

VandenBerghe, Alissa (Consultant)

From: Rodenbough, Ben P. (Consultant)
Sent: Wednesday, March 04, 2009 3:50 PM
To: Williamson, Alec
Subject: RE: AWV Bored Tunnel Geometric Design Criteria
Follow Up Flag: Follow up
Flag Status: Red
Attachments: 1-SR99_Mainline Parameters Feb09.xls

Mainline Design Parameters, early preview attached.
Comments and thoughts welcome.

Ben Rodenbough, P.E.

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From: Williamson, Alec
Sent: Wednesday, March 04, 2009 3:41 PM
To: Rodenbough, Ben P. (Consultant); Loen, Kenneth
Subject: FW: AWV Bored Tunnel Geometric Design Criteria

I thought you may find this helpful as you are putting together the design criteria. Our preferred course of action is to supplement the project corridor analysis, not rewrite it. Let me know if you would like to discuss any of this or need clarification. Matrix selection is a question mark- we will need your best thoughts on that and some discussion/vetting with HQ and UCO Design.

Thanks,
Alec

From: Grigware, Mike
Sent: Wednesday, January 21, 2009 8:50 AM
To: Williamson, Alec
Subject: RE: AWV Bored Tunnel Geometric Design Criteria

Alec,

The main issues I see from the minutes, that are a priority within the next month, concerning getting the DAP on its path are: Design Speed, Corridor Report, Access Designation and Matrix Selection. I tried below to state how these can more define your projects core so once determined, they can then advance movement forward on other areas such as Right of Way, Environmental, Hydraulics, Geot. Hearings needed, other.

Access Determination (Managed versus Limited) - Access determination has some major effects on geometric

consideration. Urban managed access table standards, classification of whether we are freeway or nonfreeway, ownership below ground as well as above, restrictions to future incursion, all are major in defining this designation. Would seem to be the biggest priority to move forward on. Its determination will effect geometric standards.

Design Speed - Design Speeds have major effects on what geometric standards would be required. A discussion on what speeds do we want in tunnel both for PS and DS in relationship to the rest of Corridor. I heard yesterday 50mph in the tunnel, which I wasn't sure if that was the posted speed or the design speed proposed. Remember that design speeds of 45mph or less is where you see some significant changes in geometric requirements. A design speed of 40mph also allows for some lesser superelvation requirements -see Low-Speed Superelvation table Figure 642-5. However if the free flow in the tunnel is 50mph, then we should be designing for that. We have three previous approved Corridor Reports that set the Design Speeds through the Alaskan Way Viaduct Program project limits, however that corridor report was for SR 99 with more lanes in each direction in the central waterfront (3 lanes versus 2 lanes) and the alignment was in different location than bored tunnel alignment. Do the DS speeds of the the three approved corridor reports still work for the bored tunnel option? Needs to be reflected on. If not, is a new Corridor Report maybe needed to set Design Speeds through this section of the SR 99 corridor. Would seem to be the second priority item to move forward on. Design Speed has a direct correlation to most design element standards.

Corridor Report - Could be redone, or supplemented, to address the specifics of the Bored Tunnel more than the three previous corridor reports do. It could be used to establish the design speed of the project as well justify a change in design level requirements and possible need for specific matrix in the bored tunnel section. This can be an important document to center views and to work forward from. It has been a while since I've read the earlier corridor reports.

Design Matrix Selection - At this time the project is a Principal Arterial, NHS Route being built with new and/or reconstruction. If the route is Managed Access then it is not a freeway by definition (Freeway requires multiple lanes and Limited Access). When this project was a cut and cover tunnel option with three lanes each direction the matrix designation was Mobility Row 3-7 for Urban. With lane reductions in the central waterfront area, Mobility wouldn't seem correct anymore. Safety would seem to be the more appropriate Project Type, but I don't see a row under that heading which would really define this project. Access designation is also important here.

From: Williamson, Alec

Sent: Tuesday, January 20, 2009 4:32 PM

To: Clark, Gordon T. (Consultant); Rodenbough, Ben P. (Consultant); Grigware, Mike; Schmitt, Sara; Robison, Jim (Consultant); Klockenteger, John; Bandy, Mark; Ludington, Chris (Consultant)

Cc: MacClellan, Lee; Thomas, Karen

Subject: AWV Bored Tunnel Geometric Design Criteria

Thank you all for meeting on short notice this morning. I thought I should send out a few quick notes representing what I heard at the meeting, followed up with a short implementation recommendation paper (3-5 pages) that I will route to you for quick review and comment that will serve as input to our outbrief with John White and Matt Preedy this Friday or next Monday.

Alec Williamson, PE

Design Engineering Manager

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