

## Davidson, Tim

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**From:** Kara Anderson [kanderson@Mkec.com]  
**Sent:** Friday, July 09, 2010 11:10 AM  
**To:** Davidson, Tim  
**Cc:** Lindebak, Scott; Greg Allison; Gene Rath  
**Subject:** RE: Occidental revisions\_\_USD 259

Tim,

I've revised the report and you should be receiving a new copy either today or Monday. Below summarizes the changes.

- On the post-developed hydrographs "3-Post-Project Occidental 4 Undetained" is 7.2 acres. "4-PostProject Occidental 4 Detained" is 2.8 acres. Hydrograph 4 is routed through the detention and then combines with Hydrograph 3 to give a combined total drainage area of 10 acres to the Northeast corner of the site.
- You are correct, I included the hydrology from an earlier revision for both pre and post project. The report has been revised with updated numbers and hydrographs from the email on June 24, 11:04 am.
- In Tab 1. Drainage Summary, Post-Development, I have changed "The detention ponds in the USD 259 4th Addition school site accommodate detention for 'the entire' developed site" to 'most of'. I have added the word "to" in the 2nd sentence.
- The grading plan has been updated with the SWS layout change.

## Kara Anderson, PE

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**From:** Davidson, Tim [mailto:TDavidson@wichita.gov]  
**Sent:** Thursday, July 08, 2010 4:34 PM  
**To:** Kara Anderson  
**Cc:** Lindebak, Scott  
**Subject:** RE: Occidental revisions\_\_USD 259

Kara,

I was going through the revised drainage plan and report for Occidental, and I have a few comments and questions:

- On the post-developed hydrographs it lists a contributing area of 7.5 acres – I thought it should be 10 acres?
- The numbers listed for pre-runoff discharge in the report stamped 6/29/2010 reflect an older Tc instead of what was mentioned in the email below.
- The Drainage Summary in "Post-Development" could be misconstrued. It seems that stating all of the runoff is accounted for in USD 259 is contradictory, and it should be mentioned the amount of detention required for the 10-acre basin. Also, the word "to" should be inserted in the 2<sup>nd</sup> sentence "... runoff TO the school site." (yes, nit-picky. . . for some reason I wanted to pin it down).
- The grading plan appears to show the SWS with 2 outfall points on 127<sup>th</sup> St, and it should be a single point discharge as shown on the drainage & utility plan.

Thanks,

Tim Davidson  
Storm Water  
Associate Engineer, EIT  
316-268-4307  
tdavidson@wichita.gov

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**From:** Kara Anderson [mailto:kanderson@Mkec.com]  
**Sent:** Thursday, June 24, 2010 11:04 AM  
**To:** Davidson, Tim  
**Cc:** Greg Allison; Larry Henry  
**Subject:** RE: Occidental revisions\_\_USD 259

Tim,  
I've attached revised calculations. I've increased the flow length of the concentrated flow to 850'. This makes the total flow path 950'. The time of concentration has increased from 22.7 minutes to 25.2 minutes. The peak flow to 127th Street for the 100-year design event decreased from 107.7 cfs to 98.5 cfs. The peak flow to 127th Street for the 2-year design event decreased from 31.9 cfs to 29.6 cfs.

I adjusted the areas going to the onsite parking/swale detention and adjusted the outlet structures for the detention. They are now detaining the smaller storms more, but releasing more flow in the larger storms. In the 100-year design event we are still providing 0.4 acre-feet of detention. The 2-year peak flow to 127th street decreased from 31.3 cfs to 29.3 cfs and the 100-year peak flow rate to 127th Street increased from 83.2 cfs to 87.3 cfs, which is still under the pre-project 100-year design flow.

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**From:** Davidson, Tim [mailto:TDavidson@wichita.gov]  
**Sent:** Thursday, June 24, 2010 10:21 AM  
**To:** Kara Anderson  
**Subject:** Occidental revisions\_\_USD 259

Kara,

Going through the revisions, the item that initially pops out is the Tc length for pre-development. Am I reading it correctly at 650 ft total? Following the Tc line from the previous report, to the pond, the length is around 930 ft? The 650 ft seems strange compared to the Tc flow length total of 900 ft for the post-development when the site goes from 19.6 acres, pre-, to 10 acres, post-.

Probably not a big change on the pond output? -- but I would like to erase any doubt about it.

Also, 0.437 acres of storage in swales and parking lots seems like a lot. If I had a rectangular channel, 2'x8', then it would need to be almost 1200' long to accommodate that? (If I am reading the hydrograph correctly for the 100-yr, post-).

Thanks,

Tim Davidson  
Storm Water  
Associate Engineer, EIT

316-268-4307

[tdavidson@wichita.gov](mailto:tdavidson@wichita.gov)

## Davidson, Tim

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**From:** Kara Anderson [kanderson@Mkec.com]  
**Sent:** Thursday, June 24, 2010 11:04 AM  
**To:** Davidson, Tim  
**Cc:** Greg Allison; Larry Henry  
**Subject:** RE: Occidental revisions\_\_USD 259  
**Attachments:** Pawnee & 127HydraflowHydrographsExtension\_6-24-10.pdf

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### Kara Anderson, PE

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**From:** Davidson, Tim [mailto:TDavidson@wichita.gov]  
**Sent:** Thursday, June 24, 2010 10:21 AM  
**To:** Kara Anderson  
**Subject:** Occidental revisions\_\_USD 259

Kara,

Going through the revisions, the item that initially pops out is the Tc length for pre-development. Am I reading it correctly at 650 ft total? Following the Tc line from the previous report, to the pond, the length is around 930 ft? The 650 ft seems strange compared to the Tc flow length total of 900 ft for the post-development when the site goes from 19.6 acres, pre-, to 10 acres, post-.

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Thanks,

Tim Davidson  
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## Davidson, Tim

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**From:** Kara Anderson [kanderson@Mkec.com]  
**Sent:** Wednesday, June 23, 2010 6:16 PM  
**To:** Davidson, Tim  
**Cc:** Greg Allison; Larry Henry  
**Subject:** RE: Occidental \_\_ Pawnee \_\_ USD 259  
**Attachments:** Pawnee & 127HydraflowHydrographsExtension.pdf; 10162\_DUP.pdf

Tim,  
I've attached a revised Drainage and Utility Plan that shows more flow arrows and the SWS piped to the existing pipe location along 127th Street.

I've also attached revised Hydraflow calculations. These calculations have pre- and post- correctly labeled. I've also included a pond to model the detention in the exiting pond onsite. In order to reduce pre-project flow rates below existing conditions, I've also divided the post-project basin into two basins and have detention in a swale or parking lot. The exact location and configuration has not been determined at this time.

Kara

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**From:** Davidson, Tim [mailto:TDavidson@wichita.gov]  
**Sent:** Wednesday, June 23, 2010 2:24 PM  
**To:** Kara Anderson  
**Subject:** Occidental \_\_ Pawnee \_\_ USD 259

Kara,

A couple more items for Occidental:

- I did not see easements for the north SWS?
- SWS cannot create a new point discharge on 127<sup>th</sup> St – it must be piped to current discharge point.

Thanks,

Tim Davidson  
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