

**WWE**  
**MEMORANDUM**

---

**To:** Big Dry Creek Northern Tributaries Outfall Systems Plan Update  
Project Sponsors and Stakeholders  
**Via email**

**From:** Wright Water Engineers, Inc.  
Joseph J. Nye, P.E. and Derek Rapp, E.I.T.

**Date:** October 23, 2006

**Re:** Meeting Minutes for October 17, 2006 Preliminary Design Progress Update, City of Thornton, 1:30 p.m. to 3:00 p.m.

The Preliminary Design Progress Meeting for the Big Dry Creek Northern Tributaries Outfall Systems Plan (OSP) Update was held on October 17, 2006 at the City of Thornton Offices on Washington Street from 1:30 p.m. to 3:00 p.m. Representatives from the City of Thornton, City and County of Broomfield, and the City of Westminster were present. A representative from Adams County was not present. Ben Urbonas and Ken MacKenzie of the Denver Urban Drainage and Flood Control District (UDFCD) and Joe Nye and Derek Rapp of Wright Water Engineers, Inc. (WWE) led the meeting. The list of attendees is shown below.

<b>Name</b>	<b>Organization</b>
Ben Urbonas	Urban Drainage and Flood Control District
Ken McKenzie	Urban Drainage and Flood Control District
Joe Nye	Wright Water Engineers
Derek Rapp	Wright Water Engineers
Pete Brezall	City of Thornton
Gene Potter	City of Thornton
Robert Larsen	City of Thornton
Nancy Arthur	City and County of Broomfield
John Burke	City of Westminster
Jay Peters	Matrix Design Group
Jim Smith	Jordon Perlmutter and Company

## **I. INTRODUCTION**

Derek Rapp started the meeting with a brief overview of the information still needed from the Sponsors. This information included the location of regional detention ponds in the upper Preble Creek drainage (Anthem Development) to be provided by the City and County of Broomfield and

the routing alignment and plan for Sack Creek to be provided by Matrix Design Group. This led directly into a discussion on the status of this information and when it would be provided to WWE.

## **II. QUESTIONS/COMMENTS REGARDING EACH TRIBUTARY**

### **Preble Creek**

WWE is currently waiting for information on the location of three potential regional detention ponds upstream of Highway 7 in the Anthem Development. Nancy Arthur indicated that she is still waiting to receive this information from Pulte Homes (Pulte). There has been a delay in receiving this information because management at Pulte has recently changed. Ben Urbonas indicated that he has no intention of delaying the project to wait on this information. However, several options were discussed as to how this area could be handled.

1. The first option is that a single pond could be modeled upstream of Highway 7 (as currently shown in Selected Plan) with a note explaining that the pond may be broken into three smaller ponds. This is acceptable provided that the three ponds perform the same hydrologic and hydraulic functions of the single pond used for planning purposes (i.e., they limit peak flow rates downstream of Highway 7 to levels shown in the Phase 1 report and provide the required water quality functions).
2. The second option was to assume the location of the three regional detention ponds for the Selected Plan based on the existing routing network.
3. The third option was to continue to wait on Pulte to provide information for the location of the three ponds and then implement them into the selected plan as discussed in the Preliminary Design Kickoff meeting.

An agreement was reached that WWE would continue to develop the CAD drawings for the other tributaries first. If Pulte were able to provide the location of the ponds before WWE was ready to start CAD work on the Preble Creek tributary, then Option 3 would be implemented. Otherwise, if WWE has not received the pond locations when they are ready to begin work on Preble Creek, then the first option would be selected and a note would be provided on the drawings. Nancy Arthur also asked that we provide the same note from Option 1 for the pond located on South Preble Creek just upstream of I-25.

### **Sack Creek**

WWE is currently waiting on information from Matrix Design Group regarding the channel alignment and routing network. Jay Peters presented a plan with slightly modified flow routing to the group for discussion. The key changes to the routing included:

1. Routing basins 805 and 806 along Washington Street to the existing E-470 Regional Detention Facility and increasing the volume in the existing pond and modifying the outlet structure appropriately. This would eliminate the need for a drainage easement through currently developed property
2. The Selected Plan proposed a regional detention pond for Sack Creek upstream of the existing irrigation pond and the confluence with Sack Creek South. The location of this pond was moved to replace the irrigation pond and act as the confluence with Sack Creek South.
3. With respect to water quality routing, Ben Urbonas recommended routing low flow releases from the enlarged E-470 pond around the proposed pond at the confluence to avoid the inefficiencies of enlarging the water quality capture volume.

All members of the meeting approved of this plan assuming that both ponds were sized appropriately with respect to water quality and flood control. Jay Peters also mentioned that the proposed pond would be oversized to provide additional detention to compensate for the lack of on-site detention for Basins 801 and 802 (downstream of the proposed facility).

There was also discussion about the existing low flow path from the E-470 detention pond being routed along E-470 to Big Dry Creek. This would be left in place until the proposed regional detention facility is constructed and low flows could be routed along the 100-year flow path.

### **Mustang Run**

There were no questions or comments pertaining to Mustang Run

### **Shay Ditch**

John Burke confirmed with Derek Rapp that the channel alignment between Huron Street and I-25 would be realigned to match the existing CLOMR for the site.

### **Morris Creek**

There was a brief discussion regarding the proposed alignment of the Morris Creek flow path. The existing channel flows north of 160<sup>th</sup> Avenue, crosses the Union Pacific Railroad (UPRR) through a 24" culvert and then flows northwest to Big Dry Creek. The 1989 Preliminary Design rerouted the channel along the south side of 160<sup>th</sup> Avenue, into a culvert under the intersection of 160<sup>th</sup> Avenue and Colorado Boulevard, under the UPRR Bridge, then into an open channel on the north side of 160<sup>th</sup> Avenue discharging to Big Dry Creek. The group agreed that because several developers have already started planning with respect to the 1989 alignment, it is best to keep this alignment for the updated plan. As more detailed plans for this area become available in the future, the City of Thornton will adjust the alignment as necessary.

### **Elms Run**

There were no questions or comments pertaining to Elms Run

### **Short Run**

There were no questions or comments pertaining to Short Run

### **Wadley North Creek**

Gene Potter made the comment that the flow rates from the existing regional detention pond do not match the flow rates from the CLOMR developed by MMC Engineering currently under review. Derek Rapp had discussed this issue with MMC Engineering in March of 2006 and had pointed out some discrepancies in the design to MMC Engineering, such as Basin 204 not being routed through the regional pond in the MMC design. This is an outstanding issue and the two documents will not match unless some measures are taken to correct it. It will also have an effect on the downstream channel sizing because the current OSP model shows the pond overtopping.

One suggestion to help match the peak flow releases and prevent pond overtopping is to modify the stage-discharge relationship by removing the orifice plate from the low flow outlet. This would have the effect of reducing the attenuation in the pond for the initial flows and reducing the overall storage required. WWE will look into this option as a way of preventing peak flows from overtopping the pond. If this option is not effective, WWE will leave the preliminary design as is. *Following the meeting, Derek Rapp talked with Tom McMillan of MMC Engineering, they will send their stage-area-volume-discharge relationship to WWE to incorporate into the model.*

A comment was also made to change a portion of the channel downstream of the pond to a box culvert that will pass flows under 152<sup>nd</sup> Avenue. This will be sized appropriately and shown in the Selected Plan.

### **Wadley South Creek**

A few modifications were made to the alignment for Wadley South Creek. Instead of routing the channel around Wadley Reservoir 2, Gene Potter asked that we route the water through the irrigation pond without using it as a detention basin. The pond will function as a flow through facility and no inadvertent attenuation will be accounted for. This alignment was agreed upon by the existing HOA because there was not an adequate easement around the irrigation pond to construct the engineered channel.

The reach of channel upstream of the irrigation pond and the culvert under 144<sup>th</sup> Avenue has already been designed, approved and is currently under construction. Therefore, this reach will be shown as existing engineered channel and culvert in the Preliminary Design. Also the reach of channel along 144<sup>th</sup> Avenue and Colorado Boulevard will be shown as storm sewer to match the 1989 Preliminary Design.

### **III. SCHEDULE FOR COMPLETION**

The schedule for completion remains to have the Draft Preliminary Design Report due the first week of December. Because the Draft Preliminary Design Report will be provided to Project Sponsors only a few weeks before the holidays, the typical 30-day period for review of the draft report also will be extended (by roughly two weeks).

However, it should be noted that there has been a delay since the August 15, 2006 meeting relating to getting an alignment map to sponsors and receiving feedback on changes, as well as waiting on information for Sack Creek and Preble Creek.

### **IV. NEXT MEETING**

A time and date for the next meeting was not set. The intent is to finish the Draft Preliminary Design Report and allow time for the project sponsors to review it. A meeting will likely be scheduled for early January to discuss the draft report.

cc: T. Andrew Earles, Ph.D., P.E., WWE  
Jane Clary, WWE  
Jonathan E. Jones, P.E., WWE  
Diana Woods, WWE