From:	Rob Gordon
To:	Larry Diehl
Cc:	Genna Porter; Jim Diepenbrock
Subject:	Eng Review - Circle K
Date:	Tuesday, March 22, 2016 11:12:44 AM
Attachments:	DOC032216-03222016094037.pdf image002.png

Engineering has reviewed the revised plans for the Circle K project and have the following comments:

1. The application is not filled out properly:
    a. Charles Paul signed as owner on p6, but gave you (Larry Diehl, Greenberg Farrow) permission to develop the property. The property owner must give the applicant (Kangaroo Express) this permission to develop, not the consultant. Will Independence ventures maintain ownership after development? If so, we will need p6 completed correctly (unfortunately, with a new signature). If they are going to sell the property to Kangaroo express/Circle K, they (the current property owner) does not need to sign at all.
    b. Note Only – you do not need to sign section III (3). You are already authorized as consultant by completing Section IV (1) on p6.
    c. The impervious area is not completely clear because of the property delineations. Section IV (9) on p3 should include all impervious area proposed within the Circle K and adjoining properties (lots 3 &4). Section IV (12) should include all impervious area being constructed within the r/w (turn lanes, sidewalk, driveway entrances…). However, the portion of the sidewalk along CB Road that turns onsite, can be assumed as "offsite" and included within the offsite #'s. The reason is we do not want to "penalize" the site for accommodating sidewalk where r/w constraints exist.
    d. The extra sheet that identifies inlet drainage area information is not the intent of Section IV (14). That is supposed to identify BMP drainage area, not inlet drainage area. In most cases when a site drains to one offsite pond, there would only be one column completed. However, in this case I would like you to identify 2 columns of data
        - One column for all impervious draining to the Pond on the Circle K site (lot 4)
        - One column for all impervious draining to the pond on the adjacent site (lot3)

        I will have to issue a corresponding master permit modification to account for the reduction in future allocation for this project. separating the figures as noted above is necessary to know how much allocation lots 2 & 3 have remaining for development.
    e. Please complete p1 of the offsite supplement correctly. What is Carolina Crossing? Please fill out the permit # & project name of the offsite permit.
2. I noticed your post-development drainage area extends slightly into the CB Road r/w. Please add spot elevations on either side of the sidewalk along both frontages and try to slope the sidewalk to drain into the r/w, rather than on site wherever feasible. Please make any corresponding changes to the drainage area.
3. The City has a longstanding policy against blind junction boxes and mid-pipe tie ins. Please

make sure all pipe connections occur in a drainage structure with no bends in the pipe 12" and above. Obviously roof leaders do not need JB's, but please specify a cleanout everywhere there is a 90 deg bend or tee.

4. Ok, if there was a discrepancy with the survey (it happens…), please specify the tailwater elevations in the pond that you are assuming in your analysis (permanent pool, 10-yr, 50-yr). Also, please make sure your survey info on the outlet structure is specified so that we can determine the extent of the discrepancy.
5. The Tc is just not acceptable. The rainfall intensity used in the calculations corresponds to a 60 minute Tc. As stated previously, that is too high for a site like this. I do not see why the Tc should be more than 5 minutes, but you feel it should be, please provide justification. The City idf and ddf tables are attached for reference.
6. What year storm are the HGL calc? Please make sure both are provided.
7. The ground elevations noted on your HGL profile do not correspond with the rim elevations on site. The calculated HGL on the G9 structure is over 2 ft above the rim (rim34.66, HGL ~36.7). Please revise.
8. Please make sure there is a private drainage easement over the outfall pipe from the pond through the Circle K site.
9. The drainage area for OS-1 is 0.75 Ac. Lots 2 & 3 are almost 2.4 ac, so the pipe provided is not sized to accommodate drainage for the remaining two lots. If those remaining lots develop, it will cause a disruption of the circle K site in order to alter the drainage for this additional drainage. We would strongly suggest sizing this pipe to accommodate all drainage from the adjacent tracts, but we will not require it because it is a private site. We will however, require a larger private drainage easement on the Northernmost corner of the Circle K site to enable drainage to be modified since there is such a small area to tie into the pond. Right now there is just a small corner of easement across this property.
10. Note Only – there is no drainage easement (public or private) across lot 3 required at this time. When lot 2 or 3 develops, we will require easements necessary to accommodate whatever draiange they propose.
11. Note Only - Do you know who the current owner of the Independence Ventures Pond is? The permit was written to the same owner as the assisted living facility because, at the time, they were tasked with building the pond. Any contact information you would provide would be appreciated. Will there be a POA for these tracts? This will not hold up release…

Please submit one full set of plans and calcs along with any revised forms to Engineering for additional review. Please call or email if there are any questions. Thank you.

Robert Gordon, PE
Plan Review Engineer

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