



December 12, 2025

Mr. Wayne Heuer, Director of Facilities
South Shore Charter Public School
100 Longwater Circle
Norwell, MA 02061

RE: *SSCPS Drainage Repair*
100 Longwater Circle, Norwell, MA 02061
CHA Project: 105876
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CHA performed an on-site inspection with you on December 10th to review the existing drainage issues to assess and suggest repairs to the drainage system that services the building located at 100 Longwater Circle in Norwell, MA. Based on the information you have provided and the site inspection, the current trench drain at the loading dock has some structural failure in at least one section. Also, there is an existing drainage condition where the adjacent commercial property discharges onto the parcel. Please see the below for a review of the existing conditions and recommendations.

Trench Drain Inspection and Recommendations

The existing trench drain structure exhibits failure of the side wall underneath where the concrete pad has been undermined (see picture below). Inspection of the trench drain interior indicated that some debris from the concrete and brick structure of the trench drain sidewall has fallen into the trench drain. There appears to be some undermining of the soils around the trench drain approximately 2-3 feet from the sidewall. Unfortunately, it is not clear the cause of the erosion. The cast iron grate is in relatively good condition for its age and with repair could potentially continue to be utilized.



We would suggest that the trench drain be exposed through cutting and removing the existing concrete slab approximately 3 to 5 feet from the edge of the drain outward towards the undermined area. This would allow a better inspection of the condition of the eroded sidewall and undermined area. Removal of the grates would allow for inspection of all sidewalls from the interior perspective. When the concrete has been cut and removed and the grate removed, CHA will perform an inspection. The inspection of the exposed sidewall will allow for further evaluation of the existing structure to try to determine the cause of the failure and determine if additional corrective actions are required.

If no additional corrective actions are required, we would suggest the sidewall be repaired by providing a new concrete and bricked sidewall to support the existing frame and grate. The eroded subgrade would be replaced with compacted structural fill and then the concrete pad replaced with a matching concrete surface thickness. We would also suggest cleaning out the seams of the concrete and sealing with an elastomeric concrete seam sealant product.

If total removal and replacement is determined to be necessary, then it would be suggested to cut out the existing trench drain to approximately 3 feet beyond the edges on all sides. This option would allow CHA to inspect the area for any instance of undermining beyond what can be seen currently. There may be some undermining on all sides which cannot be ascertained from the initial inspection. Full replacement would require a new concrete trench drain base to support a new cast iron frame and grate system. Any areas of erosion would be filled with structural soil base and compacted prior to replacing the concrete slab to match existing. Then all concrete seams should be cleaned, and the seams be sealed with an elastomeric concrete seam sealant product.

Site Drainage Improvement Recommendation

While out on the site inspection, an evaluation was performed of the drainage condition of the adjacent commercial building parcel 104/106 Longwater Drive draining directly onto the site. The roof area for the two buildings as well as the parking lot between the buildings drain onto the SSCPS parcel. Generally, the stormwater runoff is directed towards the site via grading in the paved area towards a double-grate catch basin proximate to the paved swale between the two parcels. In reviewing the drainage design plan, a double-grate catch basin was designed to be located at the discharge point of the swale. The on-site condition does not reflect the design plan (see below) with the double-grate catch basin offset from the paved swale.





The original drainage design was likely to control the runoff from the adjacent parcel and alleviate issues when the adjacent parcel drains onto the site. We would suggest installing a double-grate catch basin with 12" HPDE outlet at the bottom of the paved swale to collect and convey the water from the adjacent parcel to the adjacent manhole. The downstream drainage system was designed with 18-inch pipes and already conveys the offsite stormwater runoff drainage collected either through the adjacent double-grate catch basin (shown in the picture), the adjacent single-grate catch basin on the opposite side of the driveway, or the trench drain should those other two be clogged or overwhelmed with flow.

We greatly appreciate the opportunity to assist you with the review of the two drainage issues on the site. If you have any questions, please feel free to contact me at 781-792-2238.

Sincerely,

Donald Rose, P.E.
Project Manager
CHA Consulting, Inc.