



ACEC-NH/NHDOT Highway Design Sub-Committee



**Teams/JOM Hybrid Meeting
September 5, 2023
8:00 am – 9:00 am**

Meeting Minutes

Attendees:

Jim Marshall, NHDOT (Chair)	Brian Colburn, McFarland Johnson (Vice Chair)
Corey Spetelunas, NHDOT	Mark Debowski, GPI
Jonathan Hebert, NHDOT	Benjamin Martin, VHB (scribe)
Cassandra Burns, NHDOT	Phil Kendall, HNTB
Ronald Grandmaison, NHDOT	Bill Ashford, Kleinfelder (absent)
Curtis Morrill, NHDOT	Clint Mercer, Jacobs (absent)

These meeting minutes are from the September 5, 2023, ACEC-NH/NHDOT Highway Design Sub-Committee Meeting.

1. Introductory Remarks

- a. Ben volunteered to be the scribe for the meeting.

2. Review and Approve Minutes

- a. The August 8, 2023, committee meeting minutes were reviewed and approved.

3. Ongoing Discussion on NHDOT CADD / ORD Standards

- a. Jim noted that the last two meetings (June & August) were presentations on ORD and Utility Coordination process, and he wanted to use this meeting for the group to debrief and clarify action items and issues to be resolved. Generally, the feedback is ORD is quite capable, but the current design workflow, particularly related to plan production, is inefficient.
- b. Brian asked, and Jim confirmed, that an internal NHDOT workgroup had been exploring changes to plan requirements for projects being designed in ORD. Brian noted that we haven't heard from Construction, and that feedback will be very important in the decision-making process.
- c. Jim concurred that as plan standards evolve, will need construction input to make sure that plan work coming from ORD is valuable to the construction process. The most significant issue currently is how to display drainage information – either on specially cut cross sections or using drainage profiles. Both have pros and cons, and both currently involve a lot of effort to get them looking presentable for a plan set. Brian noted that

drainage profiles do a good job of illustrating utility conflicts and how the proposed drainage works around those conflicts. Curtis noted that drainage on sections has some benefit in construction as it is used in setting up traffic control, seeing the basins on sections helps that process. Jim asked about the level of effort to cut extra sections. Brian replied they are easy to cut but is very time consuming to make them presentable for plans. The more sections that are cut, the more work to clean them up. Also, now that we are using ORD, any changes made by hand are lost whenever the sections are updated. Brian provided an example where this was a problem labeling utility elements at S&D and making them presentable early in the process and having to rework at every submission. Needed additional Construction and CADD input to decide on path forward.

- d. The discussion shifted to how good the model needs to be. What provides value in design development/validation and what provides value in construction. The needs of designers and checkers are different from the needs of construction. Curtis provided an example that the model on Exit 4A was too dense (model calculated too frequently) and it was causing the grading machine to chatter since the intervals were so tight. On the design side that interval was needed to create accurate grading/contour plans. Also, the contractor (in this instance) didn't want curb, median islands, small driveways, all caused issues with machine control.
- e. The contractor will be doing some work to whatever level of model that is provided to make it work with their equipment and rovers, and Ron noted that some smaller contractors aren't using models at all, so should the model standards be based on the needs of design validation? Curtis noted that the Contractor cost to develop their own model can vary anywhere from \$10,000 to \$35,000 depending on the level of detail provided.
- f. Corey noted that sections are cut at driveways – is that useful for construction? Curtis noted, from a construction perspective, it probably wasn't necessary to model driveways, since the contractor wouldn't bother to use the model to construct it but would construct to the tie in limit instead. Do driveways need to be modeled at all?
- g. Jim was going to seek to have CADD and Construction staff join the next meeting (or perhaps the November meeting depending on conflicts) to continue the discussion.

Next Meeting – October 3, 2023, 8:00-9:00 am. This meeting will be face-to-face with a virtual option.
NHDOT Highway Design Conference Room 211