

# Subject: Basin Condition Checks



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to Nicholas Leach

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Nick,

I reviewed the letter submitted by Brookside and looked into their listed concerns:

1. The 48" and 15" flared end sections [James Anderson Company] found at the northwest corner of Walmart property are not depicted on any of the documents provided by Village of Gurnee. Is this modification properly permitted?

- These pipes are detailed within our documents from Walmart's Expansion project that was conducted in 2008.
- The 48" pipe is labeled on the plans as a 42" inlet collecting stormwater from the west and south of the building.
- The 15" pipe is labeled on the plans as an 18" outlet connected to the discharge system for the basin and lead directly into a swale detailed in the plan set. There is a 15" Flared end approximately halfway along the southern embankment that leads into this system, it appeared to be partially clogged leading to a potential decrease in flow to the discharge system.
- It appears that this set of plans were not forwarded along and instead an older set of plans were provided that did not display these changes that were approved by The Village.

2. The plans for the Walmart property call for a stormwater outlet structure with twin 24" pipes discharging into Outlot I. This restrictor does not appear to be in place, increasing the flow into Brookside.

- According to the 2008 plan set the set of twin 24" RCP pipes were abandoned, filled with CLSM. This was followed by installing new 24" twin RCP pipes that do not possess a restrictor.
- The basin now contains a discharge system connected to the 18" FES and 15" FES mentioned above with a lift station pump in the middle of these FES, this lift station controls the flow and I do not believe it increases the flow into Outlot I.
- When inspected the pump was functioning properly and the system was performing as it was designed.

3. The stormwater detention structure on the Autozone property is in poor condition.

- Upon document inspection and discussions this basin was designed and intended as detention for Autozone, however it appears it was not added to the list of basins to be inspected by the Village upon Autozone's annexation into Gurnee in approximately 2008.
- The basin is in need of repairs to embankments, outflow weirs, and in need of clearing of obstructive and improper vegetation to restore the basin to proper working order.

4. There is 18" (+/-) of silt build up at the north end of the triple 42" pipes under Grand Avenue. This silt build-up extends north. Brookside is considering removing this silt.

- Upon investigation into the basins to the south, there appears to be suspended sediments in the basin itself but with a much lower suspended sediment total in the outflow into the 42" culverts on the south side of Grand Avenue.
- On the northern side there is lots of tall and dense vegetation within the flowpath of the 42" culverts. Flow is visible and consistent while observing and was fairly clear.
- Northern side has considerable sediment build up and dense vegetation within the flowpath of the 42" culvert appears vegetation may be causing slower velocities on the northern side causing silt to fall out of suspension and accumulate on the north.

5. The stormwater detention pond for the Home Depot and adjacent retail stores appear to have been built according to plan, except that the outlet control structure requires maintenance.

- Basins were inspected, issues with trash in the outflow manhole and with non-functioning aeration units have been documented and submitted to the proper individuals.
- It appears the basins are functioning but have some maintenance concerns.

Overall my assessment is that while there are some issues to be addressed they would not fully constitute the issues the letter described for Brookside's basins. The most concerning item was the basin behind the Autozone which once added to our basin registry and with proper oversight can be rectified relatively easily and