



Matthew Hamel '06

Hawthorne Viaduct Beam Repair

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Multnomah County



The day of the hit

- Beam hit - October 2010
- The team inspected the damage
- Extensive beam and cap damage







Traffic control

- Least amount of impact for the community
- Allowing the bridge shop to start the repairs
- Keep the viaduct open

Hawthorne Blvd
↓

McLoughlin Blvd
↗

50
9



YIELD TO
BIKES





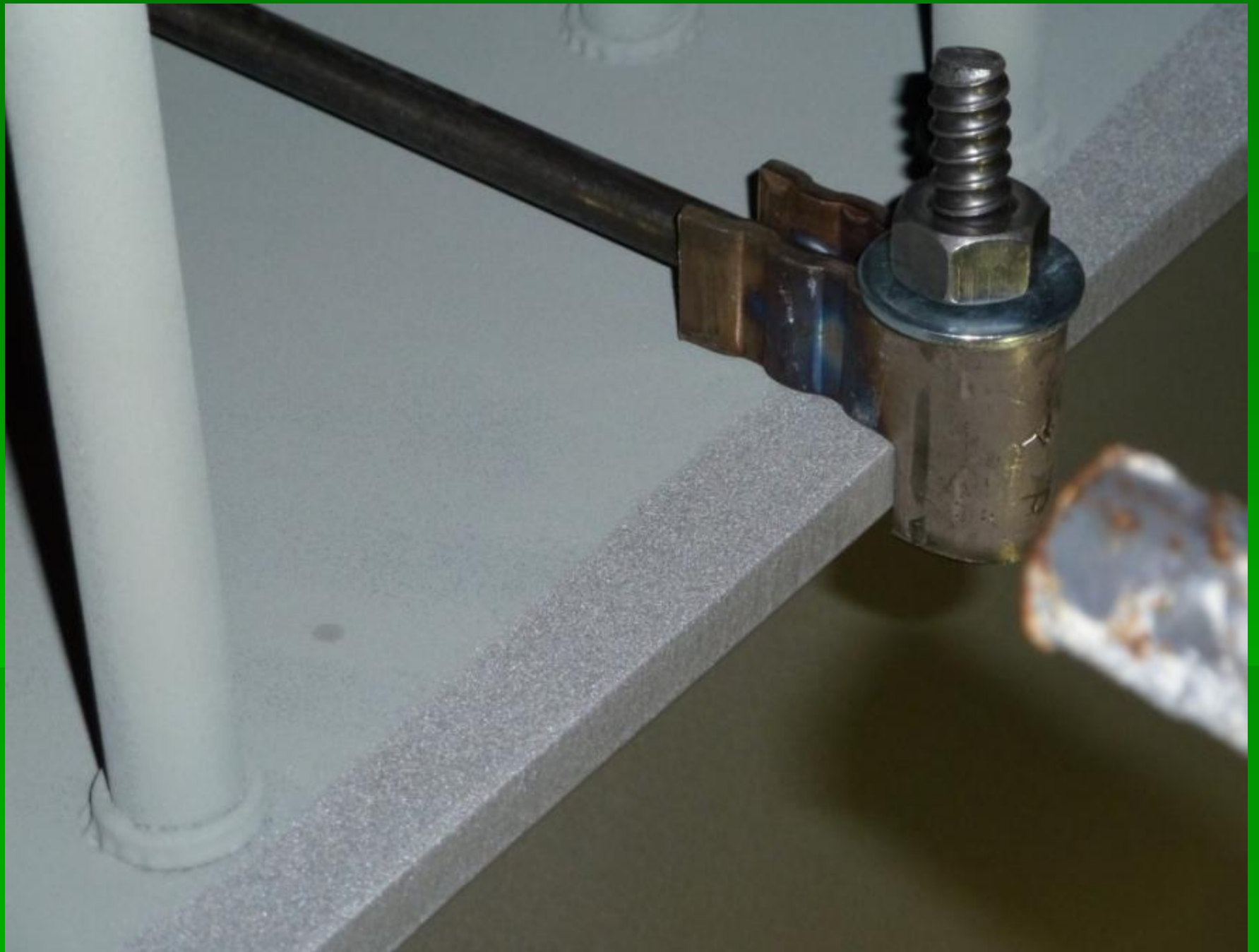
The Bridge shop repair strategy

- Small scale model used for planning purposes
- Team decided on Dayton hangers
- Installation of attachment points













Time for demolition

- **Prep area for demolition**
 - **Full-depth cut demolition**
 - **Diaphragm removal**
 - **Processor staged to remove concrete**
-

















Out with the old In with the new

- **Smaller beam needed**
- **Cap repair reengineered to accommodate the smaller beam**
- **Installed new beam**







ROAD

OVERSIZE LOAD

LANE

HTC-864B

BURGER KING





The beam is set False work time

- Work platform needed for both interior and exterior work
- Interior work first
- Exterior hanger installed







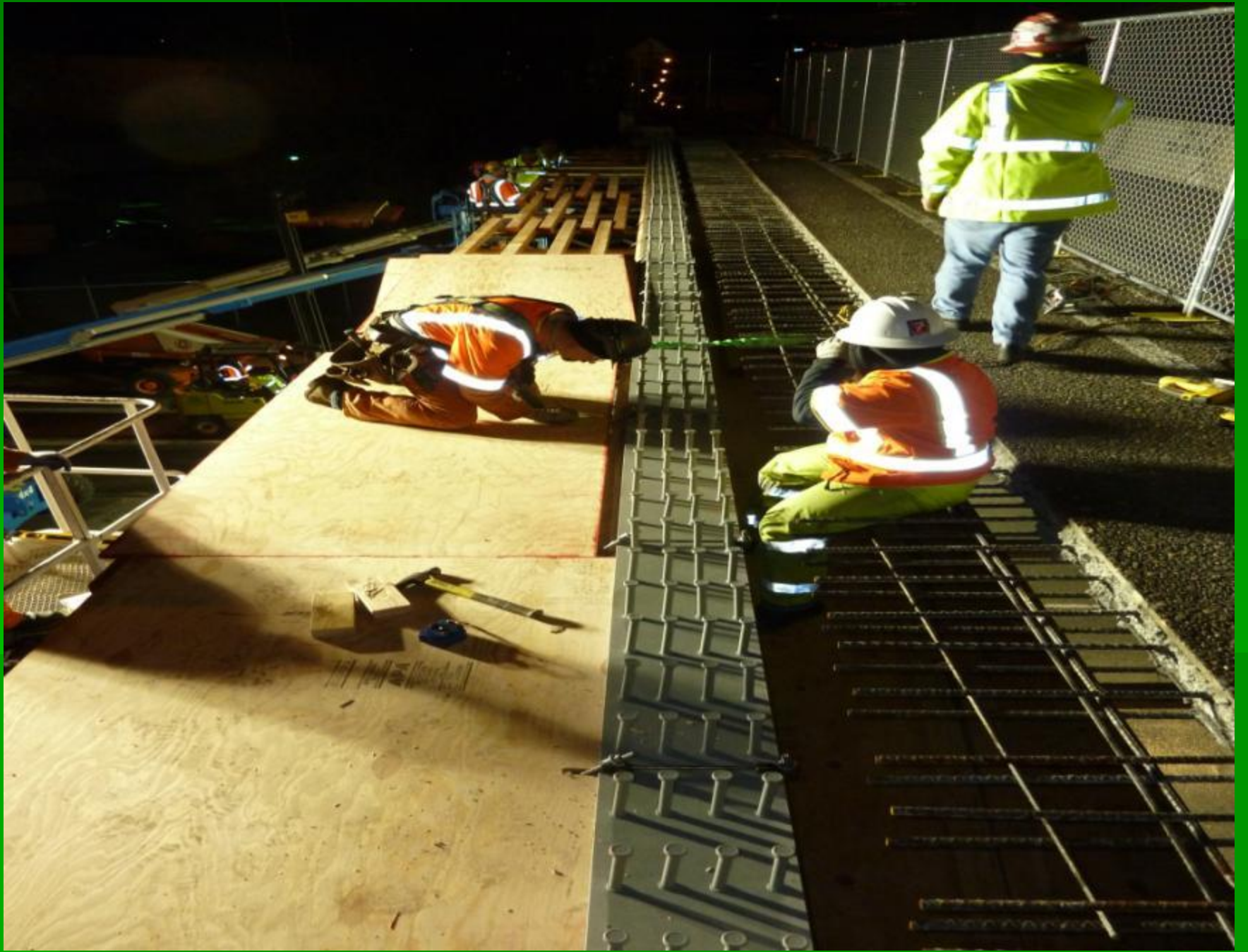










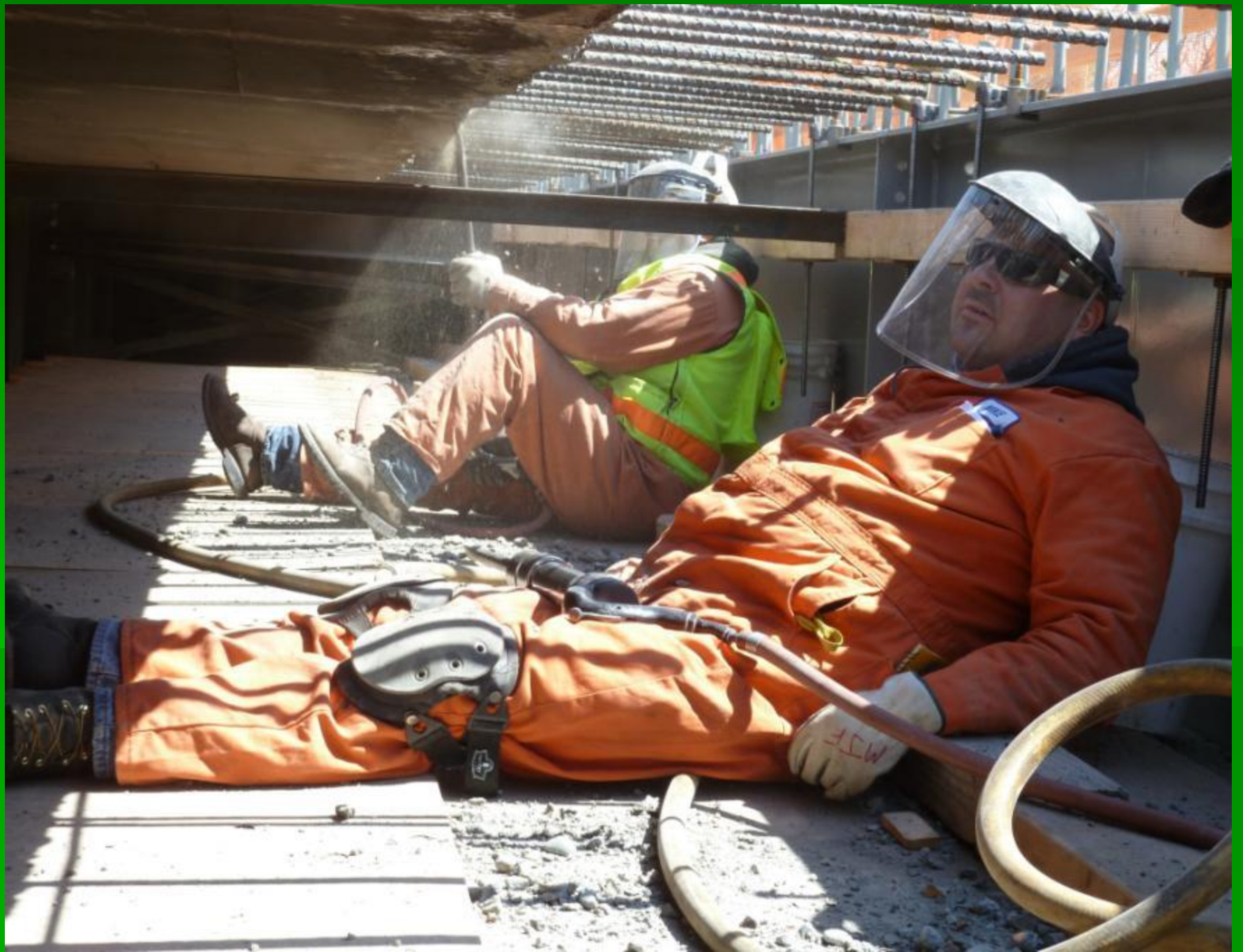




The repair starts now

- Deck prep work
- Profiled edge of the concrete
- Installed interior forms











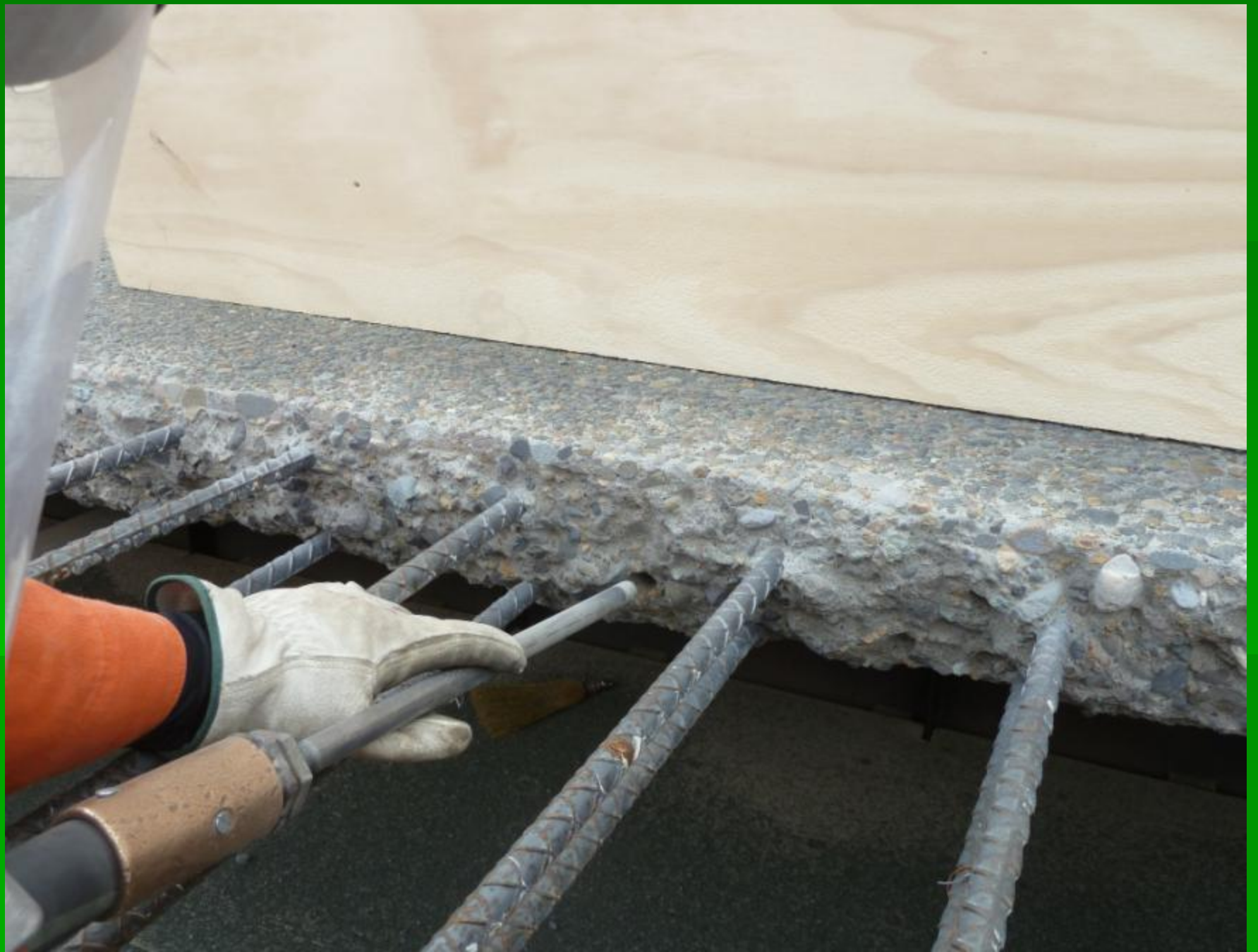






Rebar time

- Needed to strengthen the deck to comply with standards
- Engineered rebar splicing
- Dowelled extra rebar





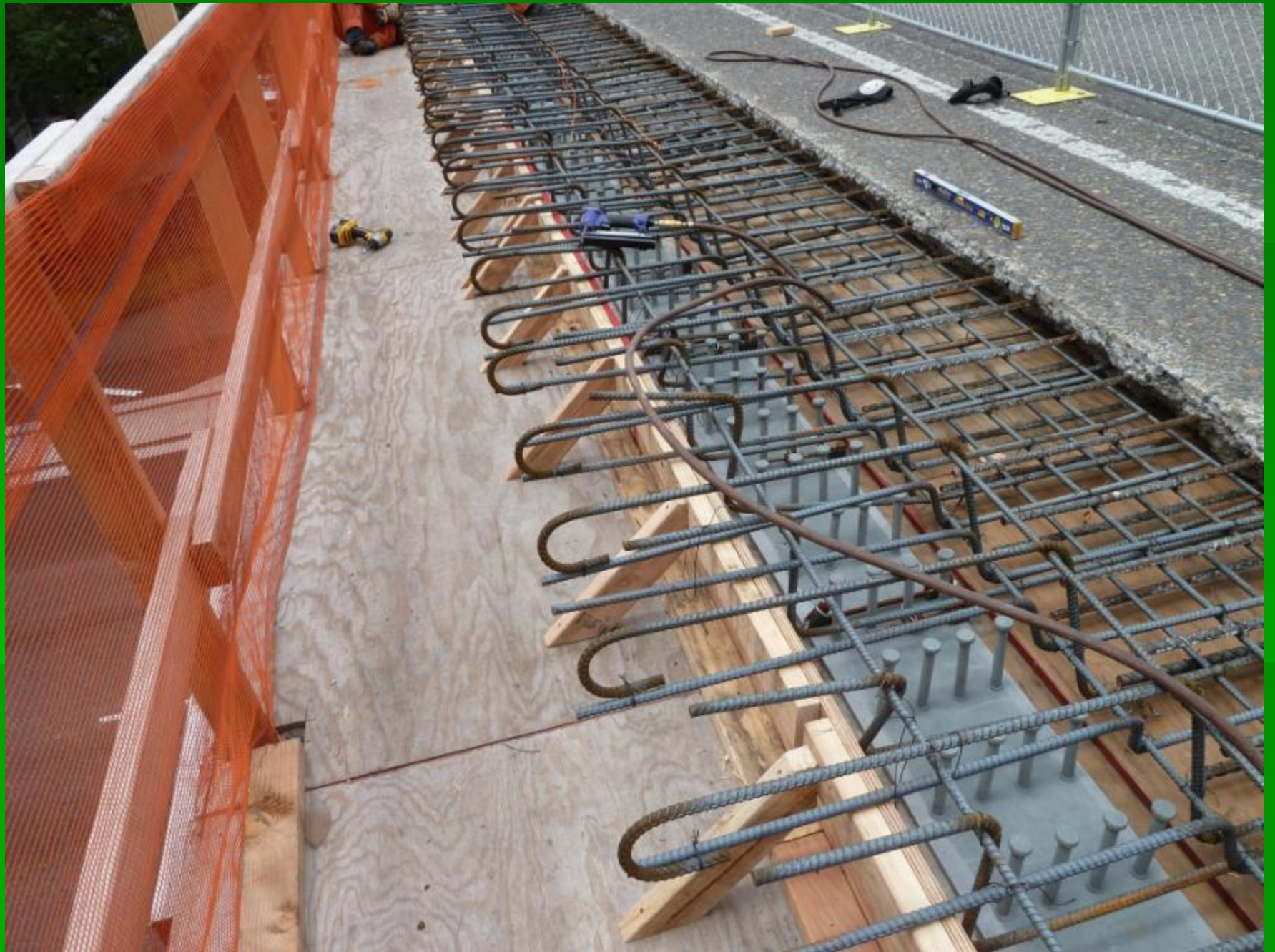










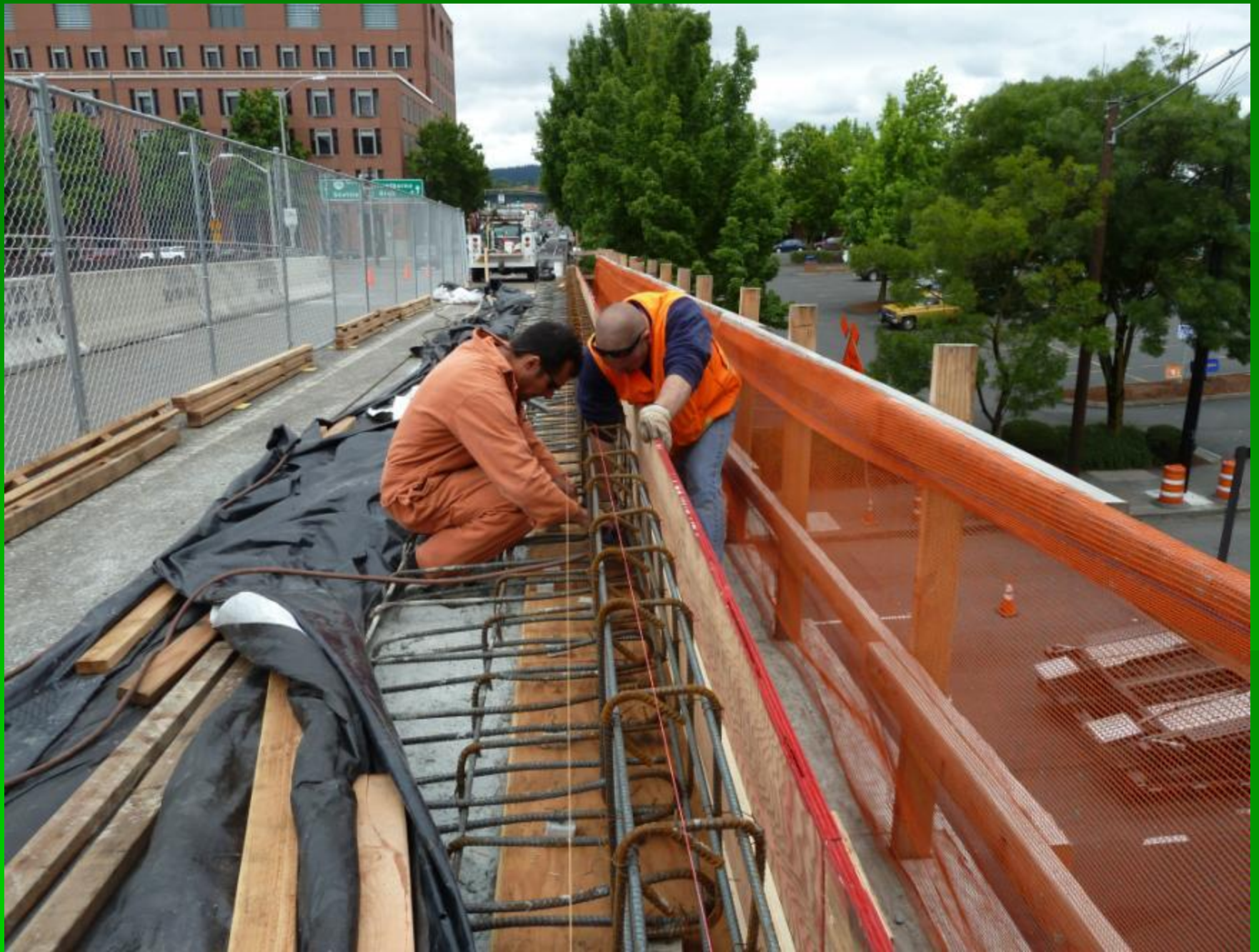


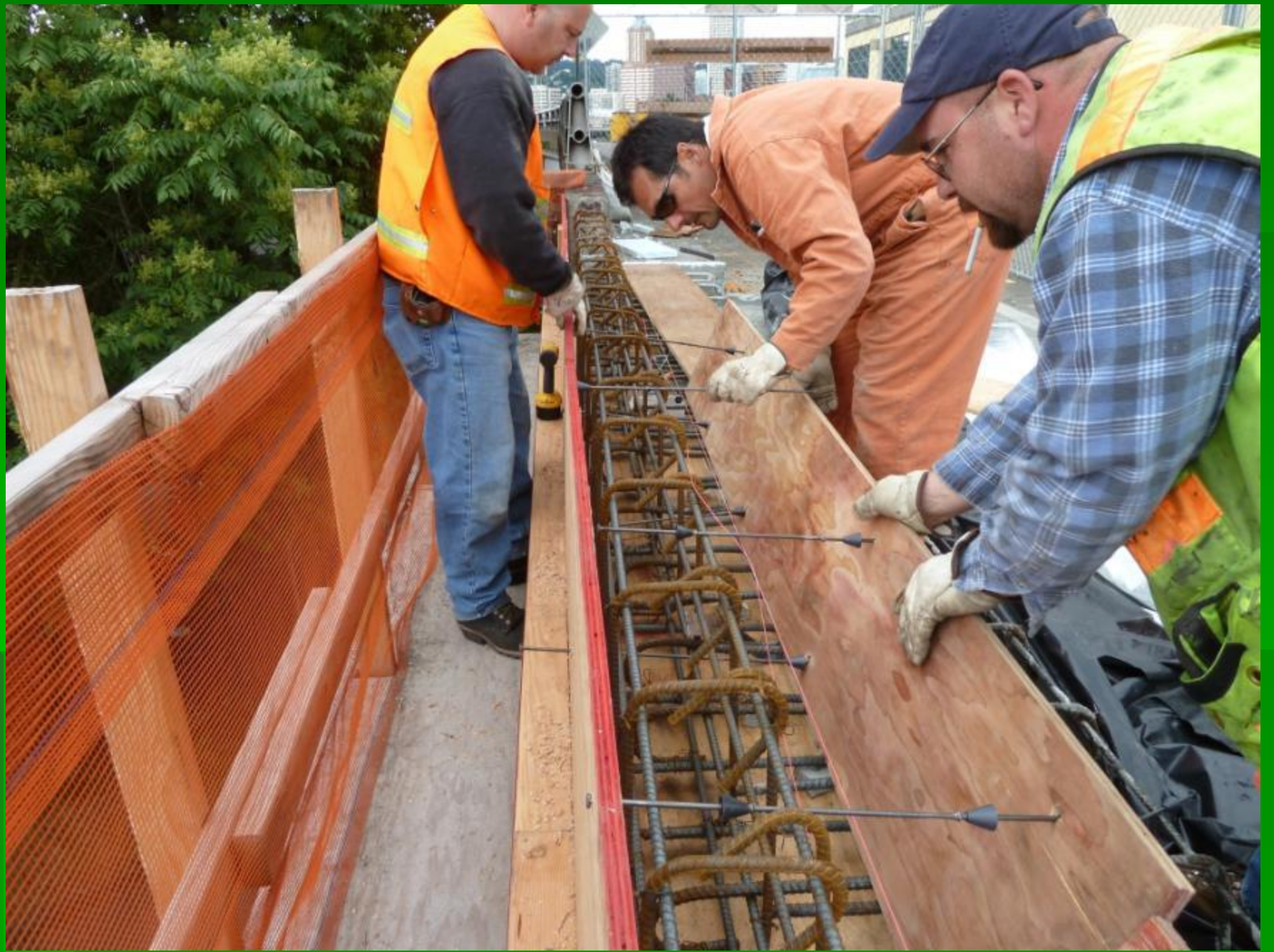


The pours

- Road deck, curb, parapet wall
- Mixed design for deck pour
- Standard mix for curb and parapet wall pours













The forms come down

- Strip forms from interior and exterior
- Stripping done in phases
- Concrete finishing applied to everything
- Fluff and buff!



Install the guard rail

- Reinstalled post with the rails







Job well done









Thank You!