

# GRIFFEY ENGINEERING, INC.

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## General Comments

Additional comments may be added to these with the reviews of subsequent submittals.

This work will require various permits from SJRWMD, Lake County, FDOT, FDEP, FWC, COE. Provide copies of the applicable permits & approvals before commencing work on the site.

## Traffic & Transportation

The intersection on SR 19 created by this project, Lake Hills Commercial, and Thompson Grove will most likely require a traffic signal in the future. The need for the signal is fully due to the traffic generated by these developments. Accordingly, the costs for the construction and the ongoing operation and maintenance of the traffic signal should be the responsibility of the developments.

In lieu of a signalized intersection with full right & left turn lanes at SR 19, a roundabout should be considered. The developers of Thompson Grove and Lake Hills, in coordination with each other, the Town, and FDOT, should explore the feasibility of that alternative.

This project should provide a proportionate share contribution towards the construction of the roundabout at the intersection of SR 19 & CR 48.

## Tree Protection Plan

The tree protection table calls for 231 trees to be saved. All of the saved trees must be clearly identified on the tree protection plan.

Add a note to the plan that site grading shall not commence until all of the saved trees are properly protected and inspected by the town.

Add a note that tree protection shall be maintained throughout construction.

## Mass Grading Plan

Add a sheet of the overall grading plan with the future roads, r/w's & lots turned on.

What is the purpose of the environmental swale?

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The portion of the boulevard at CR 48 is proposed to be built over an ancient sinkhole. The road, trail, and portions of proposed lots are within the Recommended Safe Setback as depicted in the geotechnical report. The report states that additional deep test borings will be needed, and a plan for sand/cement grout injection needs to be prepared. Provide the recommended analysis and incorporate its findings into the construction plans.

Does the on-site earthwork balance? Will there need to be any import or export of material? If so, identify on the plan proposed dump truck access points and off-site haul routes.

Add a note on each grading plan page that all exposed areas will be seeded & mulched upon the completion of the grading of that area, and that the seeded areas will be watered and maintained until a viable ground cover is established.

Modifications to the FEMA flood lines due to the proposed grading will need a LOMR submitted post-construction to update the flood maps.

Provide a typical detail for the proposed retaining walls & handrail. The walls will need to be designed and permitted structures.

## Main Boulevard

Lake Hills PUD should be designed as a Complete Streets, pedestrian friendly community.

Provide crosswalks in all directions on the four leg intersections of the boulevard (see Howey detail R-1A). The intersection geometry and crosswalk layout needs to conform to the town standard.

Provide raised crosswalks at the following locations: 119+25, 130+18, and 147+25 (See Howey detail R-1B).

The minimum corner radius at intersections is 35'.

The side streets at Sta 114+00 and 139+25 are misaligned. Adjust the geometry so the side street centerlines are lined up, and are perpendicular to the boulevard's centerline.

Why does the boulevard need two inbound lanes at its connection to CR 48? It seems that this will create vehicle conflicts as it quickly merges into a single lane.

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Stripe storage lanes and show turn arrows at both ends of the boulevard (CR 48 and SR 19)

How will CR 48 drainage be handled at the new intersection?

On both ends of the boulevard, extend the sidewalks to tie into the curb ramps and crosswalks at the entrances.

The geotechnical report recommends over-excavation of low permeable soils along the road from Sta 100+50 to Sta 108+50. Incorporate the report's recommendations into the construction plans.

Provide plans for SR 19 improvements at the boulevard connection.

The town's standard for curb inlets are FDOT Type 5 or 6 (detail R-14). Adjust the plan accordingly.

Add the following town details to the plan: raised crosswalk (R-1B), sidewalk (R-16 & R-16A), curb ramp (R-15 & R-15A), street sign (R-20).

Provide a construction detail for the trail. If concrete is proposed, it needs to address contraction and expansion joints.

The plan needs to address traffic control (vehicle & pedestrian) at the locations where the trail crosses a roadway.

The sidewalk along the Publix frontage should not be placed at the back-of-curb. Provide a 4' vegetated strip between the curb and the sidewalk.

Change the call outs for storm pipes in the Plan & Profile sheets to RCP.

A portion of the storm pipes is missing on sheet C502.

## Stormwater

The plan needs to show that Pond 5 is to be over-excavated. Add the recommendations from the geotech report to this sheet.

The proposed contours are missing in several of the pond grading details.

The cross-sections in the pond grading details need to be revised to accurately reflect the existing and proposed grades.

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Show details of the pond berms matching the geometry specified in the geotechnical report. Add the recommendations from the geotech report to the plan.

Provide compensating storage calculations for any flood plain encroachment.

## Potable & Irrigation Water

Provide an overall master plan for the water & irrigation system.

Provide plans & details of the irrigation water supply system.

Add a prominent note to the utility & road plans that valves are not to be placed in curb lines or in curb ramps. Adjust the depiction of the valves on the plans to show them outside of curbs and curb ramps.

Call out air release valves at the high points of the potable & irrigation mains.

Show valves along the proposed potable & irrigation water mains. Provide at least 2 valves at every juncture and, at a minimum 500' spacing along the mains.

The offsite water main tie-in is not depicted correctly. Refer to the Yard Piping Plan (attached) for reference. Update the plans to reflect the current layout of the water treatment plant.

The offsite water main plan needs to include a water main along SR 19 from the town's new water plant to the boulevard.

The town's water master plan calls for 12" mains along CR 48 & SR 19, and a 10" main along the boulevard. The submitted plans and water calculations show 8" mains at these locations. Modify the plans to show a 12" main along CR 48 & SR 19. The water main along the boulevard is under further review by the town's utility consultant to assess the differences between to two plans & calculations.

Call out Bac-T testing locations for the potable system.

## Wastewater

Provide an overall master plan for the wastewater system.

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The wastewater collection system in the main boulevard will likely receive future flows from offsite properties along SR 19. Also, the force main will likely have a future tie-in from offsite properties along CR 48. Provide analysis to determine if the wet well volume of lift station 1 and the force main size are adequate to handle the additional, future flows.

Who will own and maintain the offsite forcemain?

Lift stations need to meet the town's standard detail and construction specifications manual. The pumps need to be Hydromatic with recessed impellers and capable of passing 3" solids.

Call out air release valves at the high points of the force main.

Call out plug valves at a minimum 1,500' spacing along the force main.

Call out drop manholes for structures with inflow pipe inverts greater than 24" above the outflow invert.

Adjust the configuration of the Yard Plan on sheet C920 to match what is being proposed. Also, check it against town detail WW-10 for discrepancies. If there are conflicts between the two, the town's detail shall prevail.

Portions of the sewer pipes and manholes are missing on sheet C204 and in the profile on sheet C506.