Allen,

Here are our comments on the Brook Hollow apartments. Plans look pretty good overall and need the following items addressed. Our normal engineer for reviewing the utilities (Phil Casterline) has not been able to fit this in his schedule since Alicia's request. I performed the initial review for utilities and Phil Casterline will assist once revisions are submitted.

<u>Plans</u>

- Confirm with Fire Dept. that 20' access aisle is sufficient and provide turning movement analysis for City's fire apparatus for the parking lot turns and rear access
- Provide a detail of the intended interface between the retaining wall and edge of pavement for the rear access
- Provide definition of ground cover on the site for areas outside the concrete and asphalt.
 - Needs landscaping plan
 - Any slopes over 3:1 should be required as sod or staked blankets
- Finish details for the wall construction requirements
 - Depth of grid is not defined vs height of wall in detail
 - Determine whether the drainage tile wrap is needed or not instead of pushing that down the road to a contractor that may not have a geotechnical report (define it as it should be constructed)
 - Does grid dimension affect the 6' horizontal wall separation?
- Provide signage, striping and paving details specific to the offsite roadway modifications
- Provide detail of the grate inlet on all drains (careful attention should be provided where the grate inlet is shown immediately adjacent to the retaining wall and curvature of the rear driveway)
- EPSC plans need several modifications as noted following
 - Review TDEC manual and add silt fence at the required locations to ensure they are not overloaded (for instance 100' of silt fence for upland contribution of ¼ acre runoff) it is not acceptable to simply surround the disturbed area with silt fence
 - Provide inlet and outlet protection on EPSC plans at trench drain and all catchbasins, outfalls
 - Reveal the location of the intended check dams as refenced in details
- What site lighting is intended? Provide a lighting plan and add any electrical layouts to the utility plans
- Show tentative power service on the utility plan
- Confirm depth of water main in roadway with Public Works to determine any protective measures needed for the water main or potential relocation needs
 - Review the stormwater endwall depth vs the waterline also and modify details as required based on vertical separation
- Review pipe installations on steep grades
 - Reveal slope on areas of steep slopes and provide vertical protection to pipe installations
- Define on stormwater and other utilities which reference detail to use for pipe installation (only one detail is provided, is that intended to apply to all pipes on this project regardless of type/size/use?)
- Provide a detail for the apparent pond emergency overflow spillway with elevations detailed on the grading plan
- Provide detail for the pumpstation that is required to serve this facility

• Provide elevations of building

Calculations/Reports

- Provide a summary section for the drainage calculations that states the design intent and various facts and assumptions for the calculations. It should include a table of the existing, proposed and routed conditions for the anlayzed storm events.
 - Include a drainage map in the report that reveals the subbasins on the site and basic subbasin information such as Area, runoff factors, Tc, %impervious, etc
- Provide calculations for the head elevations of stormwater at all catchbasins and the trench drain
- Provide stormwater pipe calculations revealing loading vs capacity and basic pipe conditions when loaded (ensure the pipe and catchbasin design is in the summary information also to reveal design parameters such design year etc)
- Calculations should be provided for the retaining walls
- Provide the runoff calculations for the EPSC items in a separate section fo the drainage report....these should reveal subbasins and the appropriate year of design utilized from the TDEC manual for those items
- Provide basic site water/sewer demands and calculations for the water and sewer utilities (including the pump station and service lines)

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