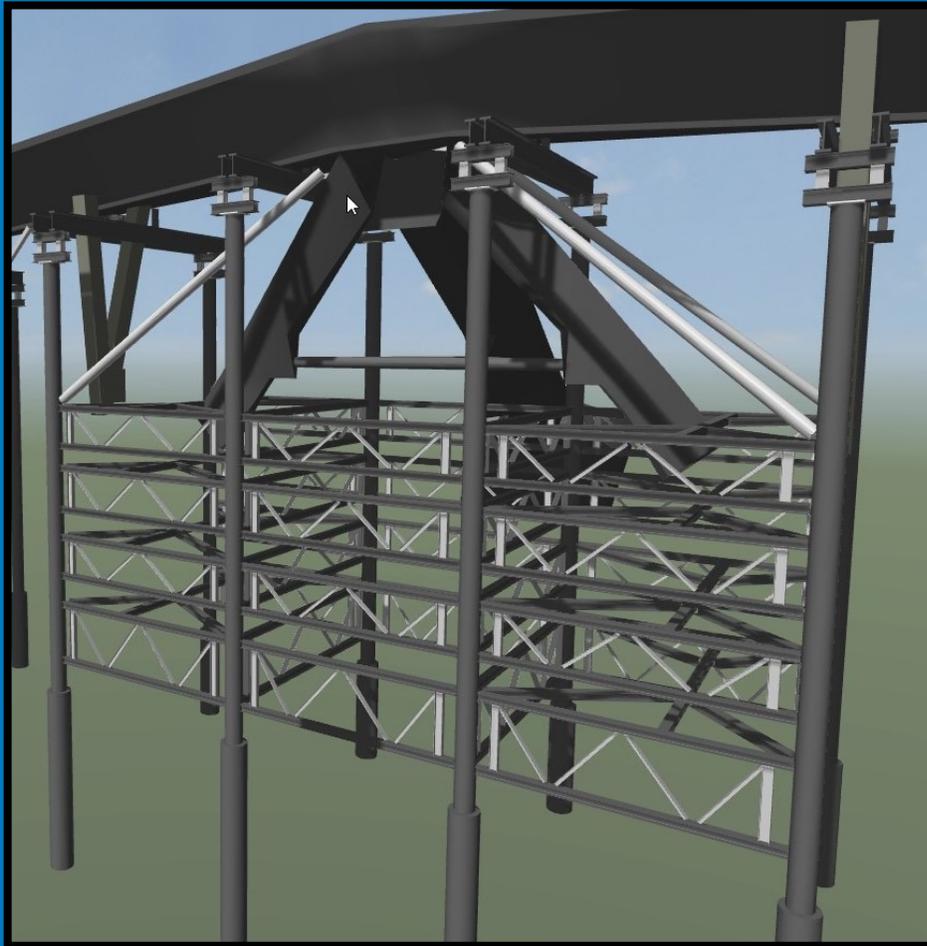
Temporary Roof Support



▶▶▶ Temporary Roof Support Elements – Y Columns



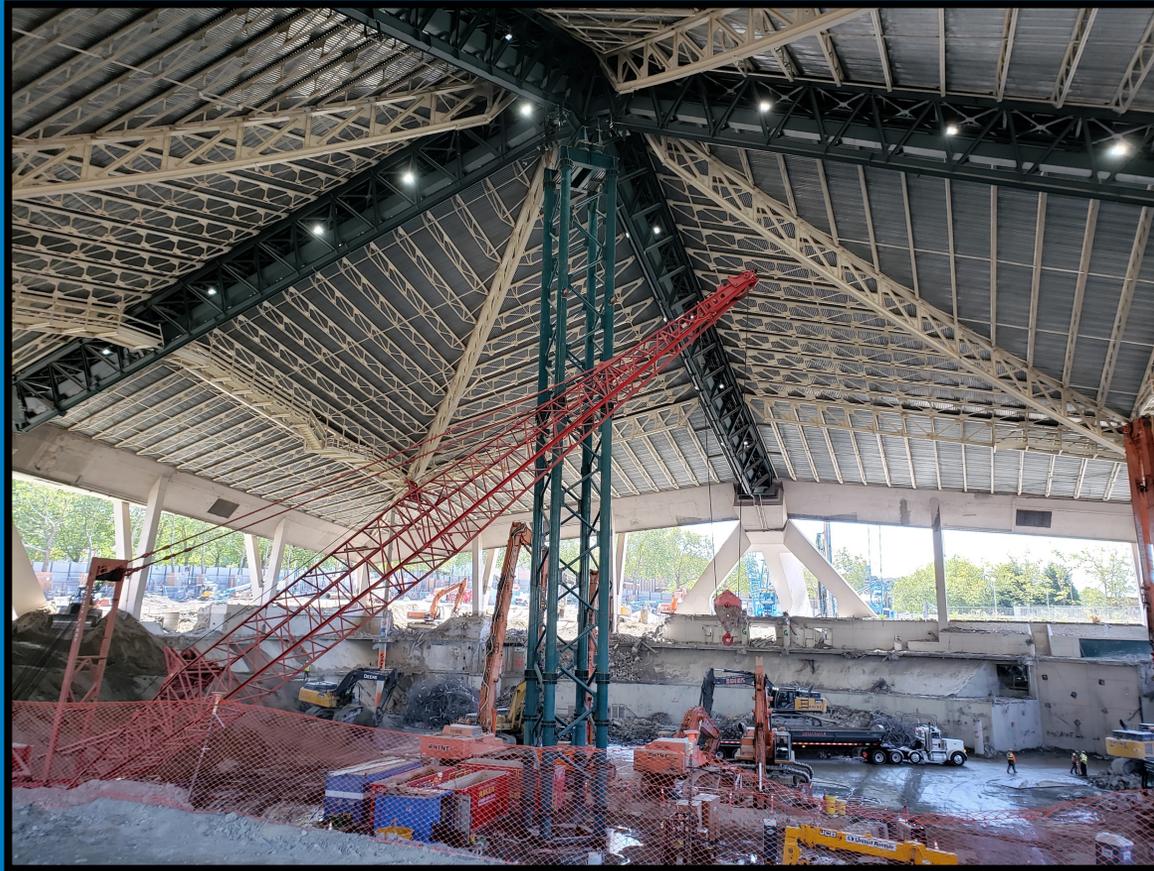
▶▶▶ Temporary Roof Support Element – Pylon Bracing



▶▶ Buttress Support Steel

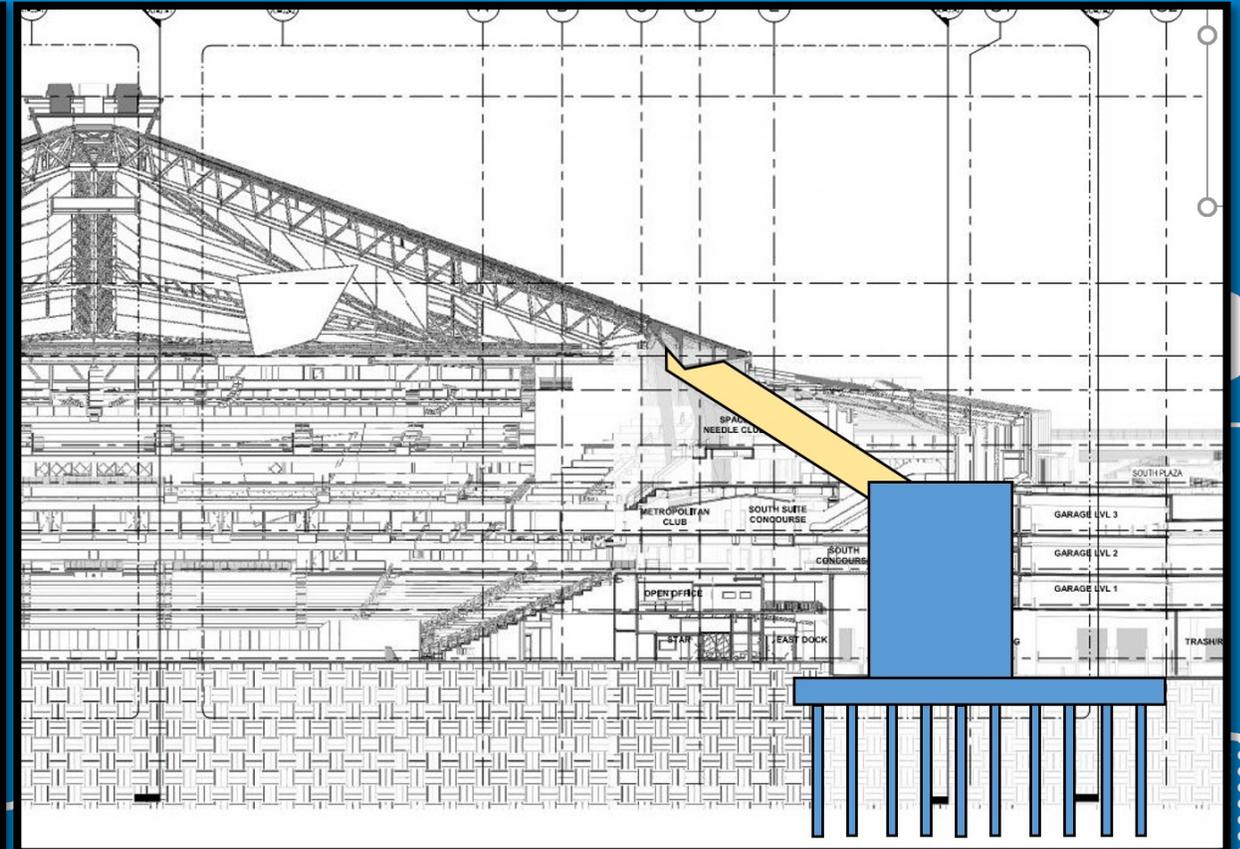
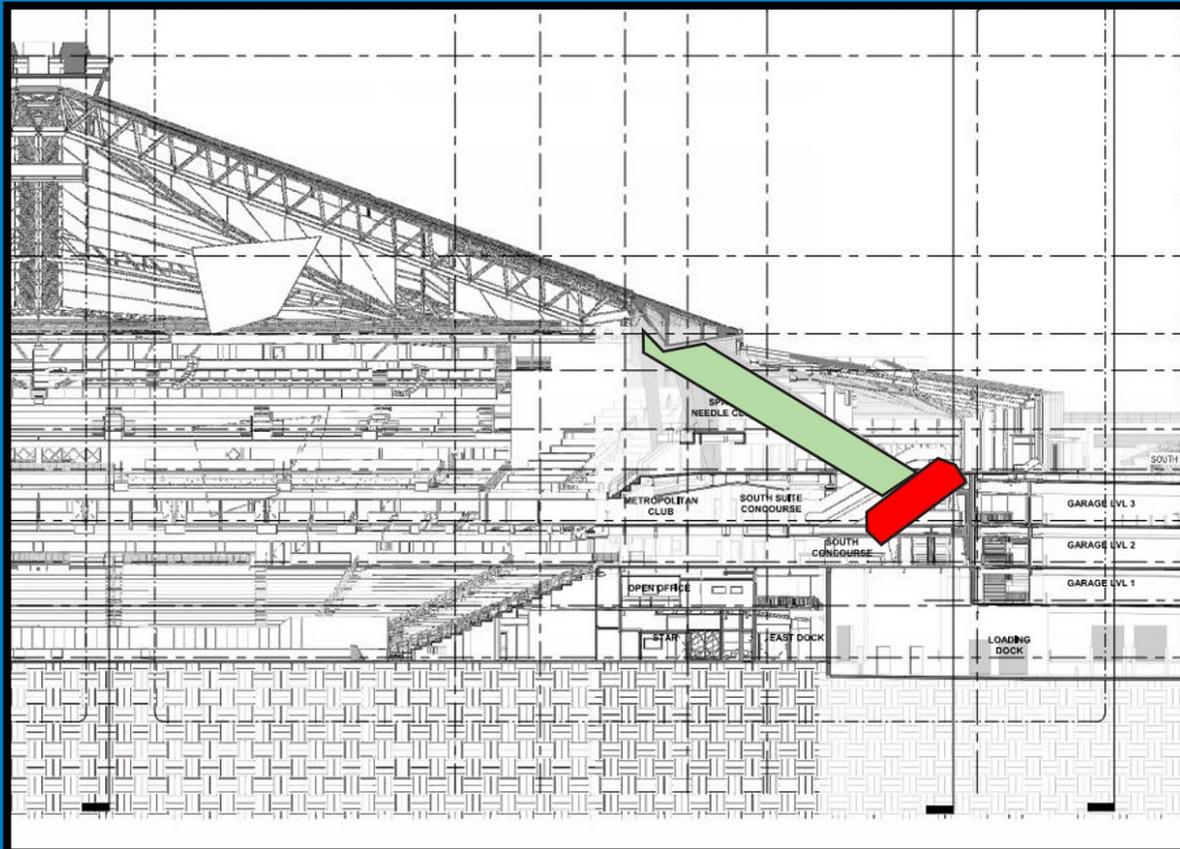


▶▶▶ Temporary Roof Support Element – Center Shore



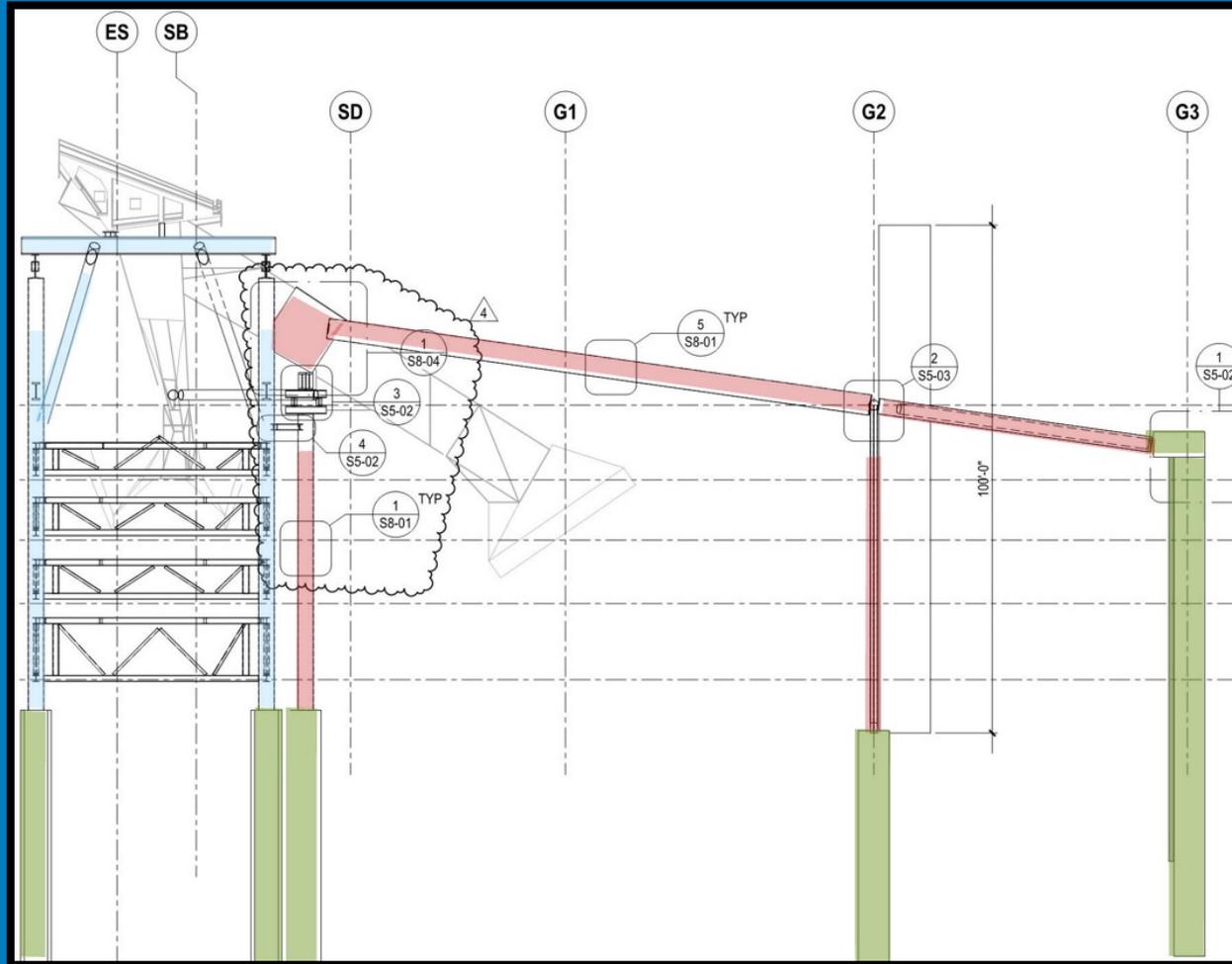
▶▶▶ Temporary Roof Support Element – South Buttress Support

- South buttress to be re-supported to allow installation of new parking garage.

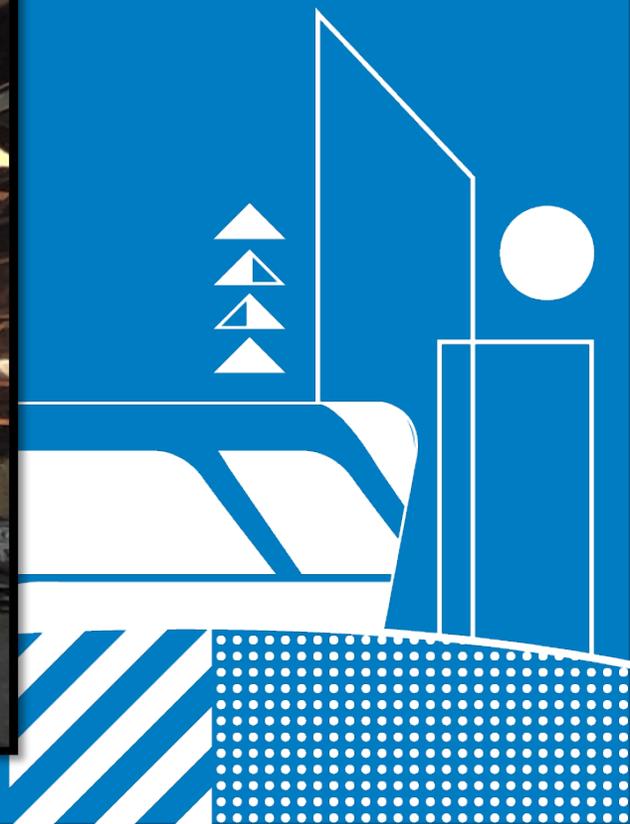




Temporary Roof Support Element – South Buttress Support

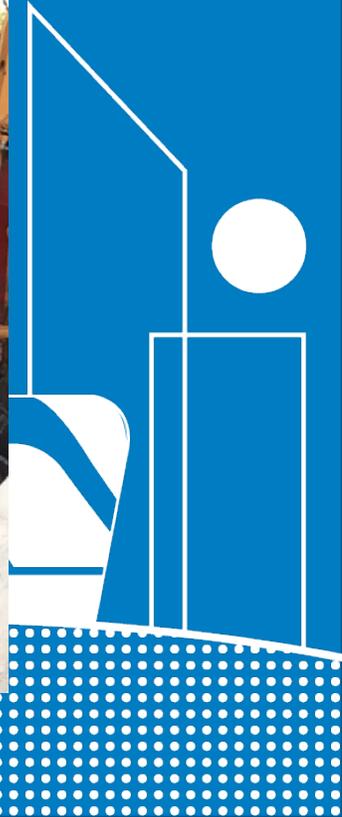


▶▶▶ Kickstand

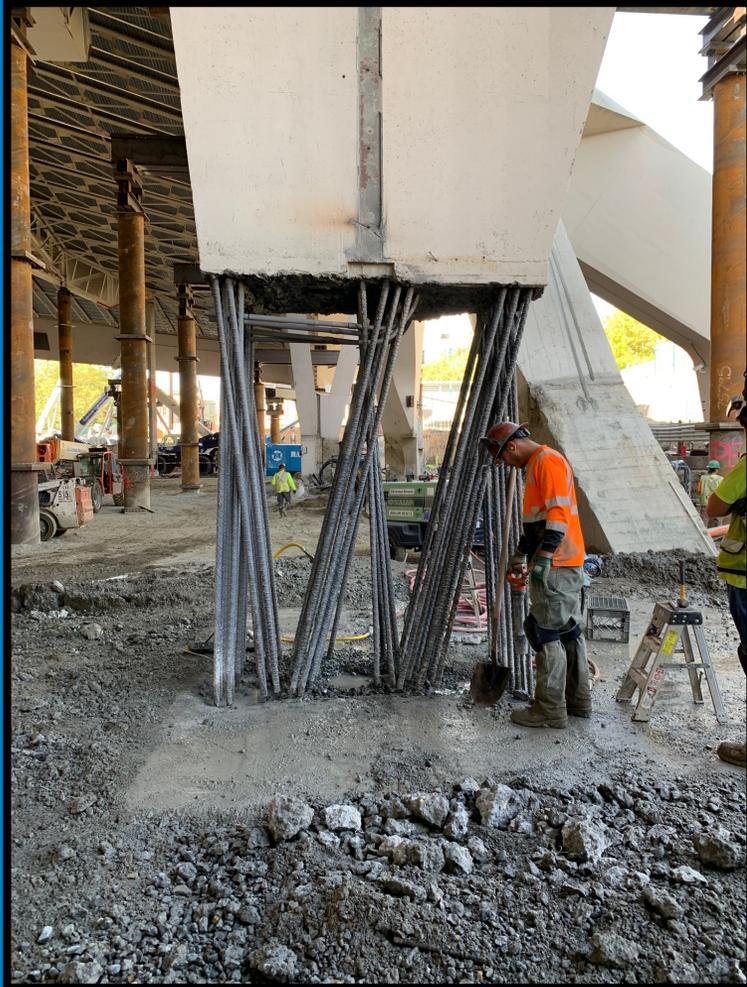




Hydro Demo



▶▶▶ Y-Columns / Chevrons – Hydro Demo

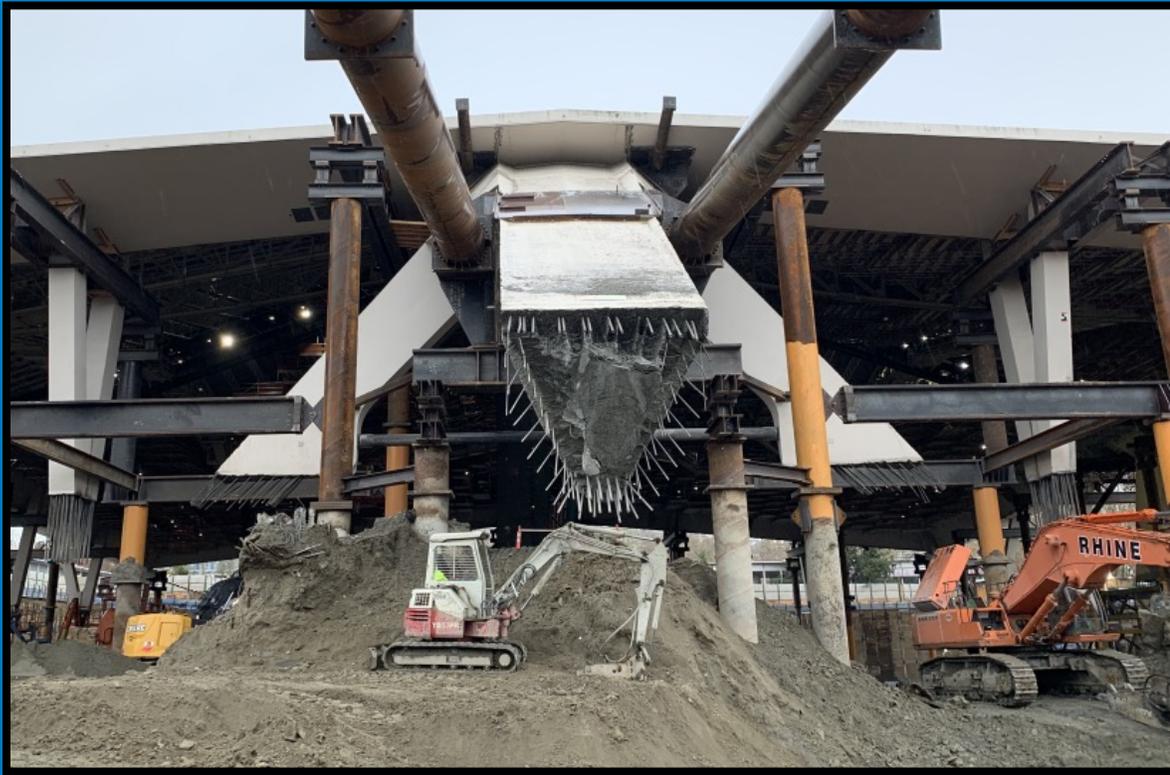


▶ Hydro Demo

- ▶ Purpose: Expose Existing Rebar
- ▶ Verification of 1959 As-Builts



▶▶▶ Permanent Structural Elements: South Buttress– Hydro Demo

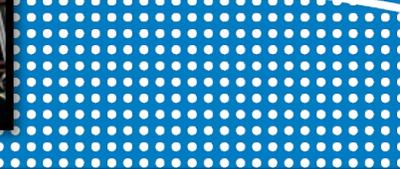
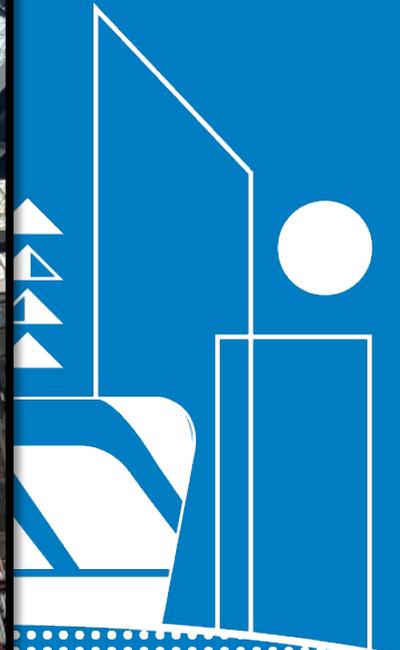




Y-Columns / Chevrons – Scanning and Verification

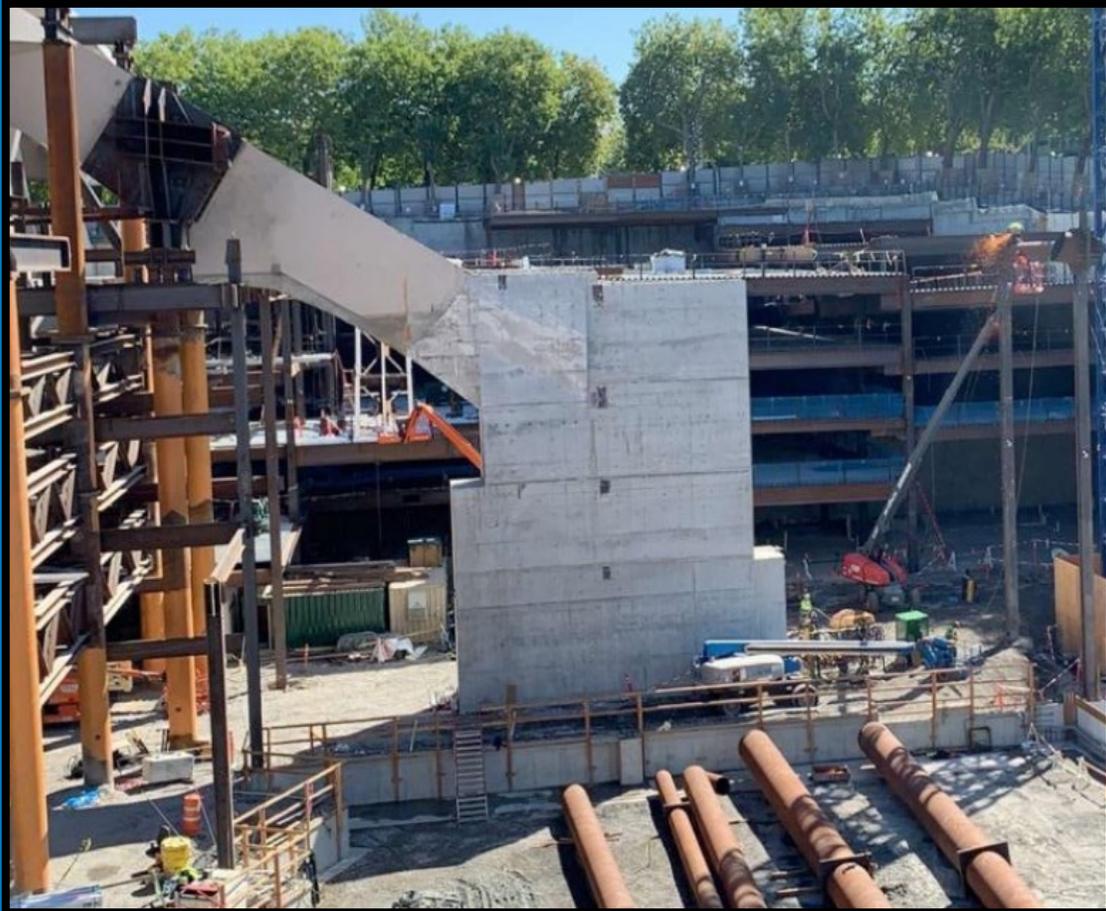


▶▶ Permanent Structural Elements: Y-Columns



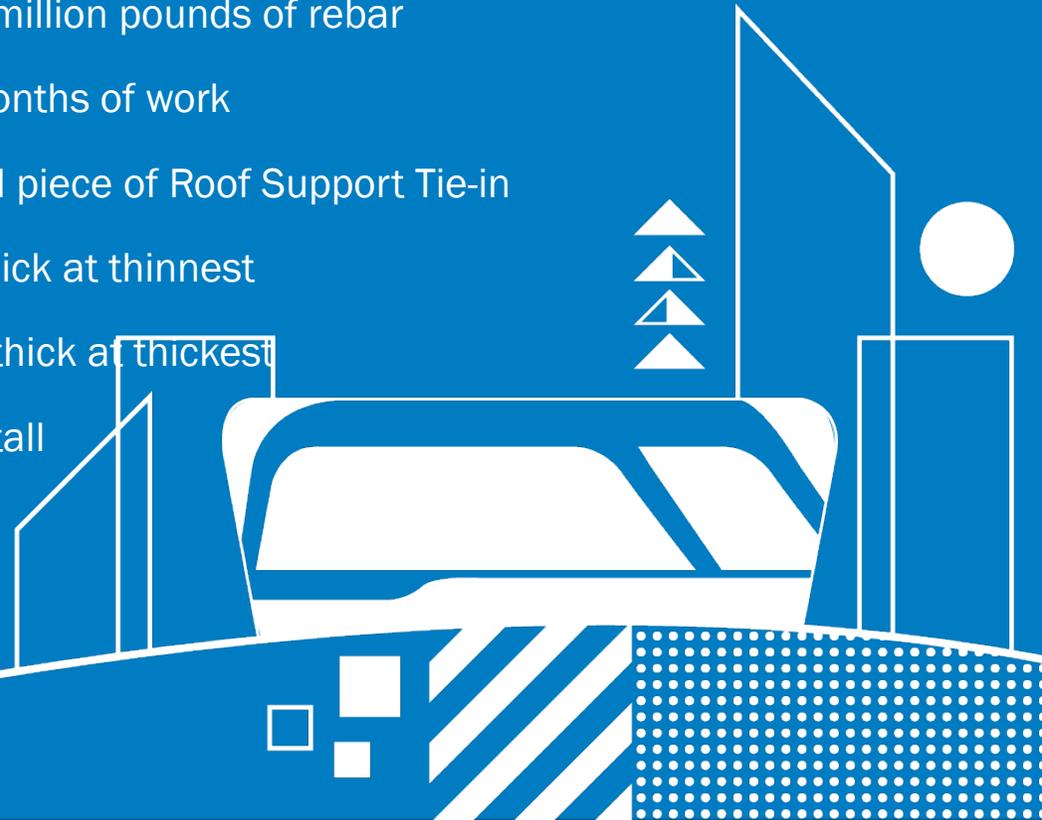


Permanent Structural Elements: South Buttress– Overview

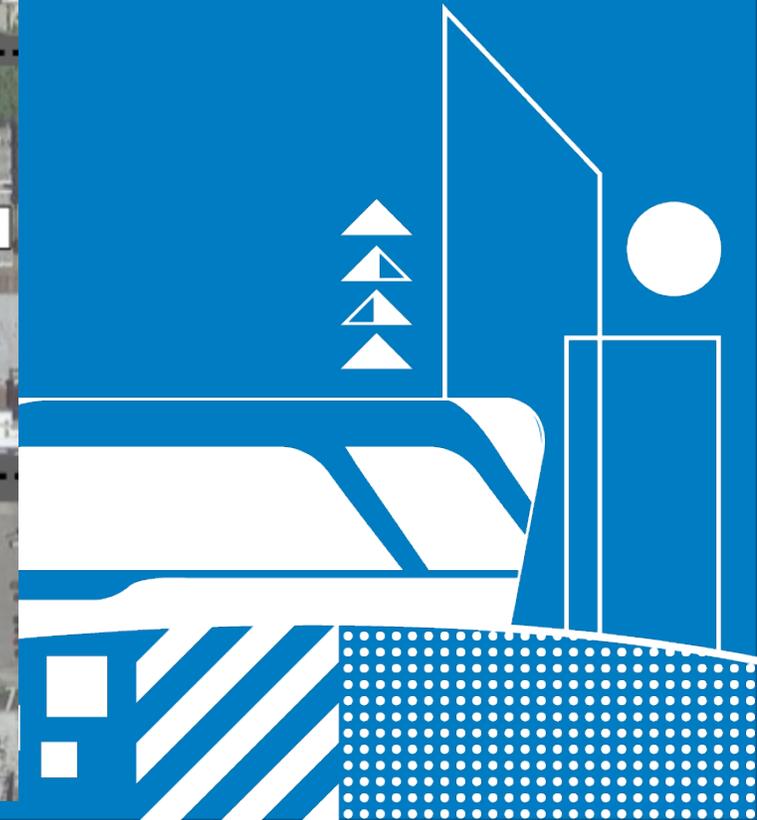
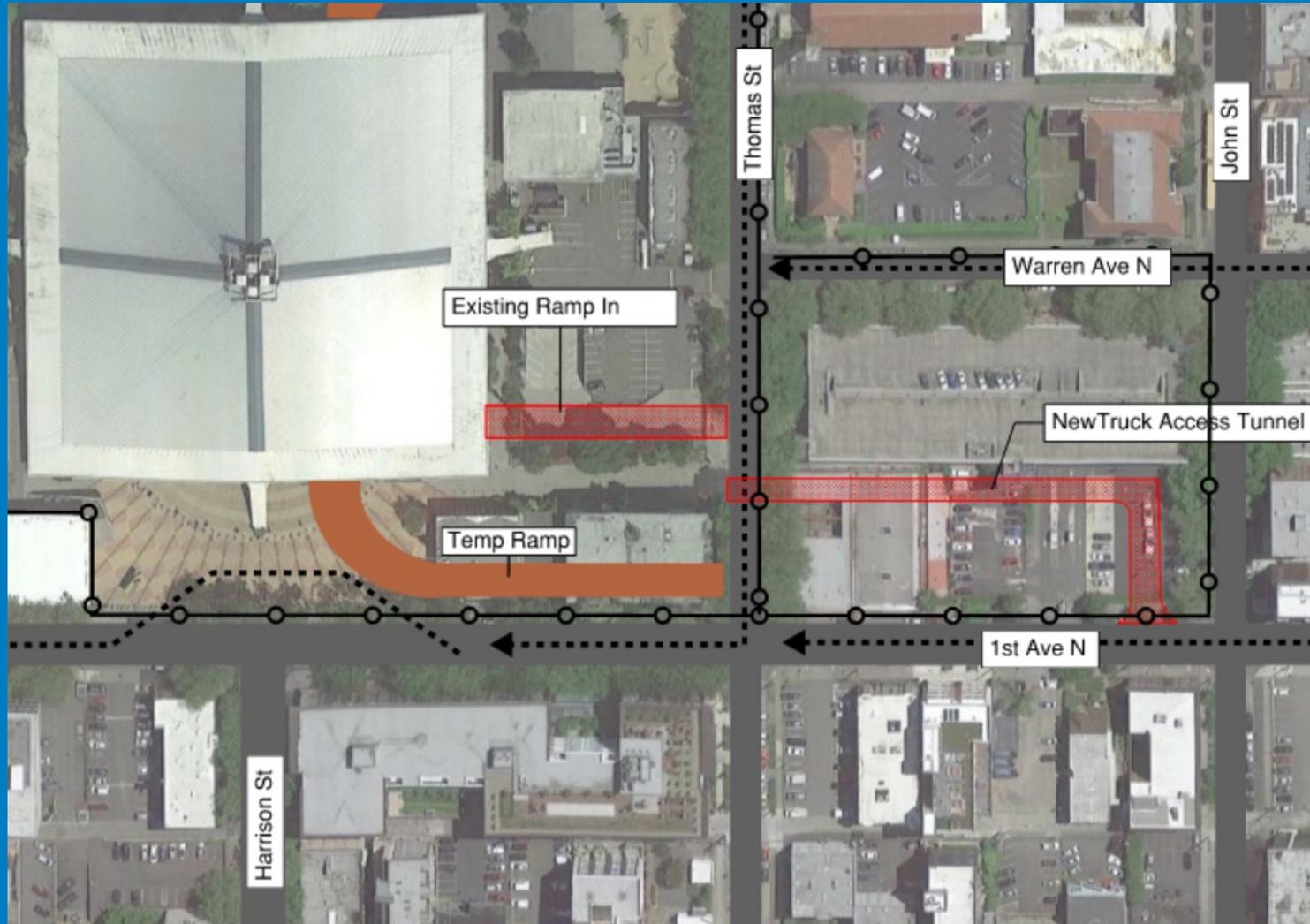


▶ Stats

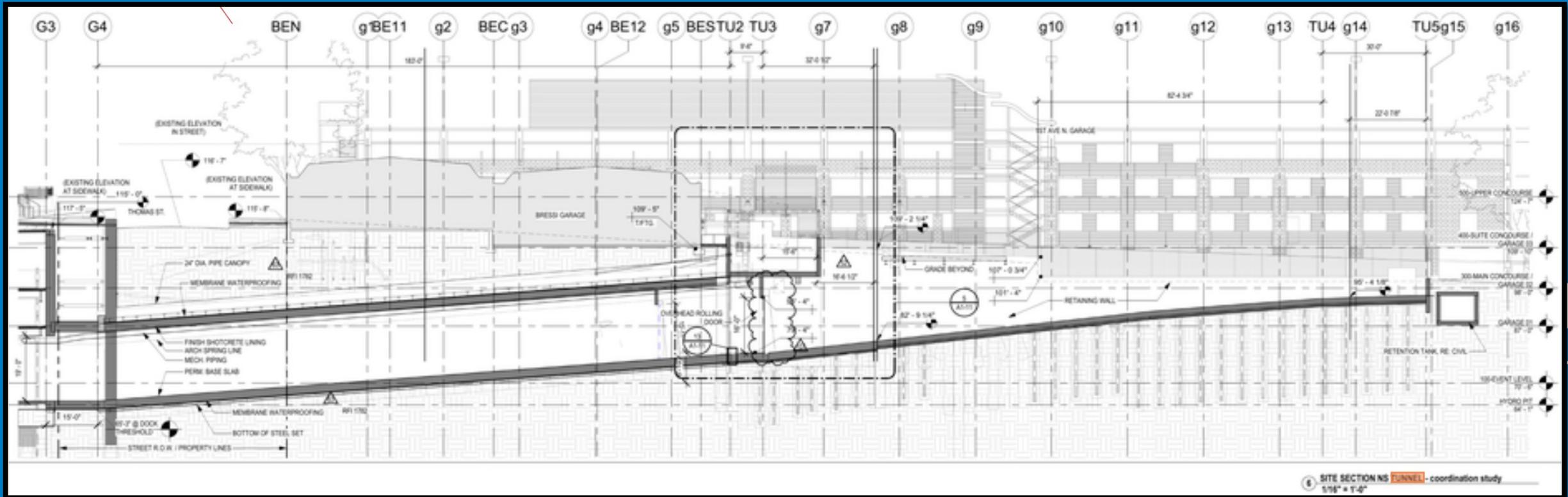
- ▶ 3100cy of Concrete
 - ▶ All Mass Concrete
- ▶ 1.2 million pounds of rebar
- ▶ 3 months of work
- ▶ Final piece of Roof Support Tie-in
- ▶ 8' thick at thinnest
- ▶ 12' thick at thickest
- ▶ 80' tall



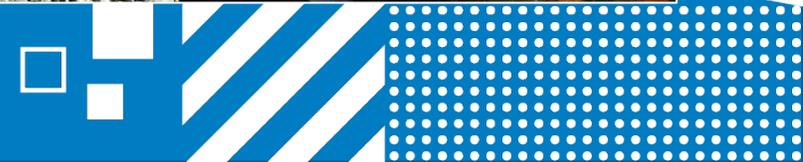
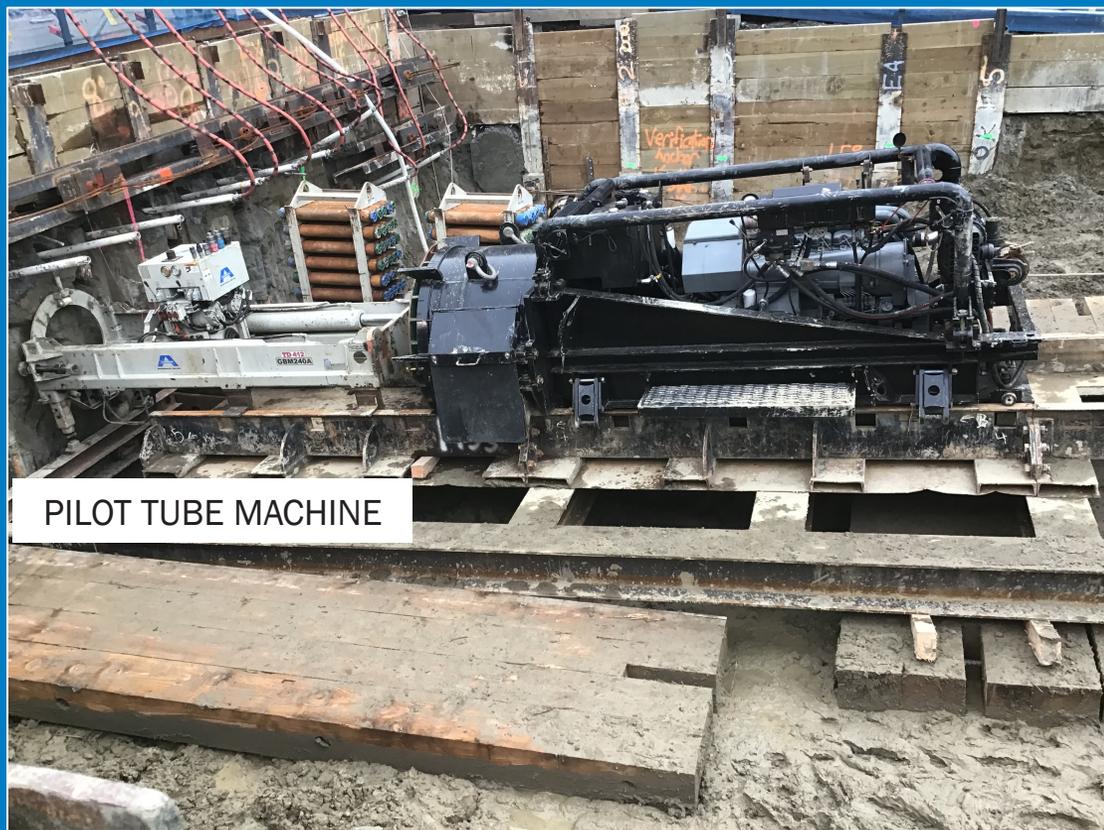
▶▶▶ New Tunnel/Temporary Ramp



▶▶▶ Tunnel



▶▶ Tunnel



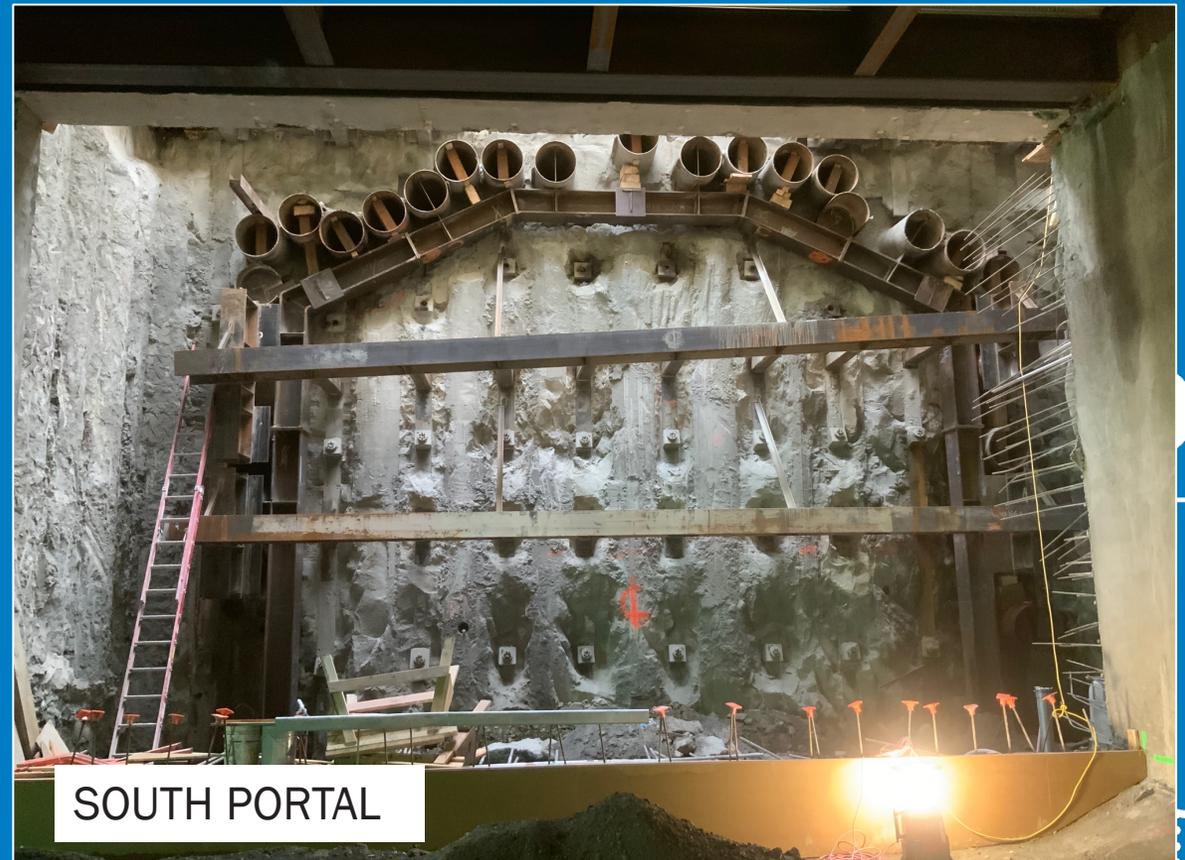
▶▶ Tunnel



▶▶ Tunnel



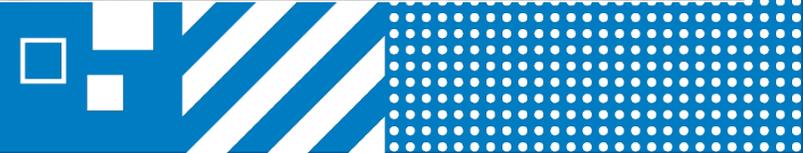
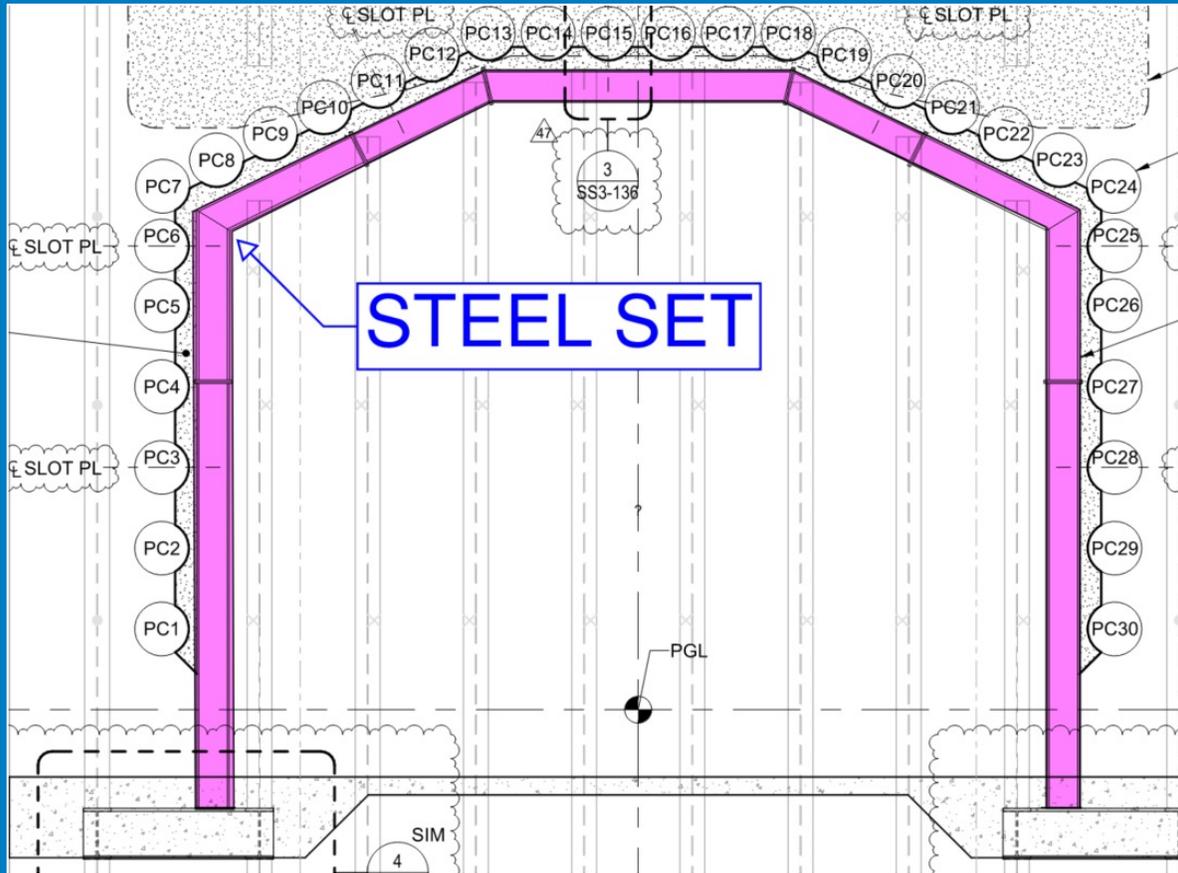
NORTH PORTAL



SOUTH PORTAL



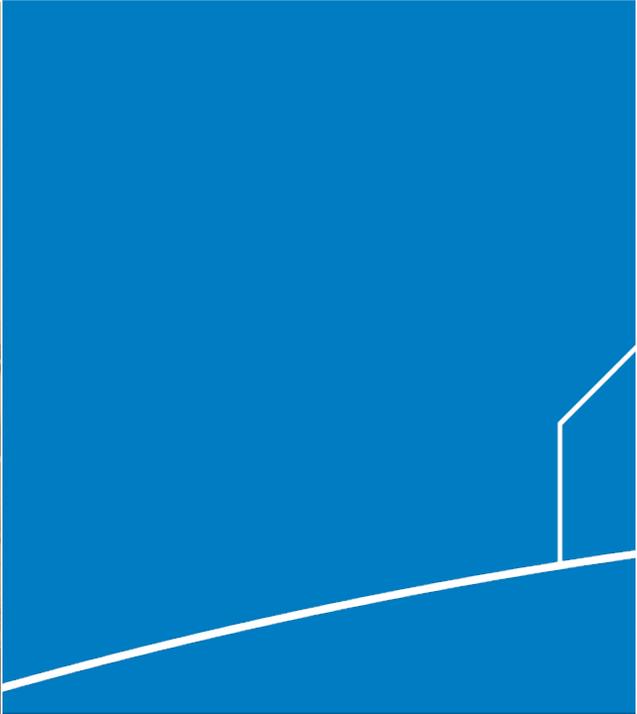
▶▶ TUNNEL



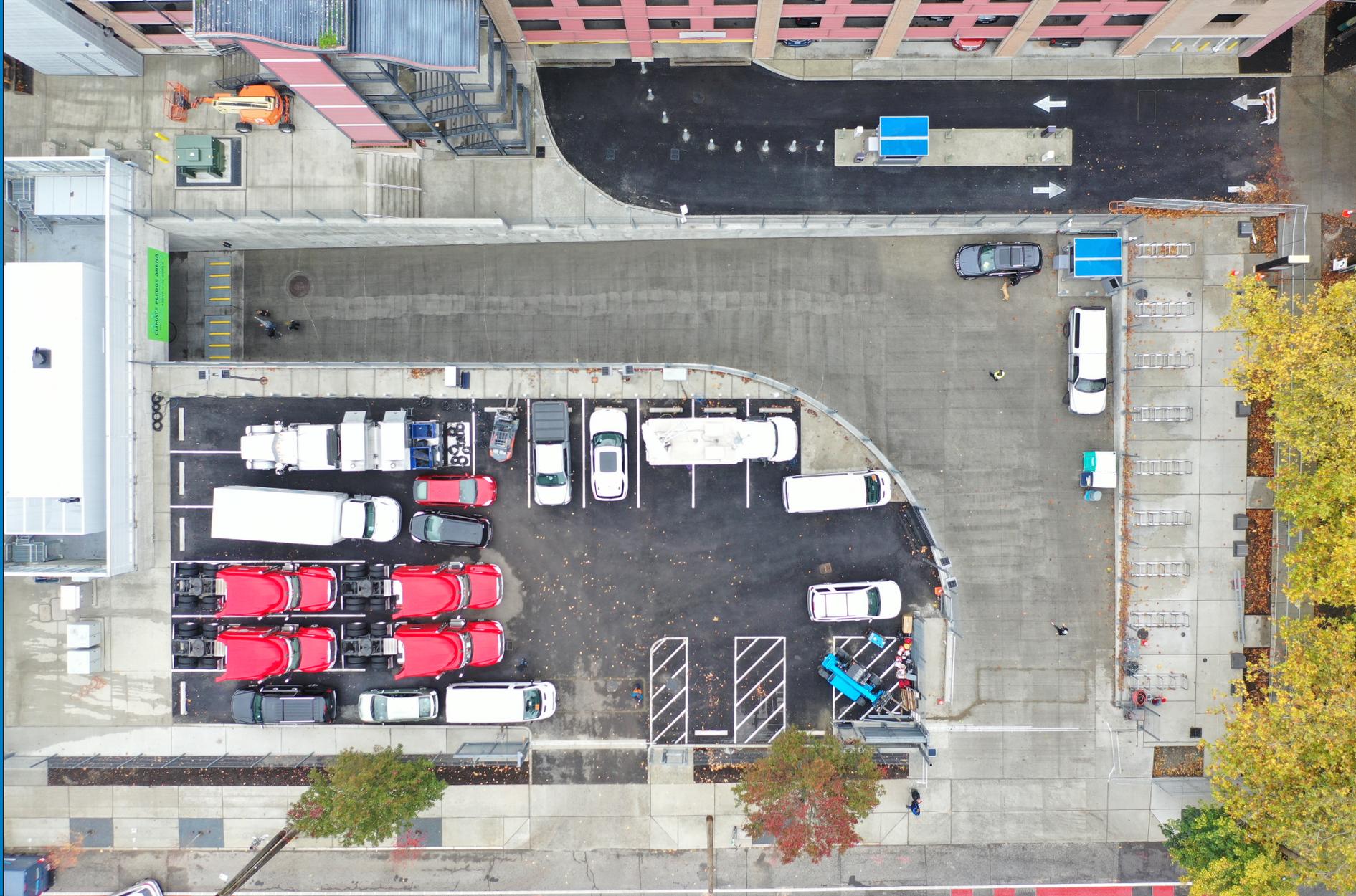
▶▶ TUNNEL



▶▶ Tunnel



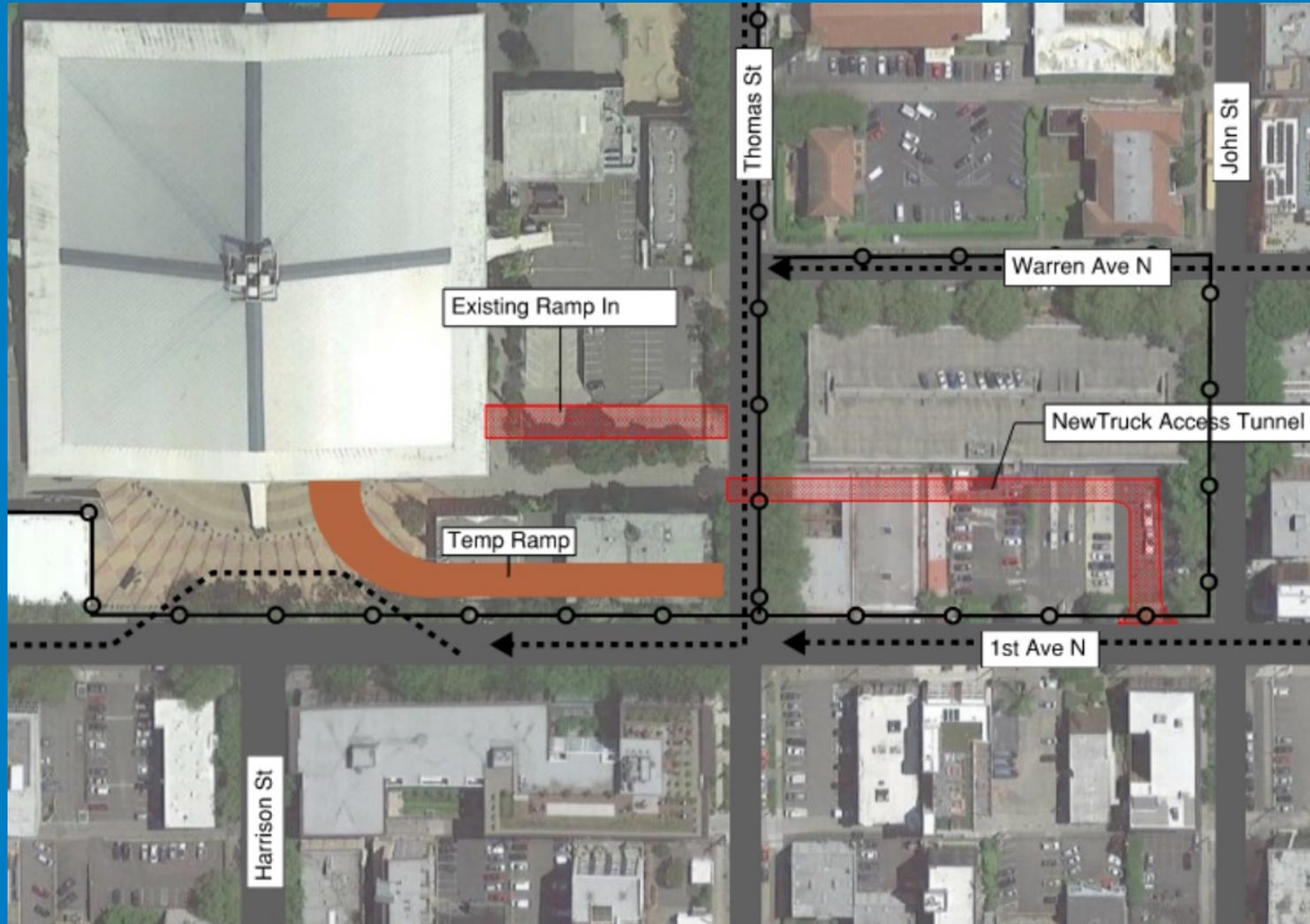
▶▶ Tunnel



▶▶▶ Tunnel



▶▶▶ New Tunnel/Temporary Ramp

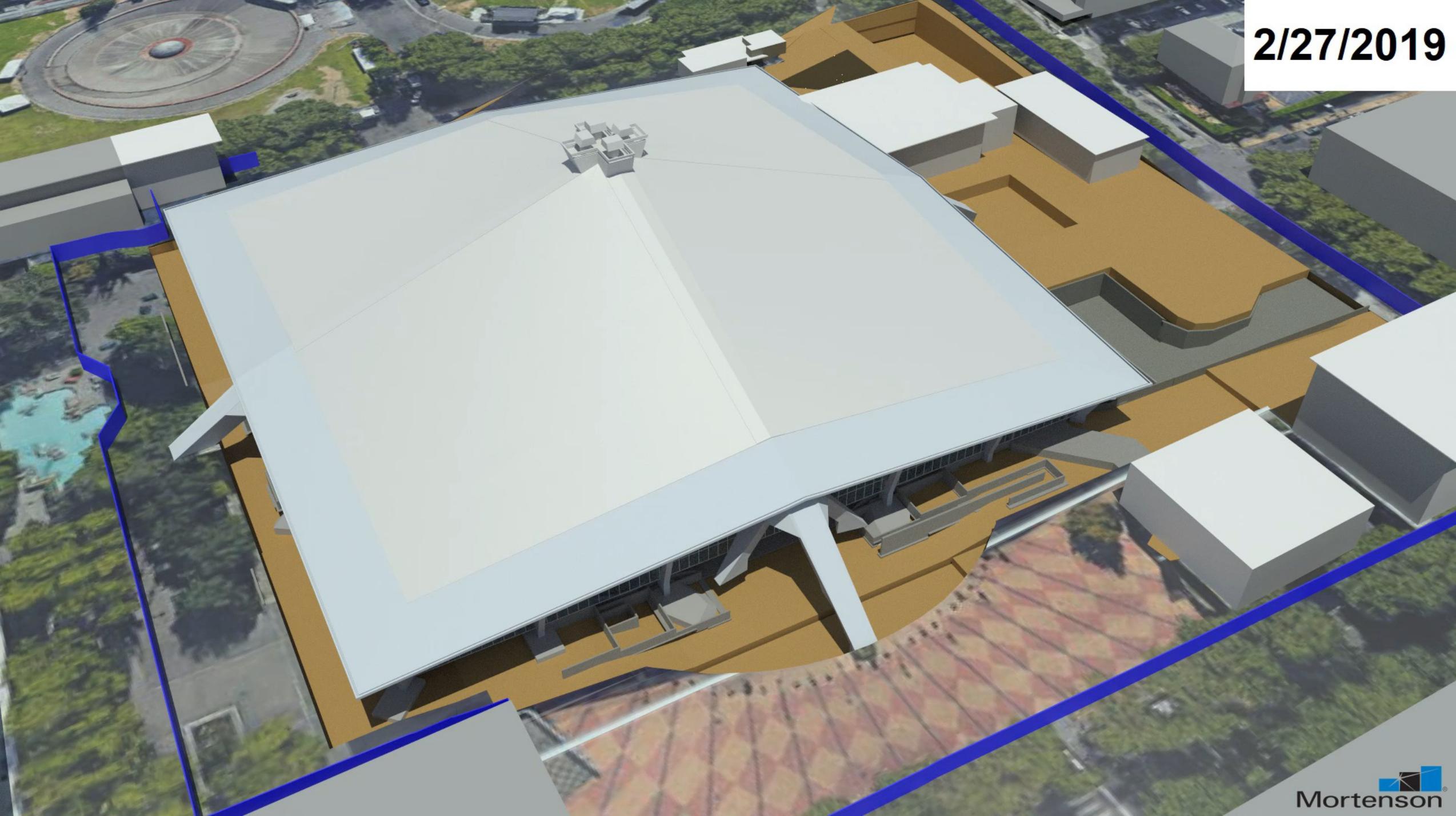


▶▶▶ Subterranean Build

- ▶ Excavation, Access, and Sequencing
 - ▶ West temp ramp
 - ▶ Tower Crane
- ▶ Water Management
 - ▶ Temp Dewatering Systems
 - ▶ Existing Roof
 - ▶ Plaza Slabs/Waterproofing



2/27/2019



SUSTAINABILITY

Our goal is to be the most progressive, responsible, and sustainable arena in the world.

**It might sound ambitious—
but that's the point.**

Create the first International Living Future Institute certified zero carbon arena in the world – target certification 2022

THE Paris...
CLIMATE 10 years
PLEDGE Early

CLIMATE
PLEDGE
ARENA

- ◇ Carbon Zero
- ◇ Zero-Waste
- ◇ Water Conservation
- ◇ Sustainable Food & Beverage Program





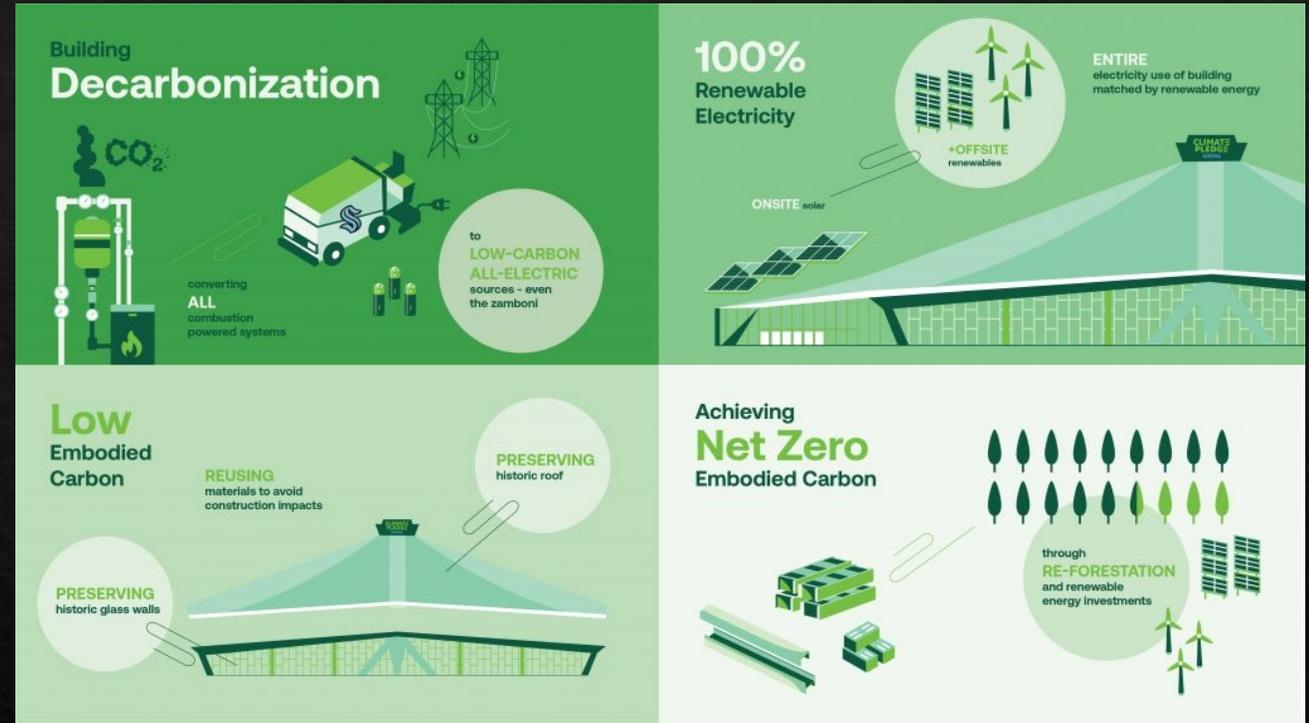
◆ Gas to Electric

◆ Rain to Rink

◆ Solar Panels/Energy Recovery Ventilators/12,500 Trees on Site/Electric Vehicle Charging

▶▶ The Climate Pledge – Gas to Electric

- ▶ Boiler and Water Heater Flues Removed
- ▶ Boilers and Water Heaters changed to Electric
- ▶ Gas Cooking Equipment changed to Electric
- ▶ Additional Electrical Equipment Needed
- ▶ Modify Medium Voltage Switchgear
- ▶ Modify Steel and Concrete for Equipment

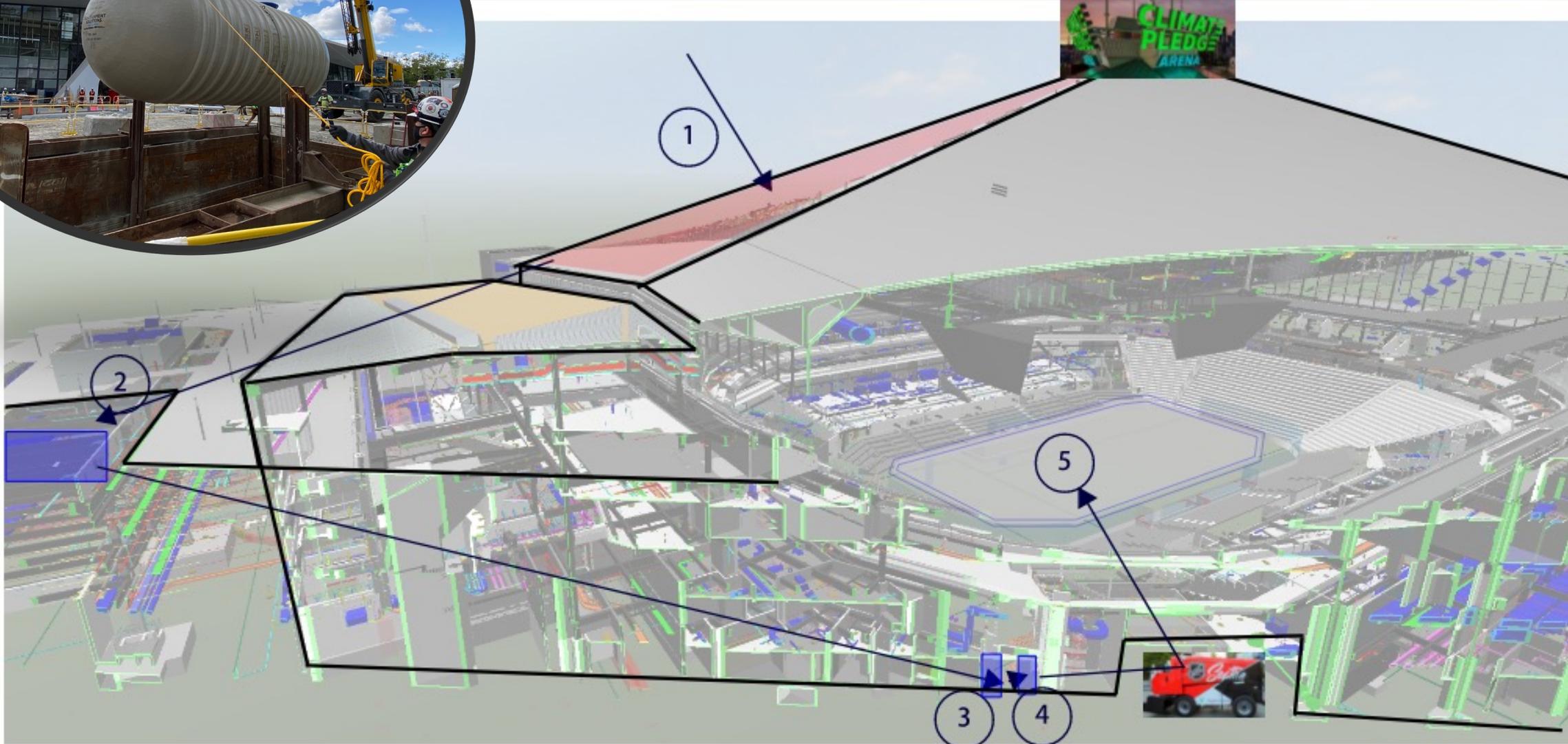


▶▶ The Climate Pledge – Gas to Electric

- ▶ 16 Months after Groundbreaking
- ▶ ~67% of Building Model Coordination Signed off
- ▶ Boilers and Water Heaters 2 Months into Fabrication
- ▶ Incoming Electrical Utility Excavation Underway
- ▶ Steel Embeds Actively Being Installed
- ▶ Medium Voltage Switchgear 2 Weeks into Fabrication



Rain to Rink – Water Harvesting



▶▶▶ Community Impact/Partnerships

- ▶ Development Agreement
- ▶ Community Workforce Agreement
- ▶ Covid-19 Response Plan
- ▶ Stewardship



▶▶▶ Community Workforce Agreement

- ▶ Project Labor Agreement
- ▶ Workforce and Business Participation Goals
- ▶ City of Seattle, Trade and Labor Support Organization Partnerships





WMBE Participation Success

Engaging women- and minority-owned contractors

Women- and minority-owned (WMBE) contractors bring necessary skills and scopes to construction projects. On Climate Pledge Arena, WMBEs earned 20% of total construction spend, well exceeding the 15% goal.

WMBE firms earned
\$179 million

This is \$43 million more than the
 15% goal of \$136 million

88 WMBEs participated on Climate Pledge Arena, and over half were minority-owned

20% Of each dollar spent on Climate Pledge Arena went to WMBE firms

\$49M Earned by WMBE contractors' construction workers

How much did WMBE contractors earn on Climate Pledge Arena?



ACTUAL WMBE SPEND (20%)
WMBE GOAL (15%)

Source: City of Seattle, 2021. Data represents outcomes as of December 2021.



Workforce - Priority Hire





Workforce Participation Success

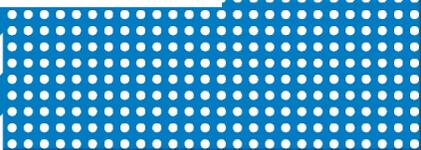
Climate Pledge Arena worker impact



41,418,903 earned by people of color
9,359,437 earned by women
24,127,143 earned by apprentices



29% hours worked by people of color
7% hours worked by women
21% hours worked by apprentices





Stewardship



Stewardship



COVID - 19 Response Plan



- ▶ Covid Task Force/Sponsors
- ▶ Crew Families
- ▶ Social Distancing – Means and Methods
- ▶ Site Cleaning/Hygiene
- ▶ Travel Policies
- ▶ Contract Tracing/Notifications Protocol
- ▶ Partnership with L&I

HELP KEEP US ALL HEALTHY! | Help us fight the spread of **COVID-19**

This project site adheres to the CDC guidelines for maintaining a healthy work environment. Everyone who enters this project site plays a part in preventing the spread of COVID-19.

SOCIAL DISTANCING
Ensure 6' of separation between construction workers



TAKE 2
If you think that you cannot safely perform work *AND* maintain at least 6 feet of separation, Stop, Take 2 and think:

1. Is social distancing *really* not possible?
2. Will social distancing create an additional hazard for the task?
3. Is there a different way to perform the task that is safe and allows for social distancing?

ALTERNATIVES
If your supervisor agrees that the work *cannot* be safely performed with social distancing, then one or more of the following *must* be done in this order:

1. Engineering controls, such as clear plastic sneeze guards
2. Changes in work practices or procedures, such as using equipment instead of two-person lifts
3. COVID PPE: Per your local OSHA guidelines (such as respirator or face covering and full face shield)

If you can't socially distance and you can't do one of the alternatives above, then you can't do the work. Please immediately contact your supervisor.

Always after performing any work, increase sanitation measures, such as disinfecting shared tools, washing hands, and using hand sanitizer.



HELP KEEP US ALL HEALTHY! | Help us fight the spread of **COVID-19**

This project site adheres to the CDC guidelines for maintaining a healthy work environment. Everyone who enters this project site plays a part in preventing the spread of COVID-19.

PREVENTATIVE MEASURES

SOCIAL DISTANCING
Maintain a minimum of 6' separation



ENHANCED CLEANING
Frequent cleaning and disinfecting of common spaces and equipment



PERSONAL HYGIENE
Wash hands frequently and for 20 seconds, cough or sneeze into your elbow and avoid touching your face



NO UNSCHEDULED VISITORS ALLOWED

BEFORE ENTERING THE SITE
If you can answer yes to any of the following questions, please do not enter and consult with your supervisor

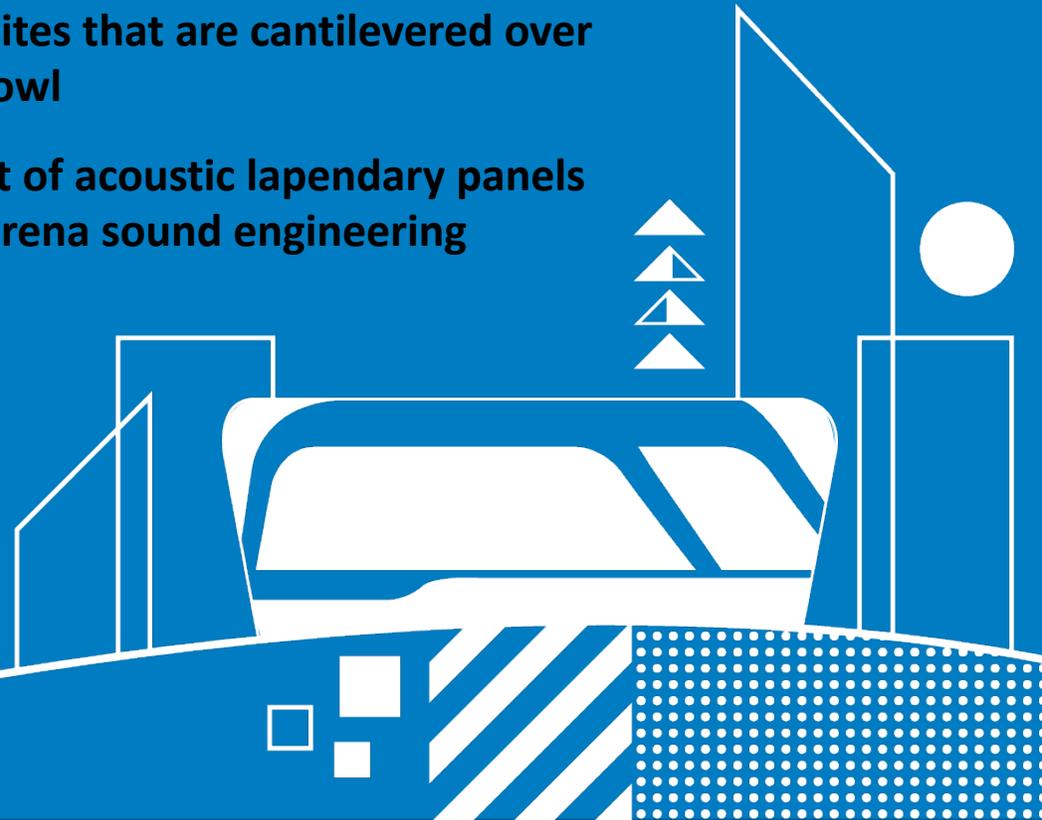
-  Have you been diagnosed with, or are you currently experiencing symptoms consistent with, COVID-19? Symptoms include fever (greater than 100.4 degrees) or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea.
-  Are you living with, providing care for, or have you been in close contact with (within six feet for at least 10 minutes or for 15 minutes in a 24-hour period) a person diagnosed with or presumed to have COVID-19?





Additional Facts/Figures

- ▶ Average - \$1M /day in place over 1,000 days
- ▶ Peak - \$2M/day work in place
- ▶ Total Craft - 5,000+
- ▶ Total Craft Labor Hours – 3.6M+
- ▶ 859 Precast Concrete Stadia Pieces
- ▶ 190,000 square feet of 12” Perimeter Shotcrete Walls
- ▶ 973,000 square feet conc SOG and slab-on-metal-deck
- ▶ Elevators: 15 | Escalators: 8
- ▶ 11.5 miles of subfloor ice sheet piping
- ▶ 5K Light Fixtures
- ▶ 28,175 square feet of digital signage, covering 145 million pixels. The most in the world for a sports and entertainment venue
- ▶ 40 sideline suites that are cantilevered over the seating bowl
- ▶ 16,000 sq feet of acoustic lapendary panels for superior arena sound engineering



Thank you



Q&A