Using FDR to Upgrade Under-Designed Housing Developments
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Topics

Background
Evaluation
Solutions
Challenges
Repairs
Results
Background

Large golf community
North of Columbia, SC
Infrastructure of new sections built out about 2007
New home construction began in late 2013
We were called in early 2014
Background
Evaluation

Purpose of evaluation
Distresses cataloged
New distresses appeared
Distresses

Pavement distresses noted:

- Sunken utility trenches
- Fatigue cracking
- Pumping
- Longitudinal cracking
- Slippage of asphalt layers
- One road had failed after mill and overlay
- Approximately 30-35% of pavement needed patching
Distresses
Distresses
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Distresses
Challenges

Maintaining curb grade
Repair of sunken curb sections
Access for residents
Weather
Cost
Two solutions considered:
  Full depth patch, mill and overlay
  Full depth reclamation with cement with overlay
Issues to consider with patch, mill and overlay:

- Extent of areas needing patching
- Spreading of cracked and slipped areas
- Access for residents
- Cost
- Time

Solutions
Solutions

Issues to consider with full depth reclamation with cement

- Maintaining curb grade
- Haul off of any excess materials
- Access for residents
- Cost
- Time
Solutions

Full depth reclamation with cement was the clear choice because:

- Maintained access for residents
- Was more cost effective
- Fast operation
- Solved all distresses in one operation
Approximately one mile of roadway was reclaimed over 3-4 days
Overlay was placed soon after
All visible distresses eliminated
Results
Results
Results
Results
Results
Questions?

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