Jones & DeMille
Engineering
www.jonesanddemille.com | 800.748.5275

July 6, 2023

Project Name: Clayson Subdivision/Assisted Living Center Storm Drain

Royce Swensen,

Elk Ridge City retained Jones and DeMille Engineering, Inc. (JDE) to perform on-call general City Engineering services. The Elk Ridge Assisted Living Center's storm drain basin was observed in connection with the Clayson Subdivision. A site visit to the property was made on 03Jul2023 by Ryan Selee (JDE) and Royce Swensen (City) to observe the storm drain improvements for compliance with approved plans and risk to neighboring properties including the Clayson Subdivision. Here is what we observed:

Observations:

1. One main concern is ensuring that the volume of the basin is sufficient. A basin design created by Valley Land Surveying on 28Apr2023 and reviewed on 06Jul2023 shows the basin as having 2,960 cubic feet of storage volume and appears to match the existing basin as seen in the site visit. The required storage volume identified at the time of the addition was calculated as 2,737 cubic feet. This leaves 3" of freeboard above the design storm in the basin. No changes to impervious surfaces have been made since the building addition.
2. The water from the parking lot and about half of the building roof appears to surface flow through the parking lot to a curb cut that flows into the basin. The flow through the curb cut is eroding the waterway and bank into the basin. The curb cut also has significant landscaping debris and a dumpster directly in the flow path.
3. There is a retaining wall on the assisted living center property then a flat or depressed area between the toe of the retaining wall and the top of the second tier of the retaining walls on the north property line. This area has a significant number of large weeds that require a wet environment to grow. This led me to assume that large amounts of storm water and potentially overwatering of the lawn gets caught and stays in the area between the two retaining walls. A phone call from Chris Hermansen on 06Jul2023 provided additional information that a sprinkler line had been broken and has now recently been repaired and is likely the cause of the excess water in the area.
4. The basin is deep, and the slopes are very steep. Getting out of the basin is difficult and there is a significant fall hazard.

Recommendations:

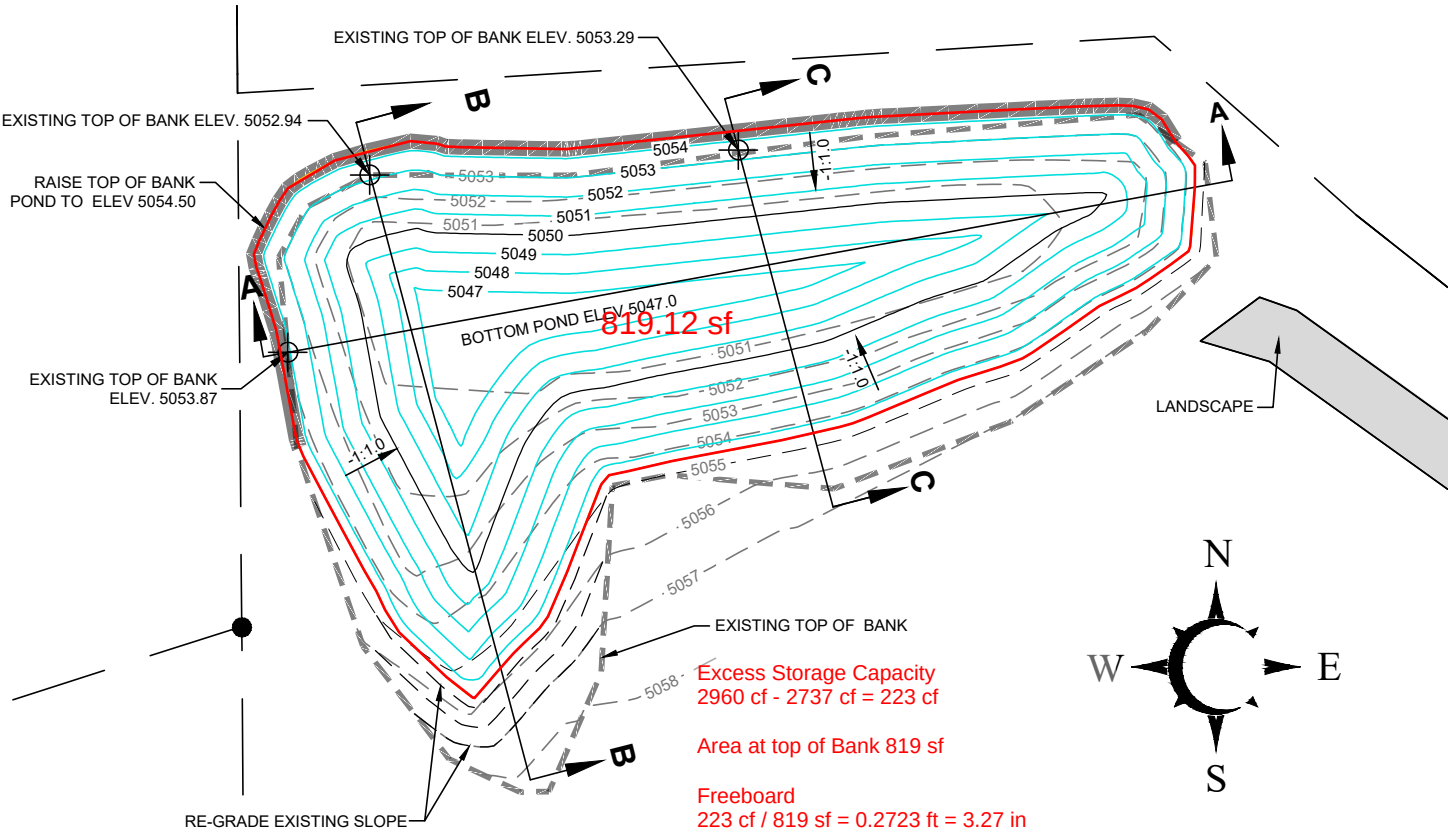
Developer should be responsible to:

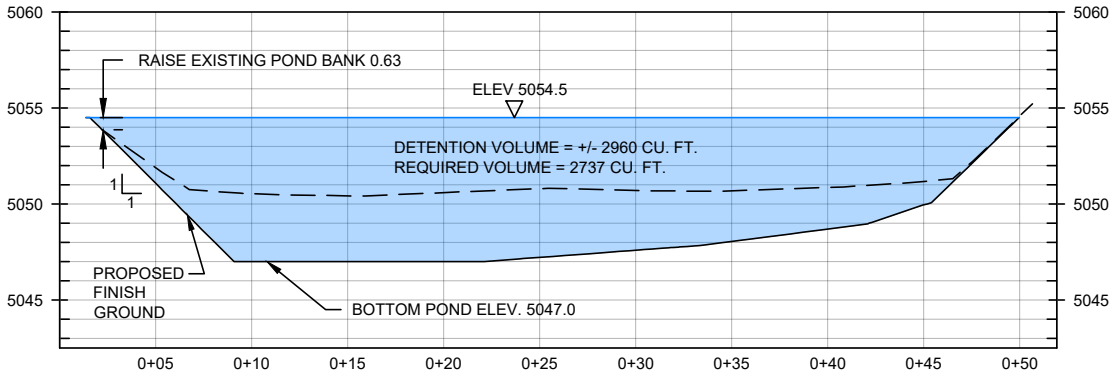
1. The basin appears to meet the storage requirements unless there are freeboard requirements above 3” for retention basins.
2. The channel from the curb cut to the basin should be regraded and armored. A regular maintenance schedule should be implemented to minimize landscape debris and trash in the flow path and basin.
3. Final landscaping of the area between the two tiers of the retaining wall should be installed to avoid ponding and any sprinkler irrigation in the area or above the top tier should be operated to avoid overwatering causing deep soil saturation or ponding.
4. The basin should be surrounded by appropriate fencing to protect residents and others from falling into the deep basin which has the potential to have equally deep standing water at times of high runoff. Existing neighbors’ fences on the north and east side may be incorporated in the safety fencing at the City’s discretion.

This only covers what was seen and discussed during the site visit. Please feel free to contact this office if we can be of further assistance.

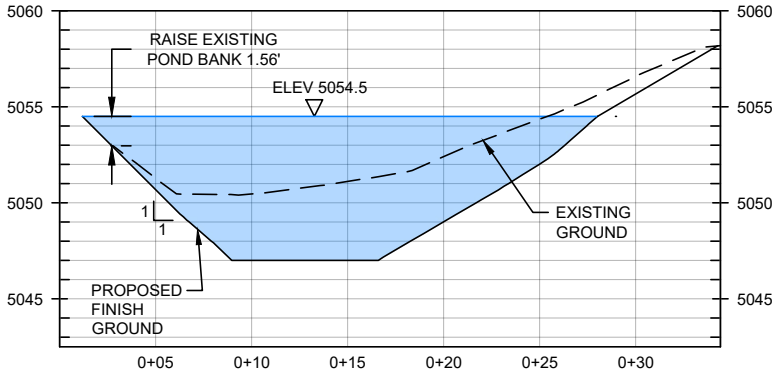
Sincerely,

Ryan Selee, P.E.
JONES & DeMILLE ENGINEERING, INC.

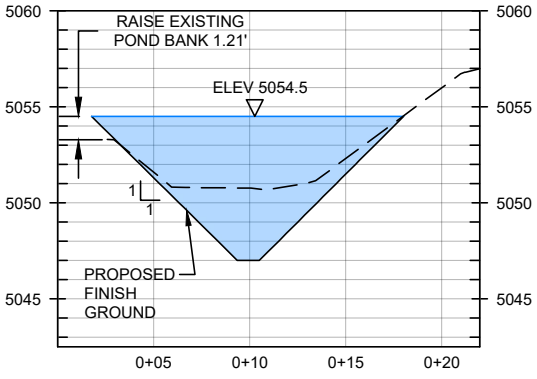




SECTION A-A



SECTION B-B



SECTION C-C

PROJECT NAME: **ELK RIDGE ASSISTED LIVING DETENTION**	VALLEY LAND SURVEYING	HORIZ: 1"=10' (0 — 10.00 ft — 1") BAR SCALE MEASURES 1" ON A FULL SIZE SHEET.	DRAWN: THK DESIGNER: DEK REVIEWED: DEK PROJECT #	**DATE** 4/28/2023 **SHEET** 1