



**TAB G:**  
**Alt. 2 - Proposed**  
**New East Outlet Plan**





and 50-year output for Alternative 1 is provided in Section 4. Supporting calculations for the Hydraflow hydrologic input are provided in Section 6.

### **Alternative 1A – Proposed Interim West Side Drainage Plan**

Given the severe drainage problems near the Golf Course entrance, it is preferred to install a system for immediate relief. Therefore, Alternative 1 was modified to create the Proposed Interim West Side Drainage Plan that will partially alleviate flooding until the full system is installed. See Alternative 1A – Proposed Interim West Side Drainage Plan in Section 2 Tab F. With this alternative, the proposed storm sewer up until PR Manhole 9 can be immediately constructed. The 12” existing outfall storm sewers will remain, to create a siphon condition. The high point in the Interim storm sewer outfall is lower than the inlet rims. Additionally, an open-grate structure can be installed over the existing 36” storm sewer on the east side to relieve flooding. An east side Permanent Easement is preferred and a Phase 1 Preliminary and Environmental Study may be required. No west side Permanent Easement or ROW is needed for this alternative.



### **Alternative 2 – Proposed New East Outlet Plan**

Alternative 2 – Proposed New East Outlet Plan improvements alignment is shown in Section 2 Tab G. The improvements consist of the following:

- The proposed west side storm sewer from Alternative 1, between PR Manhole 1 – PR Manhole 7 will be constructed.
- Nine new manhole structures and one new catch basin are proposed.
- New 36” storm sewer and outfall flared end section constructed east of Halsted Street on the west side of the existing Cook County Forest Preserve District (CCFPD) access drive.
- 0.29 acres proposed permanent easement on east side of the road. This easement is in the same general area as CCFPD License 1179 that allowed initial construction of the IDOT storm sewer outfall system. To allow IDOT to complete future improvements and/or maintenance, this easement is shown as proposed on all Alternatives.
- Proposed open grate, 2’ Sump Manhole at approximately Sta. 25+25 on the east side storm system. No other parts of the existing east side system are affected.
- Recommend outfall stabilization of the 12” flared end section on the west.
- Recommend cleaning/replacement of 12” cross-pipe at approximately Sta. 27+50.
- Recommend the CCFPD replace 8” & 12” pipes at golf course entrance.
- Tailwater was calculated at normal water elevation based on SCS Method analysis using PCSWMM.

The improvements will need an east side Permanent Easement or ROW and a Phase 1 Preliminary and Environmental Study may be required. No west side Permanent Easement or ROW is needed for this alternative. The proposed storm sewer system is designed to convey runoff from the ISWS Bulletin 75 10-year storm and will provide a 100-yr level of protection for Halsted Street pavement which is a significant improvement from existing conditions. PCSWMM 10-year and 100-year output are provided in Section 5 Tabs C and D. Supporting calculations for the PCSWMM hydrologic input are provided in Section 6.

## **D. Additional Scenario Modeling Discussion**

CBBEL modeled additional scenarios to present possible future improvements to the combined west-east storm system.

The first scenario keeps the proposed Alternative 3 improvements and corrects the back pitch of the existing 42" pipes near the east side outfall. For the 10-year storm, the proposed west side and cross-connection systems will keep water inside the pipe. On the east side, there will be a slight HGL increase from existing conditions. However, water will still remain below pavement. For the 100 year-event, the HGL in the proposed west system and cross pipe will remain under pavement. The east side system will flood at the Forest View Avenue & Halsted Street intersection which is the same as existing conditions. PCSWMM 10-year and 100-year output for this scenario is provided in Section 5 Tabs G and H.

The second scenario keeps the proposed Alternative 3 improvements, corrects the back pitch of the existing 42" pipes, and upsizes the existing east side storm sewer. For the 10-year storm, the proposed west side and cross-connection systems will keep flow inside the pipe. With upsizing of the existing east side system and correcting the back pitch, there is a slight decrease in HGL and water will remain below pavement. For the 100- year event, the HGL in the whole system will remain below pavement. The east side system will have higher HGL than in existing conditions but there will not be flooding at the Forest View Avenue and Halsted Street intersection. This is a significant improvement from existing conditions. PCSWMM 10-year and 100-year output for this scenario is provided in Section 5 Tabs I and J.

## **E. CONCLUSION**

This study presents interim and ultimate plans to address recurring flooding problems along Halsted Street (IL Route 1) between Forest View Avenue (aka 134<sup>th</sup> Street and Jackson Street) and the Little Calumet River in the Village of Riverdale. The most frequent and significant flooding occurs near the entrance to the Joe Louis "The Champ" Golf Course located on the west side of Halsted Street south of the river. Flooding at the low spot in the entry driveway sometimes precludes access to the Golf Course.

Interim plans presented include constructing a new west side sump connection with all work occurring off the Halsted Street pavement (Alternative 1A, Section 2 Tab F) or constructing a new 36" RCP west side to east side cross connection (Alternative 3A, Section 2 Tab I). Both interim plans include additional open grate structures to reduce local ponding. Proposed interim construction takes place all within IDOT ROW and can proceed quickly.

Ultimate plans involve complete reconstruction of the west side storm system from Forest View Drive to the Golf Course entrance. Proposed outfall alternatives include extending the west side system to the River on the west (Alternative 1, Section 2 Tab E), constructing a new outfall on the east side of Halsted Street (Alternative 2, Section 2 Tab G), or connecting the proposed west side system to the existing east side system (Alternative 3, Section 2 Tab H). The ultimate configurations involve land acquisition, either through Permanent Easement or additional ROW and therefore will require additional time before construction can begin, once IDOT selects a preferred alternative.

Electronic files are provided on a flash drive in Section 10. The files include CAD drawings, hydrologic/hydraulic models, and a PDF of this report.

**IL Route 1 (Halsted Street) From Forest View Drive to Little Calumet River 03/31/2023**



Facing South along Halsted

**IL Route 1 (Halsted Street) From Forest View Drive to Little Calumet River**



Facing Northwest – Golf Course Entrance

Flooding Date: Unknown

Image Received from IDOT

IL Route 1 (Halsted Street) From Forest View Drive to Little Calumet River 07/18/2024



Facing East – Golf Course Entrance Ponding

IL Route 1 (Halsted Street) From Forest View Drive to Little Calumet River 07/18/2024



Facing North – Forest Preserve Access Drive