



Meeting Minutes



Missoula County
South Avenue Bridge Project

Subject:	Project TDC Meeting No. 05	Meeting Location:	HDR Engineering Inc. Office 700 SW Higgins Street, Suite 200 (Clark Fork Conference Room)
Meeting Date:	January 25, 2017; 12 PM (Mountain)	Conference Call Information	Call-in: n/a Code: n/a
Notes by:	Chris Kelly	Minutes Issued:	-

Meeting Purpose:

Conducted Technical Design Committee (TDC) meeting to review project and environmental document status, discuss traffic calming and aesthetics, and plan Public Meeting No. 3.

Discussion Items:

The following items were discussed at the meeting.

Project Updates & Status
<p>Field Work Update</p> <p>Survey.</p> <ul style="list-style-type: none"> Field work is essentially complete, surveying has been collected. There may be additional, minor survey during design. <p>Utilities.</p> <ul style="list-style-type: none"> Missoula County picked up utilities along River Pines. The County has not talked with the utility companies yet, but will. We will need to discuss possible impacts as we get further into final design. <p>Geotechnical.</p> <ul style="list-style-type: none"> TetraTech was able to take two additional borings in the river this month. Based on information obtained, no additional geotechnical investigation is anticipated, unless required by MDT or FHWA. The material is fairly consistent across the channel: loose sands and gravel, very dense material at 50-80 feet where foundations will be terminated. Driven piling is standing out as the preferred piling type; more economic than drilled shaft. HDR will work with geotechnical staff during design to finalize recommendations. Discussed wall-type pier vs. multiple-column; based on previous TDC discussions and resource agency meeting, wall pier is preferred. It will be thinner than round columns; noses will be angled to deflect debris. <p>Road & Bridge Update.</p> <ul style="list-style-type: none"> Able to lower grade of bridge by a foot and still maintain adequate clearance over river; will provide added sight distance and less grade (4.5%, rather than 5%, ADA limit). Providing arched (haunched) girders for aesthetics; also increases opening over main portion of channel. Piers will look similar to Orange Street Bridge Trail will be a 10-foot shared use path on north side of bridge. This decision has been vetted with Missoula County CAPS. The north side was preferred to minimize disruption to O'Brien Creek and impact on properties at the east abutment. The north side trail ties into trail on Blue Heron Road. River Pines Rd. alignment moved further west to make curve work out and provide more sight distance from the intersection and the bridge end.

- County will do future improvements along South Avenue to connect this trail to other trails/non-motorized amenities.
- Final plans will need to be in place for right-of-way acquisition. Timeline for R/W process is unknown at this time.

Hydraulics Update

- **O'Brien Creek.** Todd Klietz requested O'Brien floodplain impacts be looked at further—affected Zone A. Based on currently proposed design, we won't be impacting O'Brien floodplain more than allowed limits. Based on FEMA criteria, there is no need for a LOMR.
- **Big Flat Irrigation culvert.** We can extend the culvert in-kind to the northeast; don't need to replace it, can stay out of the O'Brien Creek.
- **Existing River Pines road fill** will partially stay in place. Asphalt will be removed and the area will be re-graded to the extent practical, and it will be seeded. Ladd noted that FWP wants to plant trees on it, as a riparian area, so that it's not just a grass roadway. Chris Brick agreed. FWP's goal is to gain riparian buffer where they can. The design can accommodate this. No issues with the hydraulics.
- Excavation of the east overbank is no longer needed.
- **CLOMR for the Bitterroot River** will be required. The CLOMR will be submitted once final plans are complete and FEMA has 90 days to respond.
- **Existing Maclay Bridge Removal and Regrading.** Intention is the remove abutments and piers, pull back the existing abutment embankment on both sides. In general we want to lay the banks back to provide a smooth transition with the upstream and downstream banks. Riprap will be placed up to the Q10 level with bioengineered embankment above that.
- **Hydraulic Modeling.** Modeling was conducted with bridge removed. Modeling conducted with islands/sand bars still in place. Cannot make prediction within model about possible future geomorphologic changes to stream bed. Removing piers – effect on flood elevation – less discharge is moving over river pines road, more goes through the existing bridge location; it brings up downstream floodplain elevation, but decreases on River Pines Road and the left overbank. Allows more discharge through bridge location in 100-year event, rather than overflowing River Pines Road (map in Hydraulics Report demonstrates this). Pulling fill back from river, not putting it back in. Rip rap is up to 10-year, then soil raps with willow stakings incorporated into rip rap and wraps themselves (where existing rip rap is not, not further). FWP will advocate for a bio-engineered bank; rip rap up to Q2.
- Removing existing piers results in less discharge moving over river pines road and more goes through the Maclay Bridge site. It brings up downstream floodplain elevation, but decreases upstream (map in Hydraulics Report demonstrates this).

Environmental Document Update

- Technical reports are available on the website. Noise Analysis online is current. BRR and Preliminary BA are on website; newer version needs to be posted online. Final BA will be provided further into bridge design.
- The Categorical Exclusion environmental document was drafted and delivered to MDT before Christmas. MDT has provided minor comments. The revised documents were delivered to MDT on Jan. 27, 2017.
- FHWA should be receiving all documentation the week of Jan. 30. Jon will follow up with FHWA regarding their review process.
- Environmental Document will be made available prior to next public meeting.

River Access

- No developments on river access at the Maclay Bridge site have occurred. At this time there are no plans to facilitate access, parking etc.

- Ladd would like to discuss this further in a separate meeting. Current plan is to not establish parking lot, etc., but also not restrict access.
- The land located on the west bank, east of River Pines Road could be accessible for parking and river access TDC members recommended this be part of the County's river access discussion
- Erik will schedule a separate meeting to discuss access.

TDC Input and Other Technical Items

Bridge Aesthetics

- Wall piers and arched girders are currently planned based on previous TDC input
- Other possible aesthetics options include form liners (piers, possibly abutment walls) and customized railings.
- Need to discuss these ideas with MDT to see what is fundable.
Beams will be weathering steel that develops a dark reddish brown patina
- Concrete barrier (2'-8") is planned between the roadway and the shared use path with steel railing on top, steel railing would bring it to 42" minimum
- Pedestrian railing would be provided on the outside of the deck.
- Form liners could be used on this concrete barrier as well
- TDC is asked to provide ideas and comments over the next month for consideration
- Lighting. There is not a current functional need for lighting. Dustin will verify, and check into the feasibility for accommodating future lighting on the bridge.

Traffic Calming

- Provided overview of chicanes, bulb-outs, traffic circles, and speed humps to the group
 - Chicanes work best in urban areas, in a series, wouldn't be as effective with the short approaches on this project
 - Bulbouts are primarily used in urban areas and for pedestrian crossings
 - Speed humps: 12 -14' long, work best in a series, biggest drawback is emergency vehicles have to slow down significantly, and increase in noise due to vehicles braking and accelerating
 - Traffic Circles: Applicable in residential applications at intersections; can be hard for emergency vehicles, vehicles with trailers and snow plows to navigate
 - Roadway narrowing with center median (proposed method).
- Currently showing a 3ft wide by 25' long median but could be widened to accommodate landscaping within it.
- Placement – proposing they be located on the east and west approach/end of bridge. Standard delineators would be placed on the ends, with the option to add additional signing.
- Easier for emergency vehicles, snow plows, etc. to navigate.

Other Items

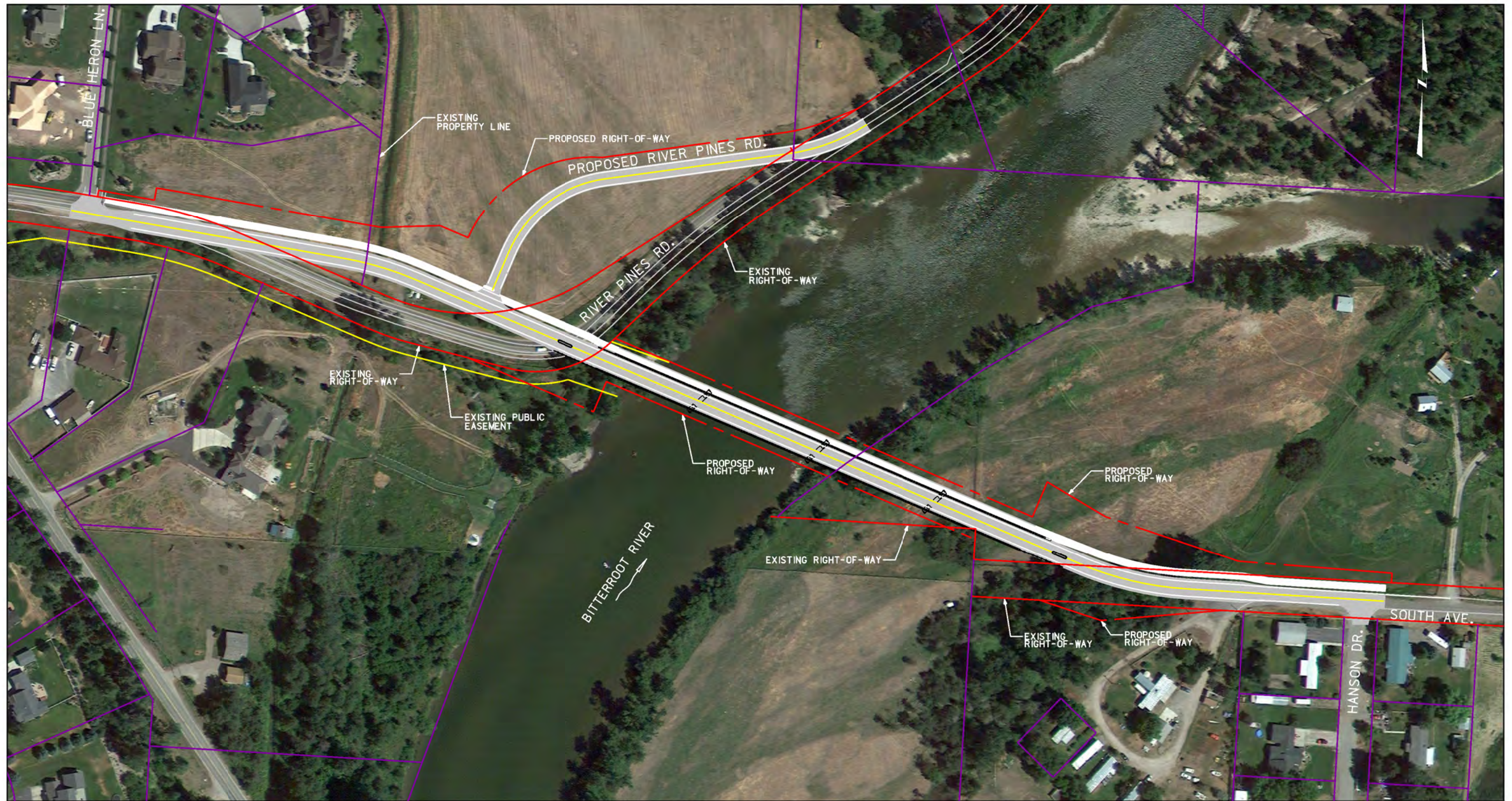
Next Public Meeting

Need to schedule based on revised Environmental Document being re-submitted to MDT and submitted to FHWA. Could be February, end of March is more likely.

Next TDC Meeting

- Next TDC meeting will discuss: Completion of the environmental document, final aesthetic design elements or options that will be presented to the public, and final traffic calming element(s) design concept

- Will schedule pending FHWA review of environmental document. Early to mid March is anticipated.



LEGEND

- SOUTH AVE.
- SHARED MULTI-USE PATH



SOUTH AVENUE BRIDGE
OVER BITTERROOT RIVER
NORTH SHARED USE PATH

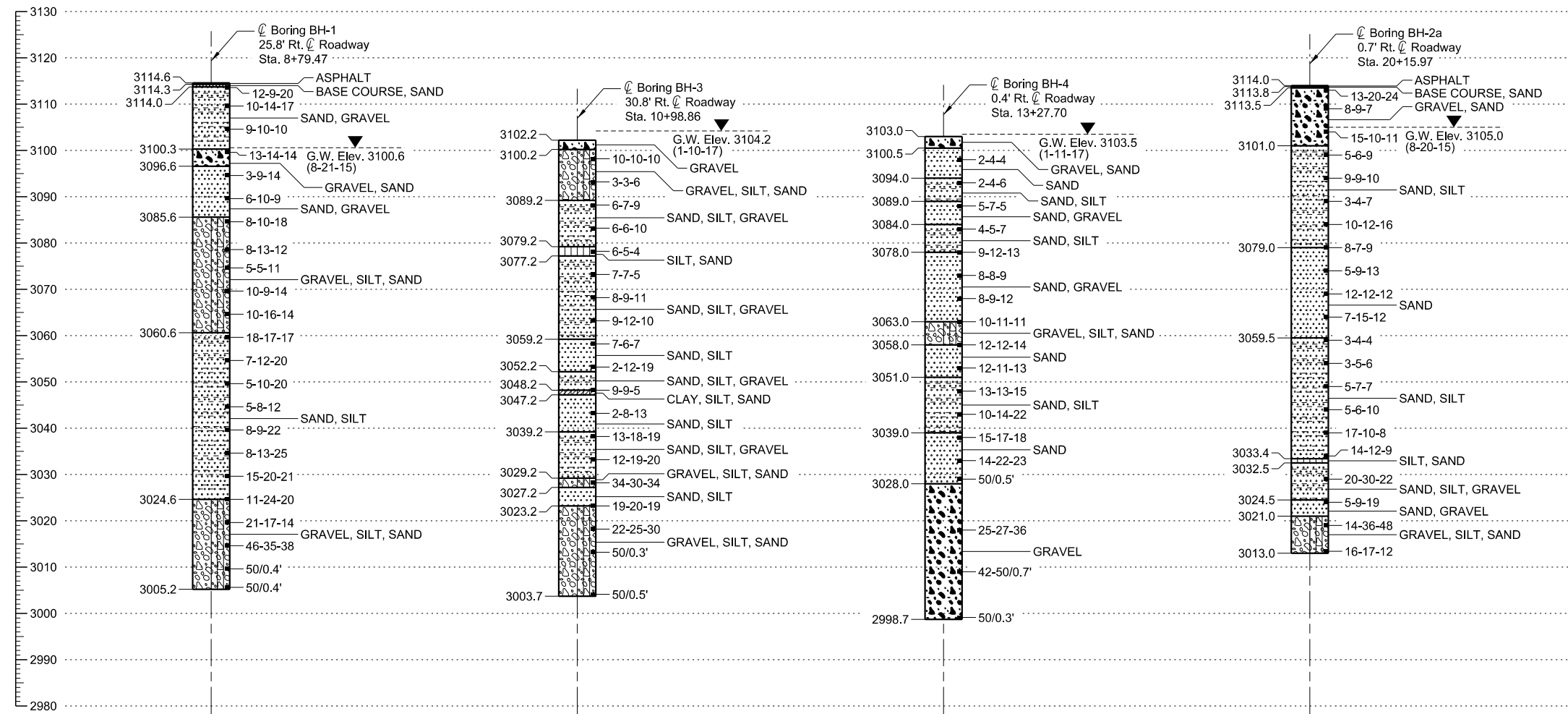
NOTES

See Sheet No. Bx for additional details.

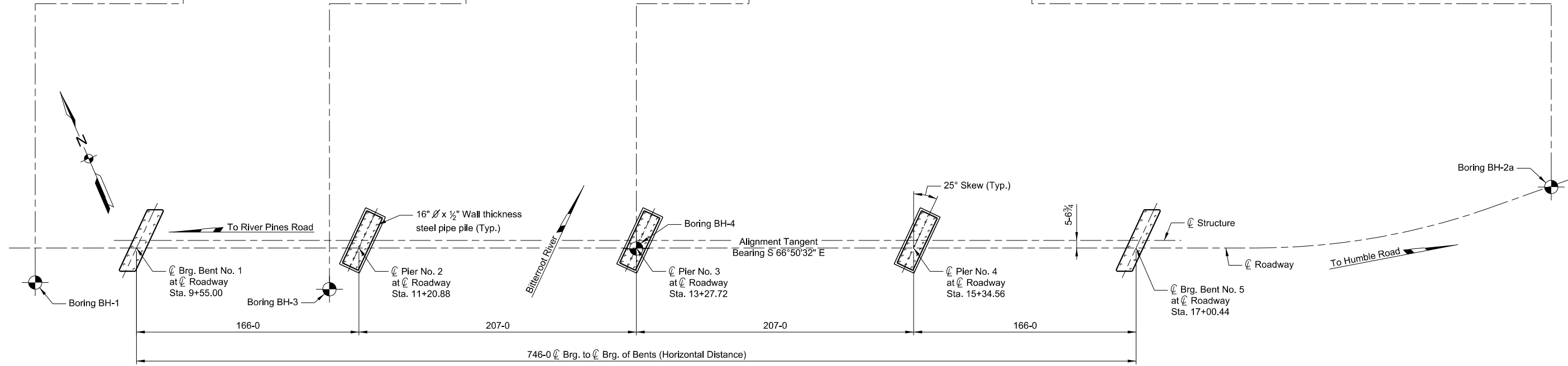
SOILS AND FOUNDATION MATERIALS: The Footing Plan shows locations where TetraTech drilled boreholes.

The series of numbers on the Log of Borings shows the number of blows from a 140 pound hammer with a 30" drop required to drive a 2" split spoon sampler 6" (Standard Penetration Test). The length of the split spoon sampler is 18". The sampler length is measured as three 6" intervals. If the split spoon sampler did not penetrate 6" after 50 blows, the Log of Borings shows the measured penetration within that particular interval.

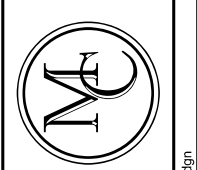
See the Special Provisions for original boring logs and additional subsurface information.



SUMMARY OF LOG OF BORINGS
Scale ~ 1" = 15'-0"



PROJECT NO. BR 9032 (65)
 MISSOULA COUNTY
 PRELIMINARY
 BRIDGE OVER BITTERROOT RIVER
 AT STA. 13+27.72
 FOOTING PLAN
 Scale ~ As Noted



REVISION	DATE	BY	CHKD

UPN NUMBER 6296000
 BRIDGE ID XXXXXXXXXXXXXXX
 DRAWING NO.

HDR



(Note: the above photos of the Pablo Pedestrian Bridge demonstrate examples of railings, not form liners – these abutments were faced in actual stone)





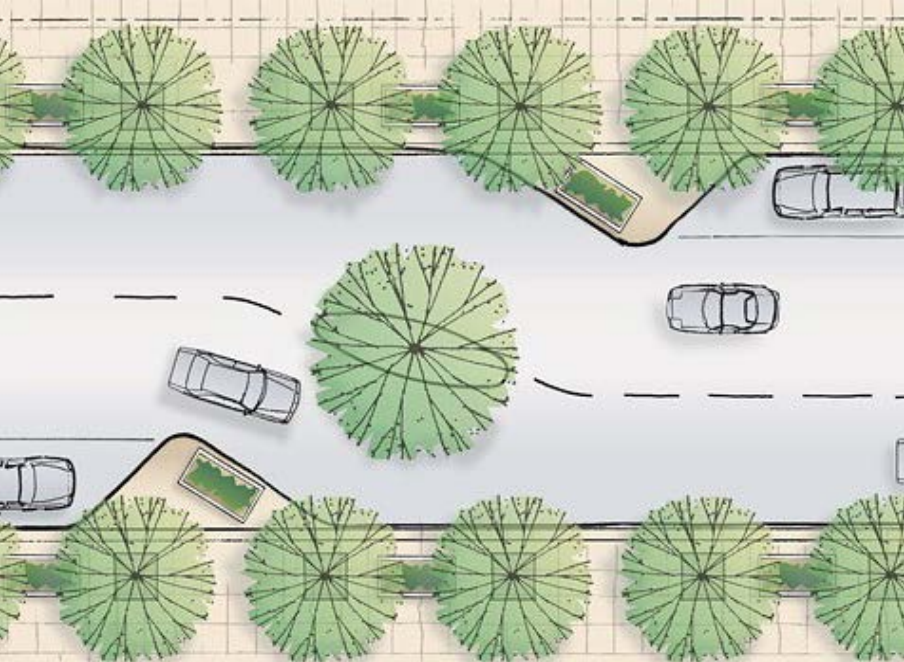








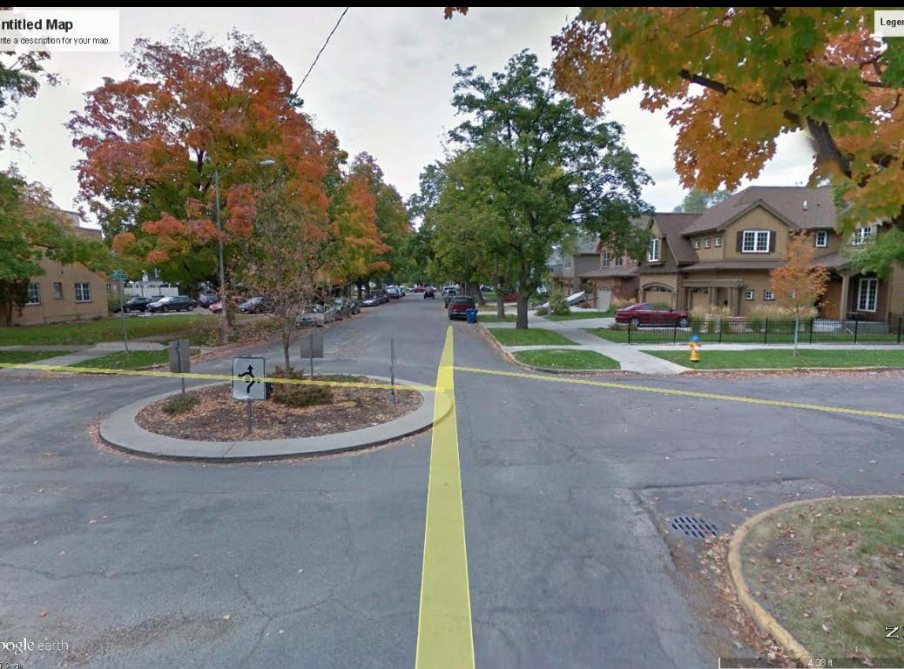
TRAFFIC CALMING OPTIONS



CHICANES



BULB-OUT



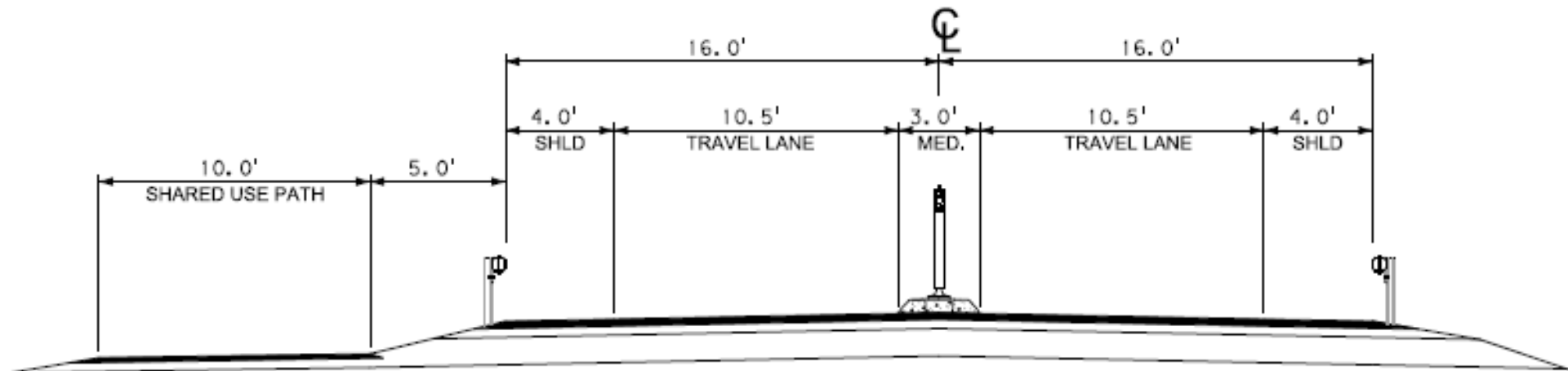
TRAFFIC CIRCLE



SPEED HUMP

PROPOSED OPTION – CENTER ISLAND NARROWING

- DECREASES VEHICLE SPEEDS
- PROVIDES FLEXIBILITY IN DESIGN
- OPPORTUNITY FOR LANDSCAPING, VISUAL ENHANCEMENT AND NEIGHBORHOOD IDENTITY
- NEGOTIABLE BY EMERGENCY VEHICLES



SOUTH AVE. TYPICAL SECTION
WITH RAISED MEDIAN



WEST APPROACH



EAST APPROACH



MISSOULA COUNTY
SOUTH AVENUE BRIDGE
TDC MEETING NO. 5

Wednesday, January 25, 2017
HDR Engineering
12:00 - 2:00pm

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ERIC DICKSON

MISSOULA COUNTY