From:	Iwaniuk, Brian
To:	Teresa Barnes
Cc:	Reber, Tim; Liening, Doug
Subject:	RE: RE: as built drawings - texas roadhouse - west chester
Date:	Wednesday, July 19, 2017 9:36:36 AM
Attachments:	As-built downstream STM (100YR) - sealed.pdf As-built downstream STM (10YR) - sealed.pdf As-built upstream STM (10YR) - sealed.pdf As-built upstream STM (100YR) - sealed.pdf

---

Teresa,

Our revised & sealed calculations are attached. I understand you and Tim had a brief conversation yesterday late afternoon concerning the revisions we were making. Please give us a call if you have any other questions or concerns.

Thank you,

From: Iwaniuk, Brian
Sent: Monday, July 17, 2017 4:21 PM
To: 'Teresa Barnes' <BarnesT@bceo.org>
Cc: Reber, Tim <Tim.Reber@Woolpert.com>; Liening, Doug <Doug.Liening@Woolpert.com>
Subject: RE: RE: as built drawings - texas roadhouse - west chester

Teresa,

The revisions have been made and the updated calculations are attached.

Thank you,

From: Teresa Barnes [mailto:BarnesT@bceo.org]
Sent: Monday, July 17, 2017 3:49 PM
To: Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>
Cc: Reber, Tim <Tim.Reber@Woolpert.com>; Liening, Doug <Doug.Liening@Woolpert.com>
Subject: RE: RE: as built drawings - texas roadhouse - west chester

Tim

Sorry – I got delayed with a meeting at 3:00 that lasted longer than expected. I have not had a chance to review the submittal completely – but the format looks good…
However, while I will not expect it to “hold things up” (NOT guaranteed – I need to do a more formal review) – it will need to be re-run – the pipe between

1.1 and 1.2 is calculated with a 24-inch diameter while the survey has it as 18-inch diameter.
In addition, the manning's for the pipes should not be less than 0.013…

Hopefully you can make the minor changes and resubmit to me fairly quickly
THANKS

Teresa

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011

513-785-4142
Fax 513-867-8549

barnest@bceo.org

From: Iwaniuk, Brian [mailto:Brian.Iwaniuk@Woolpert.com]
Sent: Monday, July 17, 2017 12:27 PM
To: Teresa Barnes
Cc: Reber, Tim; Liening, Doug
Subject: RE: RE: as built drawings - texas roadhouse - west chester

Teresa,

Per your request, attached is the stamped/signed survey, stamped/signed HGL calcs, as well as a letter detailing our responses.

The contractor fixed the pond over the weekend to obtain the proper volume and revised the weir per plan. We will survey that asap, and send you the revisions.

Please call Tim or me with questions.

Thank you

From: Teresa Barnes [mailto:BarnesT@bceo.org]
Sent: Thursday, July 13, 2017 8:01 AM
To: Reber, Tim <Tim.Reber@Woolpert.com>; 'Duane Banet' <Duane.Banet@TexasRoadhouse.com>; 'mike.sweny@buffaloconstruction.com' <mike.sweny@buffaloconstruction.com>

Cc: Eric Pottenger <PottengerE@bceo.org>; Greg Wilkens <WilkensG@bceo.org>; 'collins@diggit-inc.com' <collins@diggit-inc.com>; Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>
Subject: RE: RE: as built drawings - texas roadhouse - west chester

In response to my comment email on 7-12-17, several phone calls occurred late yesterday afternoon. I would like to document my understanding of what was discussed. Please refer to the red text after each comment.

1. The survey is not signed and sealed by a licensed surveyor. This is required.
   BCEO requires that the survey for the site is signed and sealed. The question was posed concerning the work that was supposedly completed yesterday and would that need to be shown on the survey. BCEO does not make that determination. BCEO is NOT requiring a new survey of the site. What BCEO is requiring is an accurate representation of the site conditions. If the current survey is "accurate" and a licensed survey professional will sign and seal the information, then that document can be used. The decision of IF a new survey being required is completely up to the site engineer and the property owner.
2. There is a discrepancy between some of the inverts provided on the drawing and those used in the calculations. Please verify and correct accordingly.
   BCEO will require that the accurate survey information be used within the provided calculations. Detailed attention should be paid to ensure that the correct elevations are used within the calculations, especially when a structure has different elevations for the inlet and outlet of the pipe.
3. The survey indicates a HWL of 866.0 within the detention basin. However, the provided topography indicates a gap in the 865.0 elevation, thereby leaving the spillway actually at 864+. Please provide a detail of the as-built elevations for the spillway of the detention basin. Note – the volume provided in the basin should stop at essentially the spillway elevation. In addition, to simply close the contours and say that the spillway is at 866 would then require verification of the grading along the south property line will be required to ensure that the water will not flow toward the neighboring property.

Per the provided drawing, there is a “gap” within the 865 contour – this would indicate that the elevation of the ground in that area is below 865. A statement was made on the drawing that indicated a high water level of 866 within this area. Unfortunately, if the 866 contour is not “complete” then the water will not rise to that elevation. The elevation of the water within the basin is of particular importance on this site, due to the proximity of the basin to the neighboring building and the design of the system. Therefore, additional information was requested. Again, it is completely up to the site engineer and property owner how and when that information is provided.

4. The Hydraulic Grade Line was not calculated correctly. It is not permitted to state that the “total flows are limited to the pipe full flow capacity”. This is not what happens on site. The HGL should be calculated with the assumption that the basin has the 10-year water surface elevation in it. The HGL within the system should not be below the calculated 10-year water surface elevation. In addition, the total flow through the pipe is based on the cumulative drainage areas – not the pipe capacity. The HGL will also be based on the fact that pipes within the system, as installed do not have the capacity to carry the required flow. Hence, why the HGL is being required to be calculated correctly.
   This was discussed in detail on the telephone. A storm drain system accumulates water as it passes down the system and each inlet/catch basin adds additional water. Therefore, the area that the downstream pipe drains increases with each additional inlet. This accumulation of water was not calculated correctly on the provided pages. Therefore, the information provided was not what was required. Due to the tight design of the system, yes, an inch difference can make a substantial difference on the functionality of the system. Refer to the storm water management calculation for this site – completed by Woolpert and dated 1-9-17; the original design of the site storm system is contained within and the proposed systems hydraulic grade line is shown. This information should simply be updated using the accurate information as obtained through the site survey.

IMPORTANT:

BCEO is not stating that the current system will not work – however, we are stating that we need to receive the correct and accurate information/calculations to determine the actually functionality of the system. It is very possible that the system, as installed, could meet development standards, even if there is a negative pipe within the system. BCEO cannot make that determination until accurate details and calculations, that are signed and sealed by the appropriate professional, are received.

BCEO would be happy to host a meeting with all parties to discuss the issues. Let me know if you have any questions.

THANKS

Teresa

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011
513-785-4142
Fax 513-867-8549
barnest@bceo.org

From: Reber, Tim [mailto:Tim.Reber@Woolpert.com]
Sent: Wednesday, July 12, 2017 4:40 PM
To: Teresa Barnes
Cc: Iwaniuk, Brian
Subject: RE: RE: as built drawings

Thanks for the clarifications Teresa, we'll revise the HGL calcs appropriately.

Tim Reber, PE
Senior Associate
Project Manager | Design Services
D: 630.693.6350 | M: 773.517.5308
tim.reber@woolpert.com

Woolpert

1815 South Meyers Road Suite 950 | Oakbrook Terrace, IL 60181
woolpert.com

From: Teresa Barnes [mailto:BarnesT@bceo.org]
Sent: Wednesday, July 12, 2017 2:10 PM
To: Reber, Tim <Tim.Reber@Woolpert.com>; 'Duane Banet' <Duane.Banet@TexasRoadhouse.com>; 'mike.sweny@buffaloconstruction.com' <mike.sweny@buffaloconstruction.com>
Cc: Eric Pottenger <PottengerE@bceo.org>; Greg Wilkens <WilkensG@bceo.org>; 'ccollins@diggit-inc.com' <ccollins@diggit-inc.com>; Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>
Subject: RE: RE: as built drawings

Tim

Unfortunately, there are still a few things that need to be adjusted and/or recalculated and verified prior to the release of the CO.

1. The survey is not signed and sealed by a licensed surveyor. This is required.
2. There is a discrepancy between some of the inverts provided on the drawing and those used in the calculations. Please verify and correct accordingly.
3. The survey indicates a HWL of 866.0 within the detention basin. However, the provided topography indicates a gap in the 865.0 elevation, thereby leaving the spillway actually at 864+. Please provide a detail of the as-built elevations for the spillway of the detention basin. Note – the volume provided in the basin should stop at essentially the spillway elevation. In addition, to simply close the contours and say that the spillway is at 866 would then require verification of the grading along the south property line will be required to ensure that the water will not flow toward the neighboring property.
4. The Hydraulic Grade Line was not calculated correctly. It is not permitted to state that the “total flows are limited to the pipe full flow capacity”. This is not what happens on site. The HGL should be calculated with the assumption that the basin has the 10-year water surface elevation in it. The HGL within the system should not be below the calculated 10-year water surface elevation. In addition, the total flow through the pipe is based on the cumulative drainage areas – not the

pipe capacity. The HGL will also be based on the fact that pipes within the system, as installed do not have the capacity to carry the required flow. Hence, why the HGL is being required to be calculated correctly.

The Certificate of Occupancy will not be released prior to the requested information above being received.
Let me know if you have any questions.

Teresa

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011

513-785-4142
Fax 513-867-8549

barnest@bceo.org

From: Reber, Tim [mailto:Tim.Reber@Woolpert.com]
Sent: Tuesday, July 11, 2017 6:25 PM
To: Teresa Barnes; 'Duane Banet'; 'mike.sweny@buffaloconstruction.com'
Cc: Eric Pottenger; Greg Wilkens; 'ccollins@diggit-inc.com'; Iwaniuk, Brian
Subject: RE: RE: as built drawings

Teresa, attached are the signed HGL calcs, as-built drawings with slopes included, and pond volume calcs for your review.

For the fixes we will need to adjust the structures 1.2 and 1.3 to the noted inverts we show on the plan. Also, we'll need to adjust the pond on the east end to get another 0.06 ac-ft of storage.

I will call you in the morning to discuss next steps.

Thanks for your help.

Tim Reber, PE
Senior Associate
Project Manager | Design Services
D: 630.693.6350 | M: 773.517.5308
tim.reber@woolpert.com

Woolpert

1815 South Meyers Road Suite 950 | Oakbrook Terrace, IL 60181
woolpert.com

From: Teresa Barnes [mailto:BarnesT@bceo.org]
Sent: Monday, July 10, 2017 2:45 PM
To: 'Duane Banet' <Duane.Banet@TexasRoadhouse.com>; 'mike.sweny@buffaloconstruction.com' <mike.sweny@buffaloconstruction.com>; Reber, Tim <Tim.Reber@Woolpert.com>
Cc: Eric Pottenger <PottengerE@bceo.org>; Greg Wilkens <WilkensG@bceo.org>; 'ccollins@diggit-inc.com' <ccollins@diggit-inc.com>; Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>
Subject: RE: RE: as built drawings

Tim

In the email below, it was stated that you expected for BCEO to receive the required items for the Texas Roadhouse site.
I wanted to send a quick note to let you know that, as of 3:30 pm, Monday, July 10, 2017, I have not received any of the required documentation.

As previously stated, the required items are:

1. A signed and sealed storm water system as-built drawing. This drawing would include all of the pipe inverts, tops of grates and pipe slopes for the storm drain pipe system on the site.
2. A HGL calculation of the as-built system and determination of the 100-year water surface elevation within the detention basin. These calculations are also required to be signed and sealed by a civil engineer.
3. Dependent on the HWL elevation, if necessary, documentation of where the overflow water will go.
4. Explanation of any “fixes” necessary within the system.

The email received late on Friday afternoon simply had a single page that provided the inverts and tops of grates of the structures. Slopes were not provided and the page was not signed and sealed. Therefore, at this point in time, BCEO has not received any of the required items for review.

Once these times are received and reviewed, further discussion about the CO will take place
Let me know if you have any questions.

Teresa

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011
513-785-4142
Fax 513-867-8549
barnest@bceo.org

From: Reber, Tim [mailto:Tim.Reber@Woolpert.com]
Sent: Friday, July 07, 2017 3:49 PM
To: Teresa Barnes <BarnesT@bceo.org>; 'Mike Sweny' <mike.sweny@buffaloconstruction.com>; Duane Banet <Duane.Banet@TexasRoadhouse.com>
Cc: Eric Pottenger <PottengerE@bceo.org>; Greg Wilkens <WilkensG@bceo.org>; Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>; Chuck Collins <ccollins@diggit-inc.com>
Subject: RE: RE: as built drawings

Teresa, attached are the recent as-builts performed by Woolpert. The storm sewer and structures look good based on design intent. See below for responses to the 4 items you mentioned.
Please call me with questions.

Thanks for your help.

1. Have a third survey done. Provide this information on an updated drawing that shows all invert and top of grate information and the calculated slopes of each run of pipe. This drawing will need to be signed and sealed by a licensed surveyor. Drawing attached. Will send stamped version asap.
2. Have the system analyzed to determine a Hydraulic Grade Line and determine the maximum 100-year water surface elevation within the detention basin. These calculations will need to be signed and sealed by a licensed civil engineer. Will have this to you Monday. Based on review, the storm sewer meets design intent.
3. Determine "where the water will go" should the basin overflow. HWL will be modeled as well, based on revised weir construction.
4. If "fixes" are necessary – what are they and what timetable will they be completed on. At this time, based on my review ,no fixes are need to the

storm sewer or structures. We will finalize pond volume calculations on Monday.

Tim Reber, PE
Senior Associate
Project Manager | Design Services
D: 630.693.6350 | M: 773.517.5308
tim.reber@woolpert.com

Woolpert
1815 South Meyers Road Suite 950 | Oakbrook Terrace, IL 60181
woolpert.com

From: Teresa Barnes [mailto:BarnesT@bceo.org]
Sent: Thursday, July 06, 2017 6:41 AM
To: Reber, Tim <Tim.Reber@Woolpert.com>; 'Mike Sweny' <mike.sweny@buffaloconstruction.com>; 'Duane Banet' <Duane.Banet@TexasRoadhouse.com>
Cc: Eric Pottenger <PottengerE@bceo.org>; Greg Wilkens <WilkensG@bceo.org>; Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>
Subject: RE: RE: as built drawings

I have attached a clean copy of the as-builts that were provided – unfortunately, the elevation written is clearly an 856.87.
BCEO cannot just make an assumption that this is another "typo".
Please verify the elevations.
Teresa

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011

513-785-4142
Fax 513-867-8549

barnest@bceo.org

From: Reber, Tim [mailto:Tim.Reber@Woolpert.com]
Sent: Wednesday, July 05, 2017 4:47 PM
To: Teresa Barnes; 'Mike Sweny'; 'Duane Banet'

Cc: Eric Pottenger; Greg Wilkens; Iwaniuk, Brian
Subject: RE: RE: as built drawings

FYI, the elevation on the mark up at the west side of Kingsgate is 858, per the text on the drawing. There is not a 2' elevation difference per the design and the construction.

We will take the items listed below into consideration before certifying the as-builts.

Tim Reber, PE
Senior Associate
Project Manager | Design Services
D: 630.693.6350 | M: 773.517.5308
tim.reber@woolpert.com

Woolpert
1815 South Meyers Road Suite 950 | Oakbrook Terrace, IL 60181
woolpert.com

From: Teresa Barnes [mailto:BarnesT@bceo.org]
Sent: Wednesday, July 05, 2017 3:07 PM
To: 'Mike Sweny' <mike.sweny@buffaloconstruction.com>; 'Duane Banet' <Duane.Banet@TexasRoadhouse.com>; Reber, Tim <Tim.Reber@Woolpert.com>
Cc: Eric Pottenger <PottengerE@bceo.org>; Greg Wilkens <WilkensG@bceo.org>
Subject: RE: RE: as built drawings

Mike

I understand that, in an effort to "speed things along" somewhat, a 3rd party surveyor was hired to provide a signed and sealed as-built of the storm drain pipe system.
Unfortunately, as you can see on the attached mark-up, this as-built survey has 7 pipe sections that were installed with a negative pipe slope and a section that is "not installed" at all (I realize that this pipe was removed and is being reinstalled based on the information from the previous as-built survey).
In addition, this survey states that the system comes into the existing catch basin on the west side of Kingsgate Way at an elevation of 856.87. However, the pipe that continues east under Kingsgate Way has an elevation of 858.89. This means that the system from Texas Road House is 2-feet below the "outlet" of the catch basin.
While the current as-built survey has a maximum negative slope of -0.27%, given the issue at structure 1.0, it is unlikely that the system will be able to

function as designed.

At this time, there are several things that will need to occur:

1. Have a third survey done. Provide this information on an updated drawing that shows all invert and top of grate information and the calculated slopes of each run of pipe. This drawing will need to be signed and sealed by a licensed surveyor.
2. Have the system analyzed to determine a Hydraulic Grade Line and determine the maximum 100-year water surface elevation within the detention basin. These calculations will need to be signed and sealed by a licensed civil engineer.
3. Determine "where the water will go" should the basin overflow.
4. If "fixes" are necessary – what are they and what timetable will they be completed on.

Let me know if you have any questions.

THANKS

Teresa

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011
513-785-4142
Fax 513-867-8549
barnest@bceo.org

From: Mike Sweny [mailto:mike.sweny@buffaloconstruction.com]
Sent: Wednesday, July 05, 2017 9:05 AM
To: Teresa Barnes
Subject: Fwd: RE: as built drawings

From: Wilson, Mike <mike.wilson@cecinc.com>
Sent: Wednesday, July 5, 2017 9:02:51 AM
To: Mike Sweny
Subject: RE: as built drawings

Here you go. Good luck!

Michael Wilson, P.S. / Senior Project Manager
Civil & Environmental Consultants, Inc.
5899 Montclair Blvd. · Cincinnati, OH 45150
Toll-Free: 800-759-5614 · Direct: 513-483-3538 · Fax: 513-985-0228
Mobile: 513-518-1184 · http://www.cecinc.com
Senior Leadership · Integrated Services · Personal Business Relationships

---

From: Mike Sweny [mailto:mike.sweny@buffaloconstruction.com]
Sent: Monday, July 3, 2017 5:58 PM
To: Wilson, Mike <mike.wilson@cecinc.com>
Subject: Fwd: as built drawings

Sent from my Verizon 4G LTE smartphone

-------- Original message --------
From: Chuck Collins <ccollins@diggit-inc.com>
Date: 7/3/17 3:42 PM (GMT-05:00)
To: Mike Sweny <mike.sweny@buffaloconstruction.com>
Subject: Fwd: as built drawings

Sent from my iPhone

Begin forwarded message:

> **From:** "Gary Spencer" <gspencer@diggit-inc.com>
> **To:** "barnest@bceo.org" <barnest@bceo.org>, "Chuck Collins" <ccollins@diggit-inc.com>
> **Cc:** "Matt Daniels (mdaniels@meridianrealtycap.com)" <mdaniels@meridianrealtycap.com>
> **Subject: FW: as built drawings**
>
> As builts for Texas Roadhouse
>
> **Gary Spencer**
> Senior Estimator
> Off. 513-934-0478 ext. 2 #
> Fax 513-934-0610
> Cell 513-383-2568

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011
513-785-4142
Fax 513-867-8549
barnest@bceo.org

From: Reber, Tim [mailto:Tim.Reber@Woolpert.com]
Sent: Thursday, June 29, 2017 9:32 AM
To: Chuck Collins <ccollins@diggit-inc.com>; Matt Daniels (mdaniels@meridianrealtycap.com) <mdaniels@meridianrealtycap.com>
Cc: Wade Brown <wbrown@diggit-inc.com>; Gary Spencer <gspencer@diggit-inc.com>; Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>
Subject: RE: as built drawings

See attached for reference.

Tim Reber, PE
Senior Associate
Project Manager | Design Services
D: 630.693.6350 | M: 773.517.5308
tim.reber@woolpert.com

Woolpert
1815 South Meyers Road Suite 950 | Oakbrook Terrace, IL 60181
woolpert.com

From: Reber, Tim
Sent: Wednesday, June 28, 2017 5:09 PM
To: 'Chuck Collins' <ccollins@diggit-inc.com>; Matt Daniels (mdaniels@meridianrealtycap.com) <mdaniels@meridianrealtycap.com>
Cc: Wade Brown <wbrown@diggit-inc.com>; Gary Spencer <gspencer@diggit-inc.com>; Iwaniuk, Brian <Brian.Iwaniuk@Woolpert.com>
Subject: RE: as built drawings

We'll have the volume calculation to you in the morning, but below are the initial comments to the Storm Sewer:

- 1.2 – Raise invert 0.50' to match design grade
- 1.3 – Lower invert 0.20' to match design grade
- 1.4 – Raise invert 0.34' to match design grade
- 1.5 – raise invert 0.42' to match design grade
- 1.17 – structure missing or covered

We are available to discuss in the morning.

Thanks

Tim Reber, PE
Senior Associate
Project Manager | Design Services
D: 630.693.6350 | M: 773.517.5308
tim.reber@woolpert.com

Woolpert
1815 South Meyers Road Suite 950 | Oakbrook Terrace, IL 60181
woolpert.com

From: Chuck Collins [mailto:ccollins@diggit-inc.com]
Sent: Wednesday, June 28, 2017 11:44 AM
To: Reber, Tim <Tim.Reber@Woolpert.com>; Matt Daniels (mdaniels@meridianrealtycap.com) <mdaniels@meridianrealtycap.com>
Cc: Wade Brown <wbrown@diggit-inc.com>; Gary Spencer <gspencer@diggit-inc.com>
Subject: as built drawings

Tim any word on storm calculations I have received multiple calls asking for updates

Chuck Collins
Operations manager
Off. 513-934-0478
Fax 513-934-0610
Cell 513-260-4177

Teresa K. Barnes, P.E., CPESC
DESIGN ENGINEER
1921 Fairgrove Avenue
Hamilton, OH 45011
513-785-4142
Fax 513-867-8549
barnest@bceo.org