



Van Mark Way Part IV

CITY OF BRENTWOOD, MO

JULY 20, 2020

AGENDA

1. March 2, 2020 Board Motion
2. Steps TWM took after Board Motion
3. Schedule Recap
4. Budget Recap
5. Presentation Recap
6. Q&A



Board Motion on March 2, 2020

1. CONNECT VAN MARK WAY BY CROSSING ROGERS PARKWAY.
2. REMOVE THE AREA TO THE NORTH OF THIS CROSSING FROM THE PROJECT SCOPE. KEEP EXISTING PLAYGROUND.
3. IF YOU CAN, MOVE THE CONNECTION FURTHER SOUTH.

TWM's Next Steps

March 4th: Four engineers meet to debrief on Board's motion and layout new connection to Dorothy Avenue

New Constraints: Keep existing playground and move the connection further south

Same Constraints: Schedule, budget, tunnel location, trail location, applicable standards that must be met, Fire Department coordination, utility service provider locations, Rights Of Way (ROW) acquisition process and timeline, location of residential homes, location of apartment buildings, existing topography and soil profiles, urgent coordination with MoDOT/MSD/Brentwood Flood Mitigation Project.

Road Slope, Trail Slope and ADA

Underpass Trail Elevation – one of the first things set on the project. Drives all other elevations, including Van Mark Way, trail, hydraulics in drainage pipes; affect on Manchester Road, Dorothy Avenue, Mary Avenue (South)

Manchester Road – Raising 5' in elevation at the underpass crossing; changing this elevation affects a dozen more properties.

Right-of-Way Limits – Parking spaces at apartment complex are not in ROW, need Permanent or TC Easement to make changes on their property. THIS IS A LENGTHY, COSTLY, INVOLVED PROCESS.

Roadway Slope: 15% max. allowable per AASHTO (national standard for public roads)

ADA Standards: 5% max. running slope, 2% max. cross-slope, max 2% in any direction level landings when intersecting pedestrian paths to allow for turning movements. This is the law to provide accessibility to all trail users.

Southern Route Research

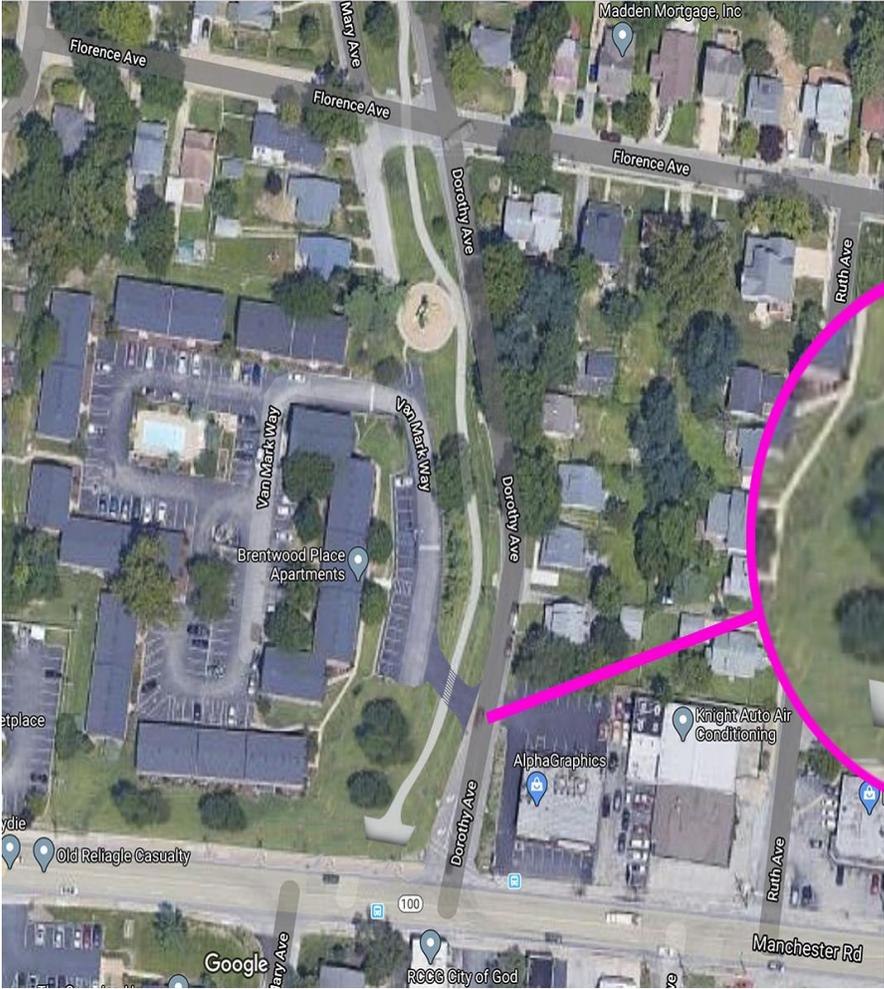
Engineers' thought process

If slopes too great...

...Then

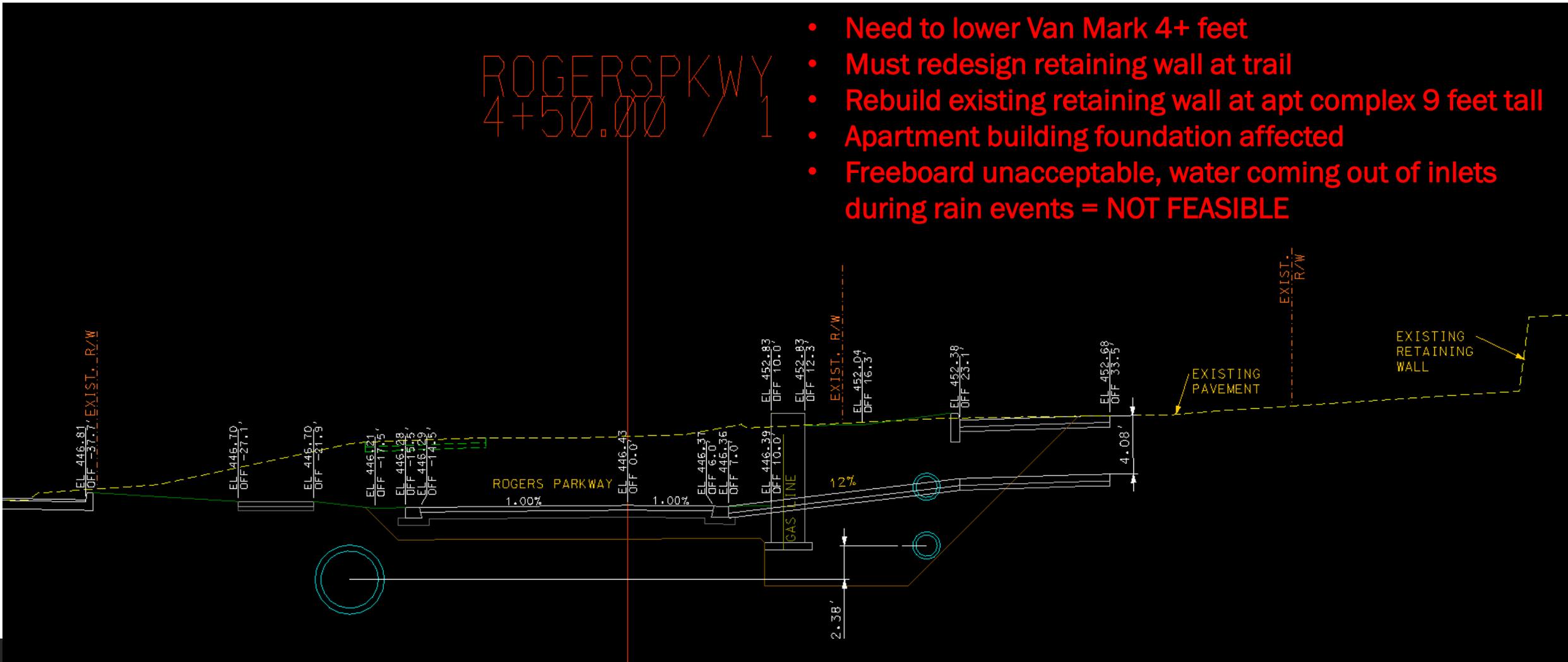
- Lower Van Mark Way
- Raise the tunnel up
- Van Mark Overpass?
- Move entrance to west side of apartment complex

Southern Route Research – Option 1



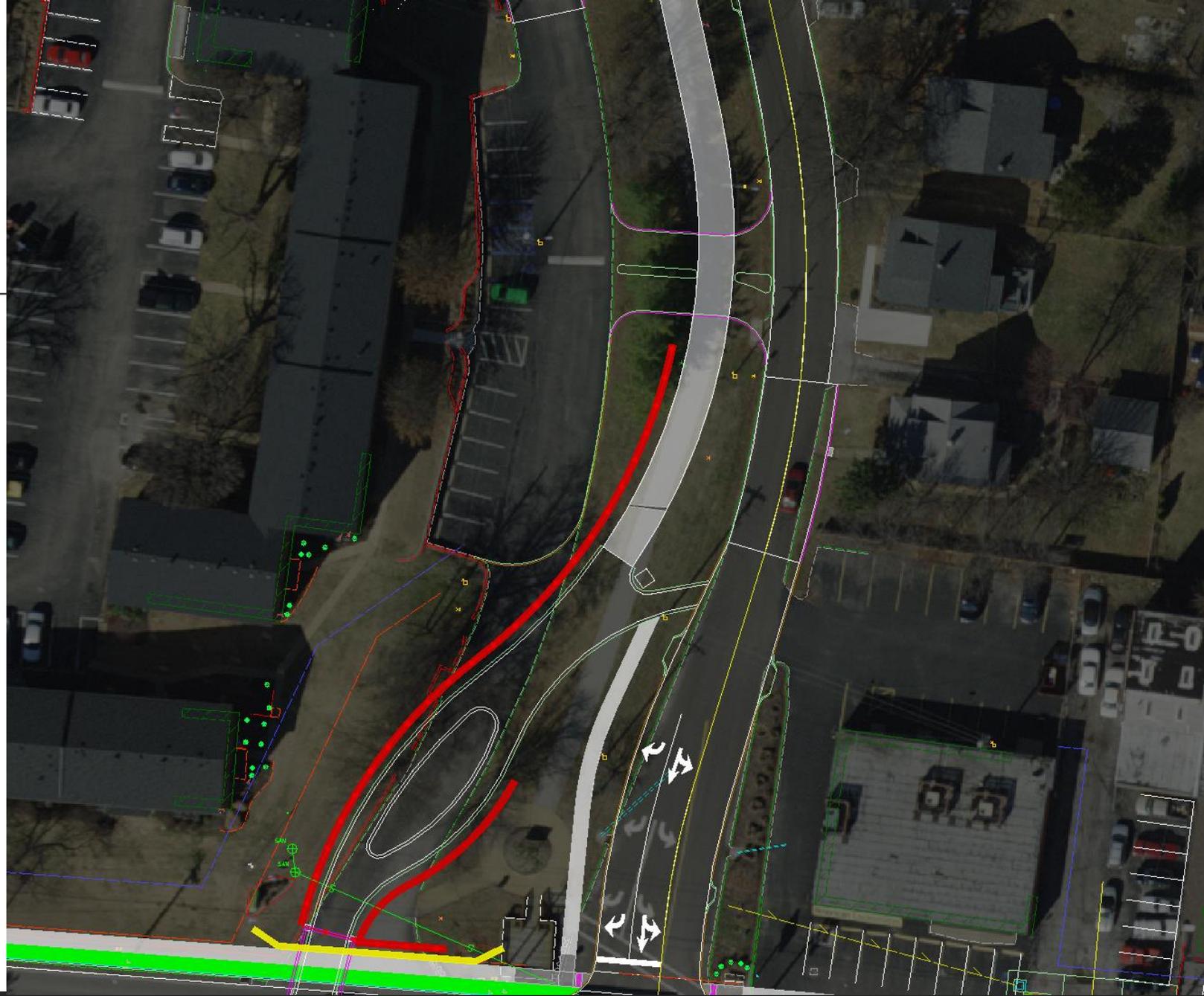
Southern Route Research – Option 1

- Need to lower Van Mark 4+ feet
- Must redesign retaining wall at trail
- Rebuild existing retaining wall at apt complex 9 feet tall
- Apartment building foundation affected
- Freeboard unacceptable, water coming out of inlets during rain events = NOT FEASIBLE

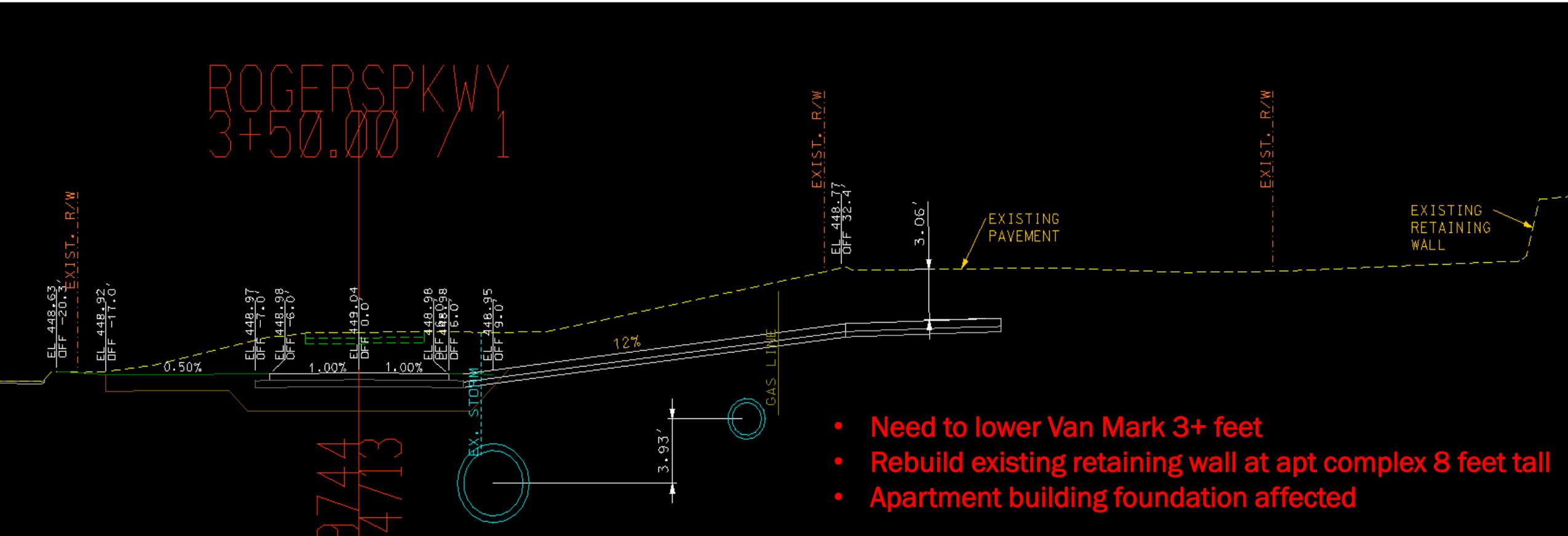


Southern Route Research – Option 2

- Analyzed another route a little further north
- Property Owners across the street are impacted



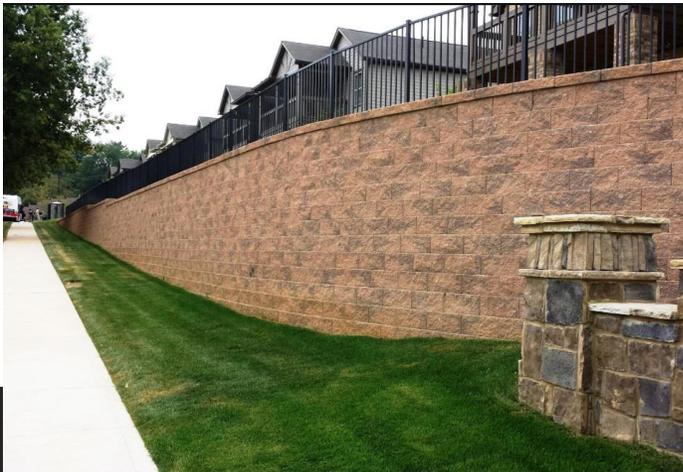
Southern Route Research – Option 2



- Need to lower Van Mark 3+ feet
- Rebuild existing retaining wall at apt complex 8 feet tall
- Apartment building foundation affected

Southern Route Research – Option 2

- Retaining Walls
 - Mechanically Stabilized Earth
 - Soldier Pile Wall
 - Soil Nail
 - Aesthetics – time to decide the right look
 - Design cost = \$100,000 (Geotech and Structural)
 - Construction Cost = \$30 to \$100 per square foot + decorative railings (\$100,000 - \$350,000)



Southern Route Research – Option 2

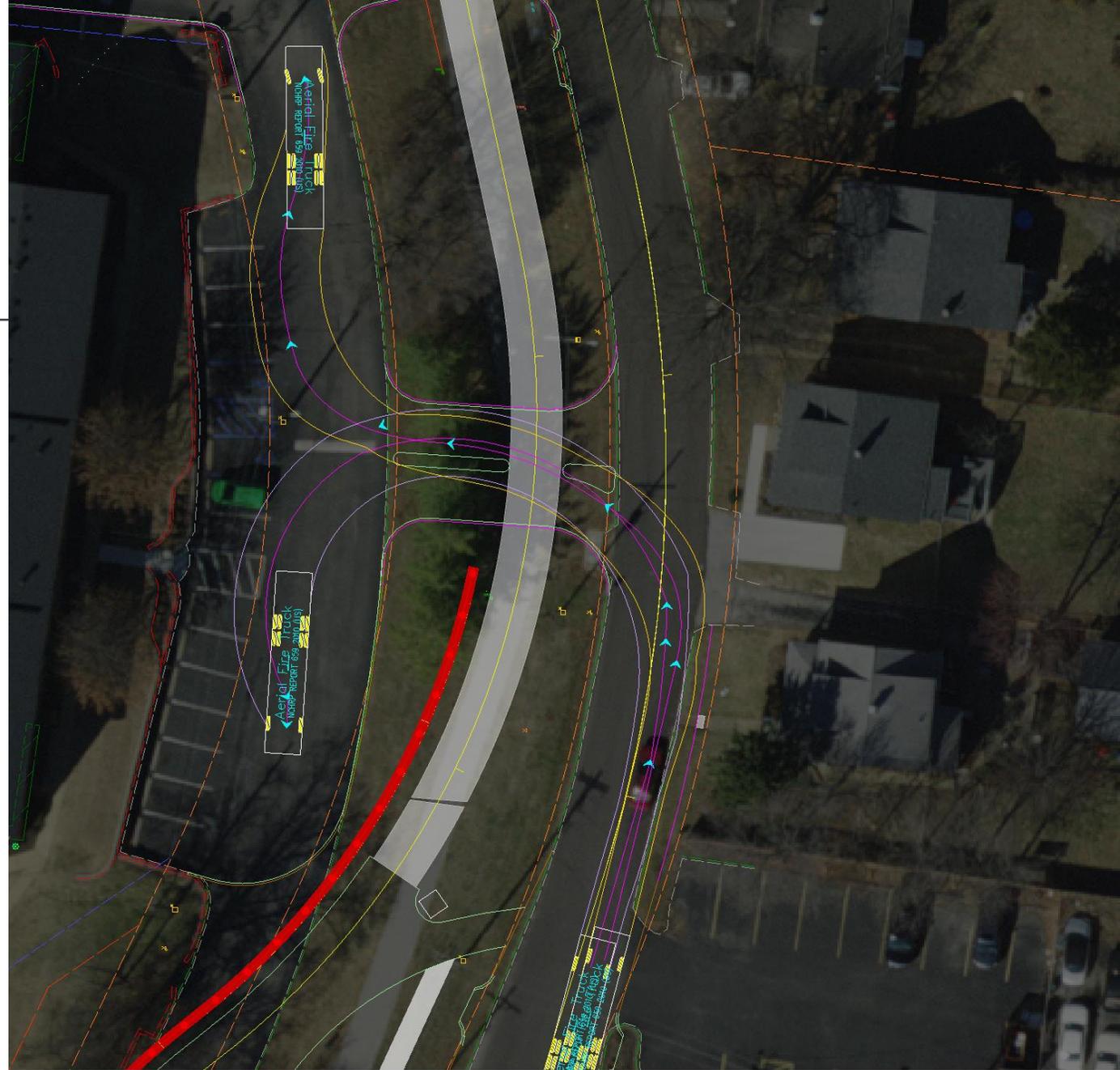
- Parking spaces not in ROW
- Any modifications to parking lot would trigger complex ADA ramp/path to get to leasing office
- Would need to lower entire parking area 3 ft. to make the Van Mark connection work, means all parking stalls in front of leasing office affected



Southern Route Research – Option 2

Fire truck access means removing 9 parking spaces owned by apartment complex at their leasing office

- SCHEDULE: This means more time in ROW negotiation
- BUDGET: Removing these parking spaces triggers loss analysis for loss of access to leasing office, cost to cure \$1M-2M



Southern Route Research

Lowering Van Mark Way and Moving It Further South:

- Option 1: Hydraulics in stormwater structures don't work. Wouldn't be permitted by MSD.
- Option 2: Budget blown to remove parking spaces at apartment complex and to add retaining walls (\$1.2M - \$2.45M)

The available data shows that the current Van Mark Way Design is a Practical Design that balances the constraints.

Federal Grants and Funding

With cost and budget in mind, TWM looked at securing funding for the project. City and stakeholders had a vision in mind for how the corridor would look and operate. Looked at other funding opportunities and these were the successful ones.

March 2018: Applied for and received Cost Share Grant from MoDOT @ \$3.8M

October 2018: Applied for and received \$1.2M STP-S grant

Covers all proposed scope on the Manchester Road Improvements project – pedestrian underpass, 12' wide Rogers Parkway extension south, 10' wide path on the south side of Manchester Road, project-wide ADA upgrades, 5' wide tree lawns on both sides of Manchester, pedestrian lighting, landscaping, signing enhancements

Building to ADA standards is a requirement of the grant.

Project limits and scope are set once the grant is approved. Not meeting these obligations means forfeiting the \$5M in grant money.

Coordination & Schedule

This project has numerous key stakeholders:

MoDOT

- Design
- ROW
- Construction
- Environmental
- Utility Locates (ITS)
- Central Office (Bidding)

Saint Louis County Department of Transportation

Great Rivers Greenway (GRG)

Ameren

MO American Water

Charter

AT&T Transmission

Consultants used by these agencies

Metro/Bi-State (bus stops & fiber)

Metropolitan Sewer District (MSD)

Spire

MCI

AT&T Distribution

Brentwood Bound Flood Mitigation

Adjacent Property Owners

Residents of Brentwood

Business Owners of Brentwood

Schedule: TIMELINE

March 4: Engineers meet and layout new connection to Dorothy Avenue.

March 5-6: Advise MoDOT ROW Dept on future changes to ROW takings, stop ROW acquisitions in the area north of the tunnel. Advise 4 subconsultants that design is changing at Van Mark Way, CAD files forthcoming, scope revised. Advise MSD of design changes that will affect their design project. Advise MSD permitting that current drainage design will change. Advise 6 utilities of design changes in the area, halt utility relocation plans north of the tunnel.

March 4-13: Work with Brentwood staff, advise them that southern route not acceptable, answer questions.

March 6-10: Based on initial feedback from City/MoDOT/MSD/Utilities/Subconsultants, TWM prepares scope and fees to complete the design revisions within the schedule set by MoDOT. Submitted to City for execution.

March 13-April 10: TWM completes Draft 100% complete Route 100 plans, specifications and cost estimate and submits to MoDOT & City.

April 7: Brentwood/TWM execute Change Order to complete Van Mark Way design revision.

April 20: TWM sends conceptual design to City and Fire Chief for review and comments.

April 28: Conceptual design approved by Fire Chief. No further comments on design elements from City.

Schedule: TIMELINE

May 4: TWM outlines Van Mark Way changes to MoDOT Design, Construction and ROW Departments. MSD & MoDOT notify TWM that MSD's CSO Mary Ave project under Rogers Parkway will be added to the MoDOT plan set, requiring close coordination with the revised Van Mark Way design.

April 28 – May 29: TWM removes Mary Avenue North design from Route 100 plan set, adds Van Mark Way design into plans. This adjusts the plan, profile, ROW, stormwater drainage design, cross-sections, and requires recalculating quantities of construction bid items and scheduling those quantities.

May 18: TWM presents MRI project update to the City's Board of Aldermen.

June 1: TWM submits all Route 100 ROW revisions to MoDOT, including temporary construction easement revisions at Van Mark Way. MoDOT restarts ROW acquisition process north of the tunnel.

June 3: TWM submits revised drainage/sanitary sewer plans to MSD for permitting. TWM reviews MSD's CSO Mary Ave project plans and provides comments to City on how the proposed design should alter based on the revisions at Van Mark Way. TWM attends and presents at Brentwood Bound Public Meeting, highlighting the revised Van Mark Way design, and providing project updates for the Manchester Road Improvements project.

June 8: MSD responds to latest submittal, requiring final coordination between TWM and Jacobs to complete permitting.

June 10: Receive comments from MoDOT on the Route 100 Draft Final Plans.

Schedule: TIMELINE

June 6 – 30: Utility coordination for revised design. Updated Manchester Road Improvements plans sent to Ameren, Charter, Spire, AT&T Transmission, AT&T Distribution, MO American Water. Each utility revises their utility adjustment plans based on revised Van Mark Way design.

June 11 – July 10: TWM completes design plan revisions based on MoDOT review comments. Revised base CAD files are blasted out to the 3 affected subconsultants.

July 13 – August 10: TWM to complete required coordination with subconsultants, utilities, MSD, MoDOT to compile and submit the Route 100 Final 100% Plans, Specifications and Estimate to MoDOT.

Coordination & Schedule

Final Schedule Notes:

1. The project schedule is driven by the MoDOT project J6S1718
2. Right of Way negotiation and acquisition performed by MoDOT
3. Construction inspection and Contract Administration by MoDOT
4. If Brentwood makes a project decision that doesn't allow the schedule to be met, then all the improvements and associated grant monies (STP-S and Cost Share) are jeopardized.

Budget

1. Need to design to budget.
2. Moving the connection further South could add up to \$2+ Million, including construction and ROW.



Van Mark Way Connection - Recap

- Laws, Regulations & Guidelines – Americans With Disabilities Act (ADA), Public Right-of-Way Accessibility Guidelines (PROWAG), Federal Highway Administration (FHWA), American Association of State Highway Transportation Officials (AASHTO), Local, & Others.
 - Adhere to roadway slope & trail slope
 - Adhere to Fire Department, moving vehicles, etc.
- Engineering Controls
 - Known Unknowns: Building Foundation, Utilities, Right of Way, ADA, Drainage, other impacts
- Coordination & Schedule
- Budget & Scope for the Project
 - Secured \$5M in Federal Funds
 - Scope - Vision

Q&A
