Presenters

- Jane Jordan, PE – Independent Quality Design Manager
- Todd Bergstrom, PE – Design Manager
- Tom Hyland, PE – ODOT Project Manager
- Courtney Norris, PE – Construction Quality Control Manager
- Rob Opel, PE – Construction Project Engineer
- Mike Lea, PE – Independent Quality Construction Manager
Post-RFC Collaboration Improves Quality

Design is released for construction, and then . . .

. . . Field staff discover ... (sub drains?)
. . . Fabricator production welding equipment meets a tight spot
. . . Contractor staff finds a “better way to skin the cat”
. . . ODOT proposes a modification for inspection catwalks design
## CCG2 Work in 57 RFC Plan Sets

<table>
<thead>
<tr>
<th>Discipline</th>
<th>RFC Plan Sets</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridges</td>
<td>20</td>
<td>Viaduct Unit 2 delta spans, Viaduct Unit 3 spans, I-90 bridges, other</td>
</tr>
<tr>
<td>MOT</td>
<td>13</td>
<td>Many smaller packages to match schedule</td>
</tr>
<tr>
<td>Roadway</td>
<td>10</td>
<td>I-90 mainline, ramps, downtown streets</td>
</tr>
<tr>
<td>MSE Walls &amp; Other structures</td>
<td>7</td>
<td>MSE walls, river bulkheads, Pier 12 wall, trail canopy</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>Aesthetics, landscaping</td>
</tr>
<tr>
<td>Traffic Control &amp; Signing</td>
<td>2</td>
<td>Final configurations</td>
</tr>
<tr>
<td>Utility Work</td>
<td>1</td>
<td>CPP (water mains in other sets)</td>
</tr>
</tbody>
</table>
Revisions/Modifications to the Design

- Design “ownership” with Design-Build Team, not the Owner
- Design authority/responsibility with Engineer of Record, i.e., only party able to change the design
Post-RFC Collaboration Improves Quality

- Begins . . .
  - Field/fabrication - at the point, time of discovery
  - Constructability considerations
  - Owner proposals

- Assess situation – change in design?

- Review and vet solutions

- Finish
  - Documentation (As-built, FC log or RFI)
  - Perhaps an RFC.R01
Field Adjustments

- Cannot modify any design or design intent
- Simple Revisions
  - Subdrain adjustments
  - Pile adjustments within CMS tolerance
- Documented in Field Change log
  - Maintained by Contractor
  - Posted on ODOT SP site
Proposals from ODOT

- ODOT inspection platform design loading increase
- Documented with RFC plan revision
• Inspection Access Design Loads

• Provided a safer and realistic design
Changes to Design – “The Process”

- Assessment
- TGR Construction Engineering Request
- TGR Request for Information
- Documentation
  - RFI Package
  - RFC Revision
1. Contractor discussed with Designer
2. DBT define and review issue specifics
3. Designer perform preliminary engineering
4. Contractor assesses pro/cons
5. Contractor decision to:
   a. abandons or
   b. formalize with an RFI
Changes to Design – “The Process”

1. Assessment
2. TGR Construction Engineering Request
3. TGR Request for Information
4. Documentation
   - RFI Package
   - RFC Revision
Request for Information (RFI)

1. Contractor formulates question
   • Design change?
   • Scope change?

2. Response by Designer and/or ODOT
   • URS where EOR must review
     – IQF to provide QA for scope compliance
   • ODOT where variation from contract documents

3. RFI Package provides final documentation
   • Plan Revisions or Record Drawings
TGR (Contractor) Initiated Changes

- Horizontal construction joint in Pier caps
  - Provides more quality control
TGR (Contractor) Initiated Changes

- Unit 3 Deck Pour Sequence
  - Provided a more efficient operation
TGR (Contractor) Initiated Changes

- Unit 3 Deck Pour Sequence
  - Provided a more efficient operation
TGR (Contractor) Initiated Changes

• Erection tolerance for longitudinal deck girders
  • Provides assurance that design intent is maintained
TGR (Fabricator) Initiated Changes

- Bearing Stiffener connection detail
  - Provided less risk to facilitating connection
Collaboration Improves Quality

• Design-Build Delivery with IQF
  – Independent Quality Firm provides additional look/review of Contractor/Designer proposed changes
  – Close collaboration can yield better quality
  – System provides a more extensive series of check and balances