Hams Fork Road

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Purpose of this meeting

- Current status of the Hams Fork WYO 233 job
  - How did we get here?
- Future plans for WYO 233
  - What work residents can expect to see in the future
- Answer any questions you may have

WYO 233 Hams Fork Road

- **Travel Volumes for WYO 233**
  - Average for entire section from 2013 to 2015 - 218 total vehicles with 9 trucks per day

- **By comparison with US 30**
  - Average for entire section from 2013 to 2015 - 1,692 total vehicles with 779 trucks per day

- This road was in our State Transportation Improvement Plan due to identified deficiencies in the roadway. WYO 233 was seeing issues with **pot-holing**, **significant cracking**, and **general pavement deterioration** that has led to continual patching.

WYO 233 Hams Fork Road

- **Pavement Condition Index** (cracking), less than 85 causes concern
  - Milepost 2-11 PCI = 78-79
  - Milepost 11-16 PCI = 85.6
  - Milepost 16-19 PCI = 86.9

- **International Roughness Index** (the ride)
  - Total of 1,130 road sections throughout the state.
  - 10th worst section in the state.

- **Present Serviceability Index** (roughness, rutting and cracking: this is the overall rating)

  New construction = 4.5, end of life = 1.5;
  - Milepost 2-11 PSR = 1.5
  - Milepost 11-16 PSR = 1.5
  - Milepost 16-19 PSR = 1.5

Costs of construction

Per center-line mile

Maintenance & Preventative Rehab: **$150,000 - $450,000**

Minor Rehabilitation: **$250,000 - $800,000**

Major Rehabilitation: **$560,000 - $2.20 million**

Asphalt Reconstruction: **$1.6 - $4.9 million**

Concrete Reconstruction: **$4.8 - $6.6 million**

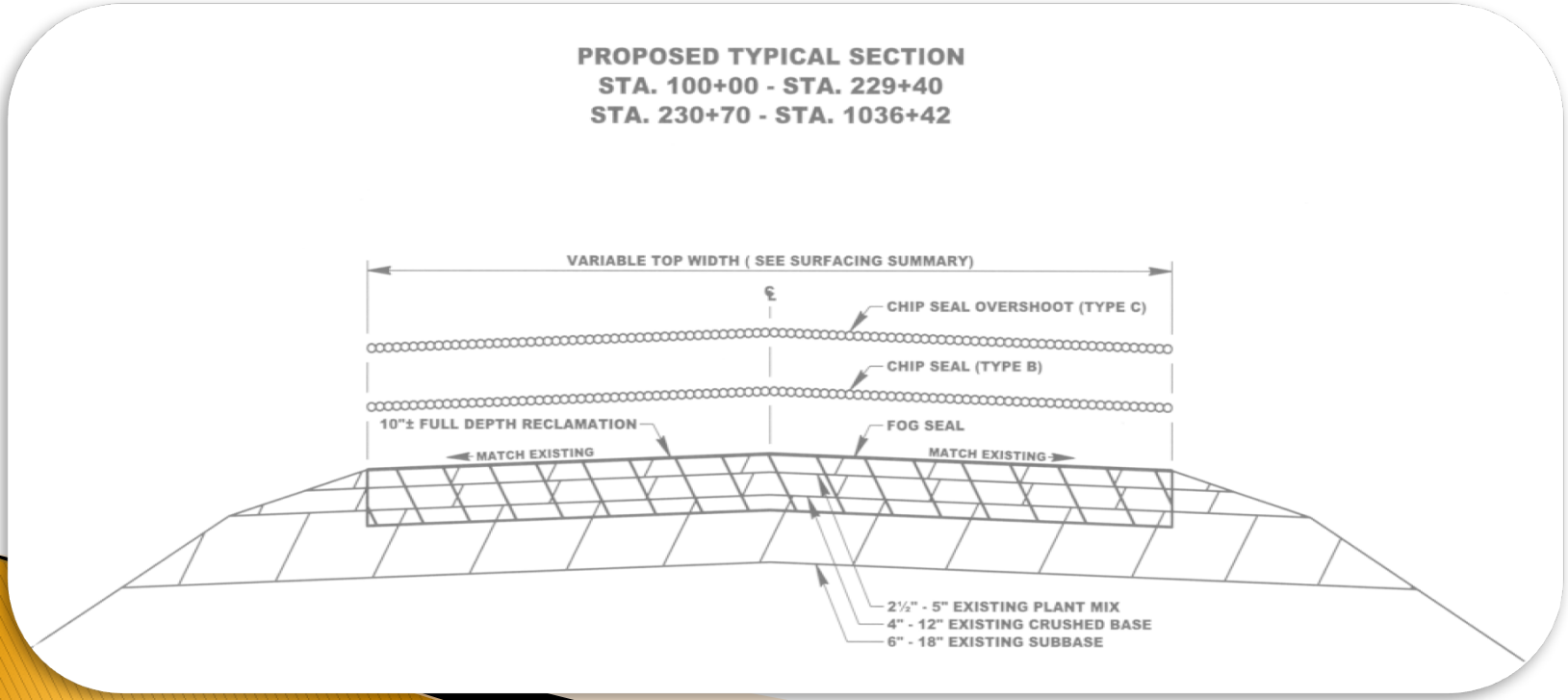
Per center-line mile costs do not include structure repair costs.

Construction Alternatives

- Traditional Alternatives
  - Mill and Overlay
  - Remove and waste all surfacing with a new thick overlay (3+ inches)
- Non-Traditional Approaches
  - Cold In-Place Recycling (LaBarge North on US 189)
  - Hot In-Place Recycling (UT 30, Rendezvous Beach, Bear Lake)
  - White-topping (US 30 North of Cokeville)
  - Full Depth Reclamation and Overlay (WY 410 Robertson Road)
  - Double Chip Seal

Construction Alternatives - Selection

- Considerations
  - Existing Pavement Condition
  - Traffic Volume and Vehicle Type
  - Cost
- **Final Treatment – Full Depth Reclamation with a Double Chip Seal**



Contract with Knife River

- The contract was awarded to Knife River Corporation Northwest on August 18, 2016. Work consisted of full depth reclamation, chip seal, and roadside safety improvements.

- The contract defines the work and requirements that need to be met for successful completion of the project.

- More information about how contracts are administered here:

  https://www.youtube.com/watch?v=eubSWCxGsLY&t=430s

Construction

- Construction commenced on May 8th, 2017 with guardrail work.
- Full Depth Reclamation and Chip Sealing between July 12th and August 4th, 2017.
- Final Punch List and clean up from August to the current time.

What is WYDOT going to do with this road?

- The entire section will have a thin overlay placed in early 2018 (May – June).
- The specifics of this (who will do it, how will it be paid for, etc) are not yet decided due to ongoing discussions with the contractor as part of the existing contract requirements.

Common Concerns

Why was the Hams Fork designed this way? Why not just do an overlay?

- **Longevity and durability**
  - An overlay would improve the smoothness of the road and initially cover up the cracks, but this would only improve the road for a few years before the existing cracks would eventually work up to the surface.
- **Pavement Preservation Budget**
  - Chip seals are cost effective treatments. An additional $1.2 million needed to place a 2 inch overlay rather than the double chip seal.

So if the chip seal was the preferred treatment, why is the road so rough and washboard-like?

- Have been investigating these possibilities:
  - Sub-grade issues (below the FDR)
  - Insufficient compaction of the FDR
  - Traffic impacts on the FDR surface before chip placement
  - Equipment impacts during construction
  - Traffic impacts on the surface after chip placement
  - Variability of the materials in the FDR (both in isolated locations and variable throughout the project)
- Any single item or combination of items may be the cause.

So if the chip seal was the preferred treatment, why is the road so rough and washboard-like?

- True Source of the Issue – yet to be determined
  - WYDOT and the Contractor are working toward making this determination right now.

WYDOT has identified areas that do not meet ride specifications

- Some readings taken by hand

WYDOT has identified areas that do not meet ride specifications

Were there issues with compaction? Was the base for the road weak?

- The contract requires specific compaction efforts for the FDR.
  - Roller pattern is established using a nuclear density gauge within a short test section of the roadway.
  - Roller effectiveness is continually monitored by the nuke gauge daily throughout the project.
  - “Break Over” specification used rather than a maximum density specification.

Were there issues with compaction? Was the base for the road weak?

- Post Construction Testing
  - In an effort to determine the stability of the base and sub-base a Falling Weight Deflectometer (FWD) was used to analyze the entire section at half mile intervals.
  - This will be used in the discussions we're having with the contractor.

Was the roughness in the road caused by poor grading operations?

- A motor grader made several passes through the FDR material during the compaction process.
- The specification depicted on previous maps applies to the grade of the road.

Isn’t the ride getting worse each day?

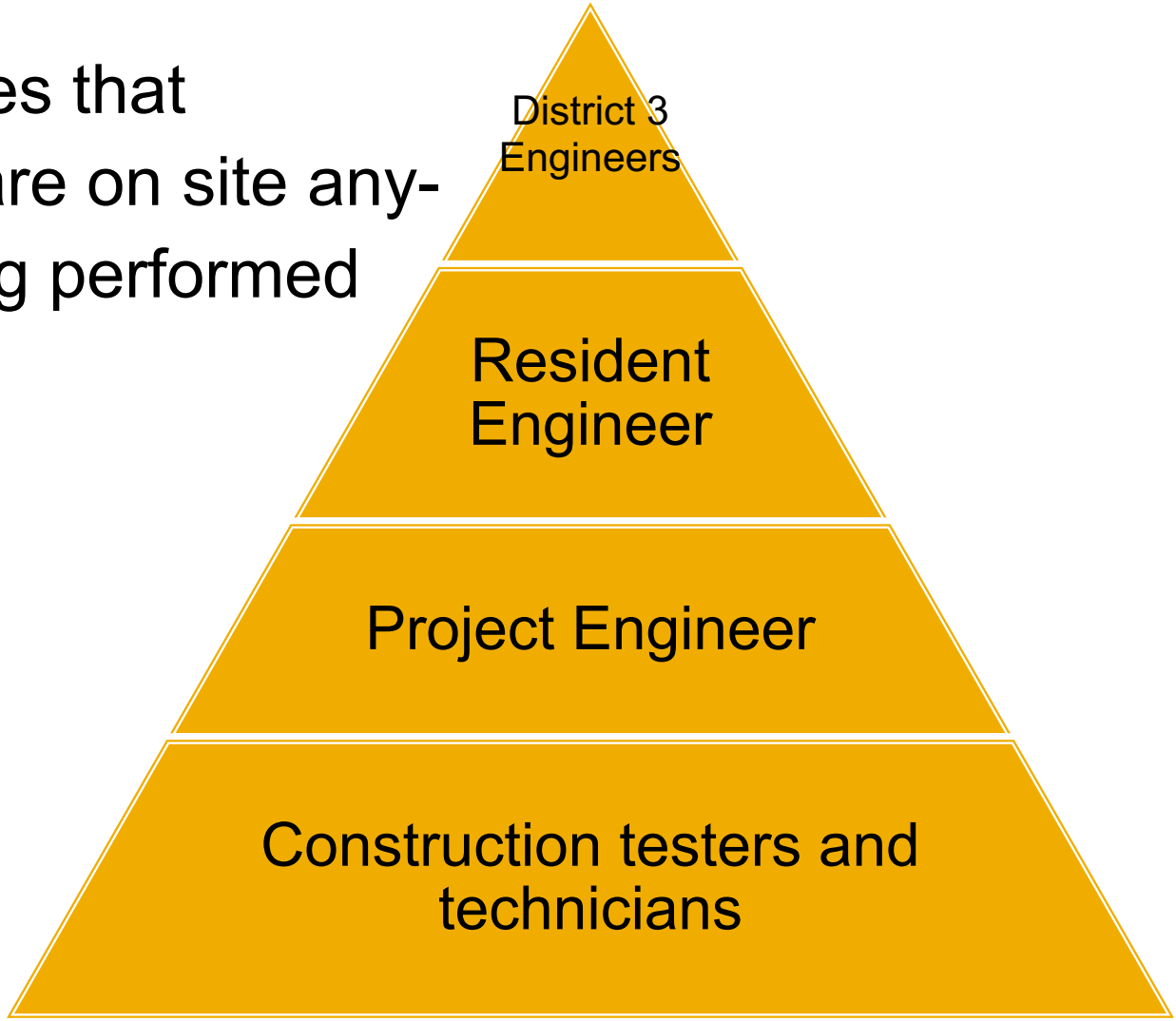
- Robinson Grinding analyzed the project twice. Initially on 9/4/17 and again on 9/26/17.
- Both sets of data show almost identical results overall; less than a 0.5% increase over the three week period.
- The data also indicates similar specific locations that are out of specification.

Did the road fail during construction?

- “Fog Seal” was intended for dust suppression and maintenance of the road.
- Unfortunately it started peeling off the FDR surface during the hot, sunny parts of the day. Fog seal placement was immediately stopped and some portions were removed with a motor grader.

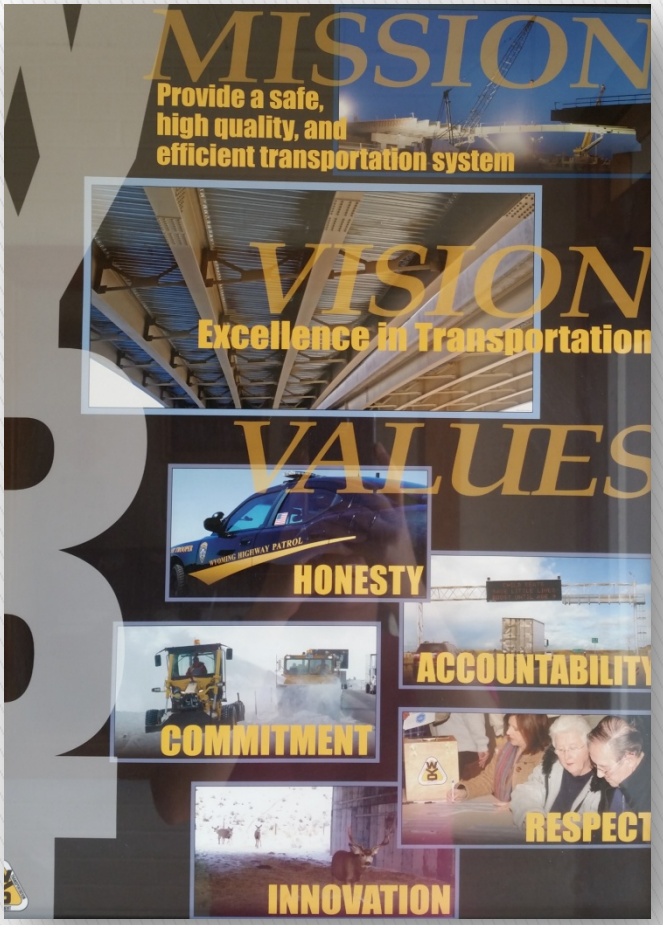
Wasn't there anyone out there from WYDOT supervising the job?

- WYDOT requires that state personnel are on site any-time work is being performed on the job.



Why did you install the guardrail? Won't guardrail cause snow drifting issues and a safety hazard?

- Before construction
  - Steep slopes
  - No shoulders on the road section
  - Approximately 12,000 linear feet of box beam guardrail from MP 12.5 to 19.68.



Why did you install the guardrail? Won't guardrail cause snow drifting issues and a safety hazard?

- Drifting
  - Box beam vs. corregated beam selection.
  - It will be monitored throughout the winter and issues will be addressed as necessary.
  - Maintenance deals with this every year.
- Twisted posts, unlevel rails, "dips" or "bumps"
  - Posts are half the spacing and 3' longer.
  - Subcontractor returned to address cosmetic issues.
- Maintenance
  - Both WYDOT maintenance forces and contracted forces work to maintain hundreds of miles of various types of guardrail throughout the state.

What will happen when water starts ponding in the dips in the road this winter?

- WYDOT will monitor the roadway for further safety concerns and address as necessary.
- WYDOT will consider the options as needed:
  - Additional signage (Rough Road Ahead, Variable Message Signs, etc)
  - Isolated patches or repairs
  - Additional sanding and/or plowing

What about the Red Barn Slide?

In April 2017 a slide developed at MP 10.7

Due to safety concerns, guardrail and roadway work were not performed at this location during the summer of 2017. A geotech specialty crew will be onsite within the month to begin mitigation repairs.

Were approaches along 233 left unlevel with drops onto driveways?

- Construction operations left behind FDR and chip seal materials along the edges of the roadway, including on approaches.
- Knife River has been working on cleaning and clearing up the shoulders and the approaches.

Contacts

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