

**Minutes**  
**Zebulon Technical Review Committee**  
**January 4, 2016**

Present: Julie Spriggs-Planning, Chris Perry-Fire, Tim Hayworth-Police, Lisa Markland-Town Clerk, Chris Ray-Public Works, Joe Moore-Town Manager, Debra Ryals-Stormwater, Keith Tew-Raleigh  
Others Present: Glenn Futrell, David Berry, Michael Schneider, David Lasley

Julie Spriggs called the meeting to order at 10:00am.

Chris Ray made a motion, second by Tim Hayworth to approve the minutes of June 30, 2015. There was no discussion and the motion passed unanimously.

**NEW BUSINESS**

*TRC-2016-01—Weaver’s Pond Phase 2D*

Julie Spriggs stated that they would be reviewing the site plan for Weaver’s Pond Phase 2D.

Environmental Services

Debbie Ryals had the following comments.

1. The preliminary review of the construction plans dated 11-17-15 for this project reveal that the plans appear to meet all regulatory requirements for sediment and erosion control. The formal review will be conducted upon submittal to Wake County following TRC approval. For that submittal, please address the following items:
  - Clarify the skimmer orifice diameter for basins 1 & 2 in the schedule on drawing number “ENGR 10”. The schedule gives the diameter as 0.8 inches, while the calculations call for 1.6 inches.
  - Add a detailed sequence to the plans regarding removal/installation of the pond spillway system. Specify how the pond is to be drained. If a pump is used to dewater the pond, it should discharge into the existing bmp/basin or through a silt bag.
  - Add the construction detail for a skimmer basin where the skimmer is not attached to a riser structure to represent basins 1 & 2.
  - Revise the construction sequence contact information to: Debra Tanner @ 842-7142.
2. A stormwater management plan under the current Town regulations is not required for this phase because this section of development was included in the original 2006 subdivision approval and is vested. The existing BMP in this phase was previously intended to provide stormwater detention as required by the original environmental permits. A stormwater management report is included in this preliminary submittal summarizing proposed riser modifications to achieve diffuse flow for the discharge into the riparian buffer.

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Debbie did state that it was grandfathered under the stormwater management plan that the state approved with the master plan for the project it would not fall under the current stormwater regulations.

City of Raleigh

Keith Tew with the City of Raleigh had the following written comments and reviewed the highlights:

*FYI: this project requires construction approval for public water / sewer extensions, roadway improvements & private stormwater management facilities prior to recordation of Subdivision, ROW & Easement Dedication Plat*

*FYI: all utilities in previously approved phases of Weavers Pond development must be accepted by the City of Raleigh for maintenance prior to release of 1<sup>st</sup> CO in Phase 2D*

1. Please field verify there is no 6" DIP W/L bottleneck in Weavers Pond Drive between Almond Willow Way & Phase 2C property line. Also do not reduce to 8" DIP W/L in Lacewing Drive (Phase 2D). There should be a continuous 12" DIP W/L loop running from Pippin Road, along Weavers Pond Drive, along Street H & along Lacewing Drive back to Pippin Road
2. Note on Grading Plan (Lots 206 / 207) - 3:1 max allowable slope across CORSSSE
3. Switch water & sewer facilities in Street H to the North & South side of roadway, respectively, in accordance with CORPUD standards
4. Maintain 10' min lateral separation between water & sewer and 5' min lateral separation between utilities & storm to the maximum extent practical
5. Relocate Fire Hydrants behind S/W & within ROW or 3'x3' CORWLE immediately adjacent (per CORPUD detail W-4)
6. Encase 12" restrain joint DIP W/L in 20" steel casing across entire length of pond dam. Terminate each end of casing in a 5.0' diameter water MH having a gravity drain pipe to daylight. This is a precautionary measure to help preserve the structural integrity of dam in the event of a water main break in this area. More info forthcoming .....
7. Add water & sewer services to Lots 73 & 205; relocate WM & CO outside PDE on Lot 200 (typical); relocate WM to address side of Lot 235
8. See redlines for additional clarity & detail. Please address comments & return redlines with 1st ICP submittal

The redlines referred to in #8 will be given to Engineer at TRC meeting. Based on this review - CORPUD is prepared to offer conditional approval at TRC & can accept 1st ICP submittal thereafter.

Keith spoke to the second FYI in the comments and reminded them so that it would not slip up on them and cause problems at the last minute.

The first comment was a big concern for the City of Raleigh.

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There was discussion about the dam and whether they would be subjected to the requirements. David Lasley asked about the encasement along the dam and stated that the dam was not subject to the safety regulations and would the comments still apply. Keith said that he would be seeking clarification from the leadership with CORPUD. David Lasley asked if it would be possible to pull the line below the dam on the downstream side and put within a public easement. Keith said that could be a possibility.

Glenn Futrell stated that it was incorrect to view the waterline as in a dam since it was an existing dam with water depths of 45' or so and the waterline was in a road that was being built adjacent to the dam. The additional width of the roadway was 50' at the top and almost 100' wide at the bottom. There was no indication that there were any problems with the dam so it was inappropriate to use the terminology that the waterline was within the dam. He continued by stating that it did not come within the dam safety requirements. Keith said that Mr. Futrell's comments were subject to some debate and the greater point would need clarification before any discussion was necessary.

Joe Moore asked how the answers to the questions that were raised during the meeting were addressed and how that information was relayed and incorporated in future comments. Julie Spriggs explained that all information was shared via email and all parties were included in communications. If there were phone calls that information would be shared with her and she would incorporate all email and verbal communications into the next set of written comments. All subsequent reviews were informal and shared via email.

Joe asked if the City of Raleigh and the applicant could not agree on something what was the protocol for appealing a staff recommendation. If that occurred normally there was a meeting called between the COR, the Town of Zebulon, and engineers and were done informally in a conference room where issues were discussed until an agreement could be reached.

David Lasley said that after the meeting they would be working individually with the staff members and then would respond back in writing with revised plans to the Town of Zebulon. If there were discrepancies still seen then there would be another review and a response from us. Julie stated that was correct, it would be a continual process back and forth until the final review was completed.

Keith Tew said that he would like to add that the plans from Joe Faulkner Phase 2C for the waterline revision would need to be coordinated with the current plans for Phase 2D. David Lasley said that he would make the revision to the plans when it was submitted.

#### Town Manager:

Joe Moore stated that his comments were covered by Chris Ray in Public Works under item seven.

#### Fire

Chris Perry had the following comments.

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1. Section 503.2.5 of the N.C. Fire Prevention Code states “Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved area for turning around fire apparatus”. The westernmost section of “Street H” exceeds this distance. Given the future connection to Weaver’s Pond Drive, provide a temporary turn-around or limit the lots available for construction to within 150’ of the intersection with Tulip Springs Drive. Approved turn-around designs can be found in Appendix D, Section D103.4 of the N.C. Fire Prevention Code.
2. As mentioned in the above-mentioned comment, the easternmost section of “Street H” also exceeds the allowable distance. It appears that Lot 182 is the only lot accessible from this street segment. If this is true, then this street segment will be approved as submitted and no turn-around required.

David Lasley stated that the road in question was being constructed now and it would be a continuous connection.

### Police

Police Chief Tim Hayworth had no comments.

### Public Works

Chris Ray had the following comments.

1. Label Street H as Golden Plum on all pages - recent approval from Wake County.
2. Please add curb inlet @ 18 RCP crossing from curb inlet # 81 in Tulip Spring Drive - page 6
3. Please re-label all 20' drainage easement to 20' Public/Town Drainage Easement. The goal is to clarify town maintenance and HOA maintenance responsibilities - page 6 and etc.
4. Please clarify that BMP and Access Easement, Channel A, 65' Level Spreader and pond structures outside of ROW north to be maintained by HOA - page 6 and etc.
5. Please note and label pipe material "RCP" on all storm drainage pipe on all page.
6. South-side of 48" culvert from pond has a steep grade - any concern regarding slope stabilization with matting or plants?
7. Gutter Spreads for the new streets meet Town of Zebulon standards for 7 feet or less for a 4 inch rainfall in one hour.
8. Install three u-channel post with three reflective red 12" diamond signs to denote of end roadway at Street A, H, C, and Lacewing Drive. Also install sign denoting future development phase.
9. After pavement installation on all streets - install sediment bags at all curb inlets.
10. Install decorative speed limit signs at following locations:
  - a. Lot line of 225 and 62
  - b. Lot line of 229 and 230
  - c. Lot line of 223 and stream on Tulip Spring
  - d. Lot line of 83 and 82
  - e. Lot line 222 and 97
  - f. Lot line 97 and 96

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- g. Lot line 105 and 106
  - h. East id Pond Crossing @ 50' Neuse River Buffer on south side
  - i. Lot 213 and 212
  - j. Near intersection of street B and A
  - k. North Side of Road H @ west side of Street Light
  - l. Lot line 192 and 191
  - m. Lacewing Drive North of lot 179 at pocket park #6
11. Install 24" stop bars at the following locations:
- a. Lacewing and street H on the south side
  - b. Street A and street H on the south side
  - c. Street B and street A
  - d. Tulip Spring and Street H
12. Make the following changes to the Street Lights plan:
- a. Street light at lot 196 - move 20 feet south
  - b. Delete Street light at 89 and 90 lot lines
  - c. Add street light at 104 and 105 lot lines
  - d. Add street light at 103 and 102 lot lines
  - e. Delete street light at 102 and 101 lot lines
  - f. Add street light at 93 and 92 lot lines
13. Add the following details:
- a. Add town street sign detail # 31 - add MUTCD approved breakaway - will provide example at meeting.
  - b. Add Town Detail # 50 - Sediment Bags
14. Please add the following General Town of Zebulon Construction Notes to the plan:
- a. All roadway infrastructure construction shall conform to the Town of Zebulon standards and specifications.
  - b. Contractor shall contract Jason Brown at 919-795-5640 with the Town of Zebulon to schedule a pre-construction meeting prior to beginning construction.
  - c. All roadway, sidewalk and storm drainage improvements in ROW or dedicated Public Easements will be required to be dedicated to the Town of Zebulon at completion of the project.
  - d. As-built site plans for roadway and utility work must be submitted and approved prior to final acceptance. Contractor is responsible for maintaining red-line line drawings.
  - e. Developer/owner is responsible for contracting with third party NCDOT certified testing firm. The firm must be approved by Town of Zebulon. Material testing is required for all roadway work. Final reporting and certification (sealed) is required at completion of the project by the Geo-technical Engineer. Testing is required for subgrade, roadway stone, asphalt and curb and gutter per Town of Zebulon specs.
15. Please add the following Specification additional notes to the plan:
- a. All curb and gutter requires concrete testing for the following requirements - section 2.1.1
    - i. 4" concrete slump
    - ii. Temperature - 50 and 90 degrees

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- iii. Air Mixture Range 3.5% to 6.5%
- iv. Structural Strength Break test - 7,14,28 days @ 3000 psi @ 28 days
  - v. Samples every 1000 LF of curb and gutter to ensure quality
  - vi. Max water -cement ratio by weight: 0.594
  - vii. Minimum Cement content (LBS/CY): 602
- b. Concrete sidewalk testing is not required; unless construction inspector determines that the quality is inferior and does not meet industry standards. Contractor must maintain a 4 inch slump for all sidewalk work. Air temperatures at placement must be 40 degrees and rising. Surface temperatures shall be 50 degrees or greater. (Section 2.2.2 E)
- c. Asphalt core samples should be selected every 300' feet or minimum of two cores per roadway for analysis of thickness and density. Asphalt pavement mix SF 9.5 B should be compacted to a minimum of 92% of the maximum specific gravity. Asphalt pavement mix of SF 9.5 A should be compacted to a minimum of 90% of the maximum specific gravity. The contractor is responsible for developing/creating a chart/map if the cored locations for submittal with the testing. Cores will be randomly taken along the longitudinal directions across the roadway but not within one foot of the edge of pavement. The results of samples greater than 10 feet apart will not be average and used to verify compliance with the Town of Zebulon specifications. (section 2.6.H)
- d. Roadway sub-grade testing/installation requirements: 98% standard proctor on all soils every 300'. All locations tested shall meet the 98% testing requirements. Averaging of density scores to meet standard is not allowed. Successful proof rolls required for all sub-grade soils.(section 2.5.2 A)
- e. Roadway ABC Stone testing/installation requirements: 98% standard proctor on all roadway ABC every 150 feet. All locations tested shall meet the 98% testing requirements. Averaging of density scores to meet standards is not allowed. Successful proof-rolls required for all roadway ABC stone (section 2.5.3 A).

Chris Ray asked for an update on the Pippin Road sidewalk construction. David Berry said that he would have to follow up with Joe Faulkner and see where things were there. He said that Joe had contacted Reid Elmore with DOT and had not heard back for him.

Planning

Julie Spriggs had the following comments.

1. Reference the FIRM (Flood Insurance Rate Map) map number and effective date of the map in the Site Information block.
2. Vicinity map on the far left needs a north arrow
3. Fees will be calculated once building permit is dropped off, and all fees will need to be paid at the time the building permit is picked up.
4. Where will the mail kiosk be?
5. Please reschedule the meeting from last week as soon as possible to talk about greenways, master plans, outstanding improvements, and final plats. Please send a few

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dates and times so we can get it on the calendar. Mark is out sick for a few days so best to aim for next week or the week after to coordinate schedules.

David Lasley said that he had not heard anything from the Post Office so it had not been decided. It was the assumption that they would be able to do individual mailboxes for the approved phases but for all new phases it would need to be a kiosk.

Julie Spriggs said that they were close to final approval and they did not want to be held up because they did not have answers for these items. She said that they needed to reschedule the meeting that was missed to discuss greenway masterplan, sidewalk on Pippin and other areas that needed to be resolved prior to final approval being granted for Phase 2D.

There were no further comments from anyone present.

The meeting was adjourned at 10:45am.

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Date

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Lisa M. Markland—Town Clerk

SEAL