

WEST INTERCEPTOR SHOREWOOD RELIEF PHASE 3 – HIGHLAND SECTION

The Highland Section is 2,000 feet long with 30, 36, 42, and 48-inch FRPM pipe and one 367-foot run of cured-in-place-pipe. The upstream end of the Highland Section will connect to a manhole at the downstream end of the Phase 2 pipe just north of University Avenue and approximately 250 feet east of University Bay Drive. The first run of pipe (between manholes) is 30-inch diameter and the second run of pipe, in the on-ramp to Campus Drive from Highland Avenue, is 36-inch diameter. The manhole at the downstream end of the 36-inch pipe is a junction manhole. The Shorewood Relief and the West Interceptor Relief (WIR), built in 1959, enter the upstream side of the manhole. A single 42-inch pipe will replace the WIR from the downstream side of the junction manhole to an existing manhole in Highland Avenue.

The existing WIR between the manhole in Highland Avenue and the next downstream manhole in the off-ramp from Campus Drive was installed at a steep slope. Because of the steep slope this run of the WIR has enough capacity to handle estimated future flows to 2070. The 65 year old reinforced concrete pipe will eventually need to be replaced or rehabilitated due to normal deterioration of the pipe. It makes sense to rehabilitate the pipe during this major project. The pipe will be rehabilitated with a construction method called cured-in-place-pipe. This method inserts a resin impregnated felt liner inside the host pipe. The liner will be filled with water so that it takes the shape of the host pipe. The water is then heated with a boiler and the liner is allowed to “cook” for several hours to cure the resin in the liner. After a cool-down period the water is allowed to drain away and the fully cured liner remains. The result is a new pipe inside the old host pipe. Access is required through the manholes at each end but no excavation of the host pipe is required. Because no excavation of the host pipe is required, the northbound lanes of Highland Avenue can and will remain open for the duration of the project.

The remainder of the downstream Phase 3 pipe will replace the WIR with a new 48-inch pipe. When it was installed in this area in 1959, Campus Drive did not exist and the WIR was only half buried. Fill was placed over the top of the pipe to provide 1 foot of cover. Today the WIR is 12 to 18 feet deep in the off-ramp from Campus Drive to Highland Avenue and the new Phase 3 pipe will be installed at the same depth and location. The downstream end of the Highland Section will end at an existing manhole on the west side of Walnut Street and just north of Campus Drive.