

Park District Information Request (7/9/14)

- 1) General statement regarding the potential for sanitary sewerage discharges to be combined with storm flows that may enter each park.

Based on the residential flood reports, there are not a significant number of homes that reported sanitary sewer backups in the vicinity of York Commons Park. Based on the flood questionnaires following the July 2010 storm event, 4 homes from the surrounding area reported sanitary sewer backups. Additionally, the closest emergency sewer overflow (ESO) is located near the intersection of Madison and Euclid. Based on our knowledge of the storm sewer system, it is unlikely that these sewer overflows would backup into the park.

While there is always the potential for sanitary sewer overflows, this risk would be further reduced by implementing flood control projects that alleviate overland flooding. When stormwater enters a basement via overland flooding, the basement's floor drain, which is connected to the sanitary sewer, accepts a huge inflow of clear water. By reducing these sources of inflow to the sanitary sewer system, the risk of sanitary sewer overflows is also reduced.

- 2) Invert elevations for all storm sewer inflow / outflow locations from the park sites.
See attached concept plan for proposed pipe information.
- 3) Pipe sizes for all storm sewers through the park sites.
See attached concept plan for proposed pipe information.
- 4) Protection elevation and storm event that bypasses the park sites (i.e. - How high does the water get in the adjacent storm sewer inflow, and what storm event goes right by the site?).
Storm events with a 5-year frequency will bypass the site (the approximate capacity of the downstream system). Weir structures would be constructed at each of the three inflow locations, with the elevation of the weir wall set at the 5-year critical duration water surface elevation in the existing storm sewer. Therefore, stormwater will not enter the site until the 5-year water surface elevation is exceeded.
- 5) Peak elevation and critical duration storm event which occurs within the park sites.
Refer to the attached hydrographs for the facility. The peak water surface elevation in the park is 668 ft, which occurs for the 100-year, 12-hour storm event.
- 6) Draw down durations and plotted hydrographs for the 1) peak critical duration storm event and for the 2) 24 Hour – 100 Year storm event.
Refer to the attached hydrographs for the flood storage area. For the 100-year critical duration storm event (12-hour), the period of inundation is approximately 17 hours. For the 100-year, 24-hour storm event, the period of inundation is approximately 18 hours.
- 7) Conceptual engineering for the field bottoms which show proposed storm sewer routing, proposed bottom spot elevations and slopes, and likely underdrain locations, elevations and storm sewer connections.

These details are shown on the attached concept plan. The playing fields are sloped at 1%, with the elevation varying between 663 and 664.5. The bottom of the playing fields is elevated approximately 1 – 3 ft higher than the proposed low point of the site.

The underdrains were assumed to be 6-inch diameter perforated PVC pipes with a 0.5% slope. The minimum cover on the underdrains was assumed to be one foot.

Additional Items

Potential ideas to address flooding concerns for residents along Cayuga Avenue.

The backyards that are adjacent to the proposed flood storage area are elevated at least two feet above the proposed high water level in the park, according to the DuPage County 2-foot topography (see attached exhibit). An emergency overflow structure can be constructed along the western edge of the park (either overflow weir or high-capacity grate set at the high water level) that will convey emergency overflows westward and away from the homes.

In terms of local drainage, the backyards of these homes drain northward into the park, and these drainage patterns will be maintained under proposed conditions.

Because we are diverting water from the existing storm sewer along Cayuga Avenue, the project will have a positive effect on the drainage in this location.

Natural swale from Geneva Avenue flowing into East End Park as an alternative to the proposed relief sewer.

This is a feasible alternative to the relief sewer option, but would require the buy-out of one home on the east side of Geneva Avenue. There is one house currently for sale (293 Geneva Avenue, \$299K), so a conceptual plan of the overflow route was developed for this property (see attached sketch). This improvement would need to be constructed in conjunction with additional flood storage in East End Park to reduce the flood elevation to an acceptable level.