

## SP 5202-58 (TH 14) Constructability Review Summary of responses

1. Tell us the pros/cons of constructing the typical section provided for Hwy 14. What are the risks to constructing this on the schedule expected? How do you propose to mitigate those risks? (Note the mainline typical section does not have a select granular layer).

Feedback from contractors was consistent around weather being the highest risk of this section and drying out existing clay materials. Proposed mitigation centered around limiting requirements around staging to ensure large work areas.

2. Given the staging concept identified on the attachment, what are the risks to having the project open to traffic by the fall of 2023? How do you propose to mitigate those risks?

Contractors identified early winters in the fall and late winters in the spring as some of the highest risks. Mitigation by contractors focused on the majority of dirt being moved in the first summer.

3. During construction, MnDOT is planning to require a 'hard surface' at all times from the quarries (NUQQ/M&R) to Courtland (Hwy 14 STA 212 to STA 385) – With the staging narrative provided, what are the current risks to the  durations  provided during the stages? Notably, how would you stage the box culvert work at the Kohn Ravine near STA 335 on the mainline understanding that trucks hauling from the quarries will be using this route?

Contractors identified a modification to the current staging plan – requesting to do the Kohn Ravine box culvert work all at once and sending west traffic west and east traffic east – in order to not construct the box culvert half at a time which they felt would – cost more, have long term differential settlement concerns, and take longer to do the work.

4. STA 151to STA 282 on Hwy 14 is an urban section (no depressed grass median) with curb and gutter and jersey barrier. What are the challenges to constructing this section while keeping local traffic within the existing R/W on a hard surface? How would you mitigate those challenges?

Worker safety during construction was a focus for contractors. They proposed using temporary jersey barrier to mitigate safety concerns for workers and the local traffic.

5. What work would you propose to do during the first winter and second winter and how does the current staging plan help or limit that?

Contractors agreed the focus of the first winter is tree clearing due to bats and the focus of the second winter would be bridge work. Concerns were expressed around settlement requirements for bridge embankments and how that aligned with planned bridge work in the 2<sup>nd</sup> winter.

6. Any aggregate base sitting exposed to the elements over winter will be required to be recompact, tolerated, and passing compaction requirements the following spring prior to paving. What are the risks to delivering on the schedule with this requirement? Would you approach staging differently than the current sequencing?

Contractors indicated that if MnDOT wasn't willing to take on any of the risk (additional compensation for handling material multiple times) with exposed aggregates over the first winter, they would either plan to get a hard surface on top of the aggregates or not place them prior to winter.

7. MnDOT's soil borings were provided as part of this constructability review. In reviewing the underlying soils and proposed construction work, what do you see as risks to constructing this on-time? How would you propose to mitigate those risks?

Contractors indicated that weather delays are one of the biggest risks due to the underlying soils – Notably, the areas west of the CSAH 37 interchange with water coming out of the hillside and having limited sun (bluff and tall trees) for drying out purposes. Contractors requested MnDOT reassess the inset and limit the amount of select grading called out in areas of the subcut west of CSAH 37.

8. In the large fills near the CSAH 37 interchange (STA 509-525 on CSAH 37, STA 65-70 on ramp C, STA 80-85 on ramp D) MnDOT is planning 10'-15' of surcharging over grading grade (roughly 60,000 to 110,000 CY of material), and a 6-9 month settlement period to mitigate primary and secondary consolidation. MnDOT is also considering an alternate method of excavating out existing softer materials roughly 10'-15' deep in this area without requiring surcharging or a settlement period (roughly 140,000 to 200,000 CY of material). Which method do you prefer and why? What other methods of effectively reducing settlement have you been involved with that you'd recommend here and why?

Contractors preferred MnDOT limit settlement periods to under 6 months regardless of method used.

9. Overall, with the information provided, what are the 3-4 biggest risks to delivering this project in 'two years'? – Understanding the detour is starting Spring of 2022 and being open to traffic by the Fall of 2023.

Contractors indicated that weather delays including early and long winters are one of the biggest risks. Contractors requested MnDOT limit any staging requirements affecting earthwork efficiency.