



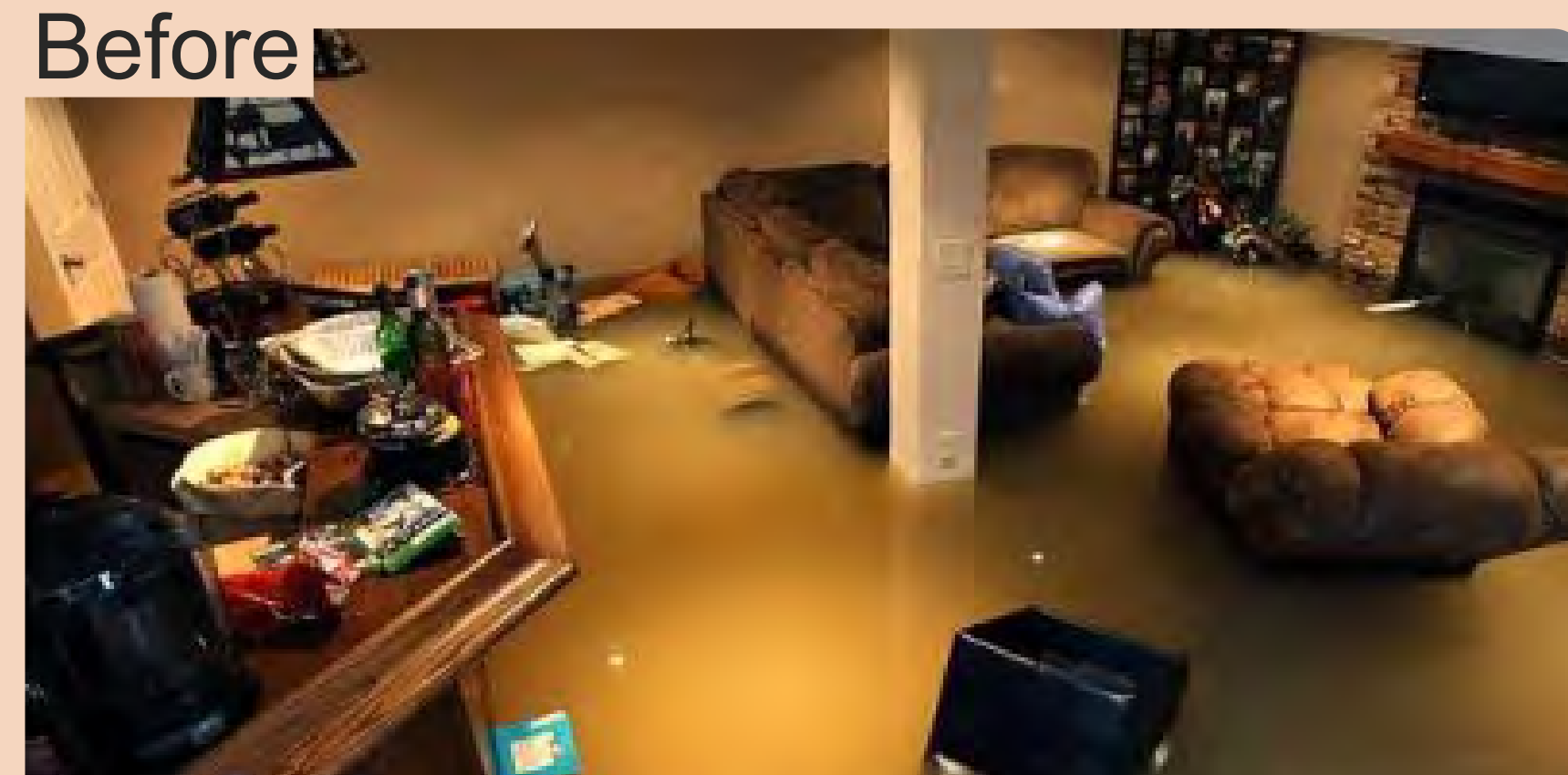
2017 MACDC Innovation & Excellence Award Winner

North Shore Drain - Denise Medemar, Allegan County Drain Commissioner



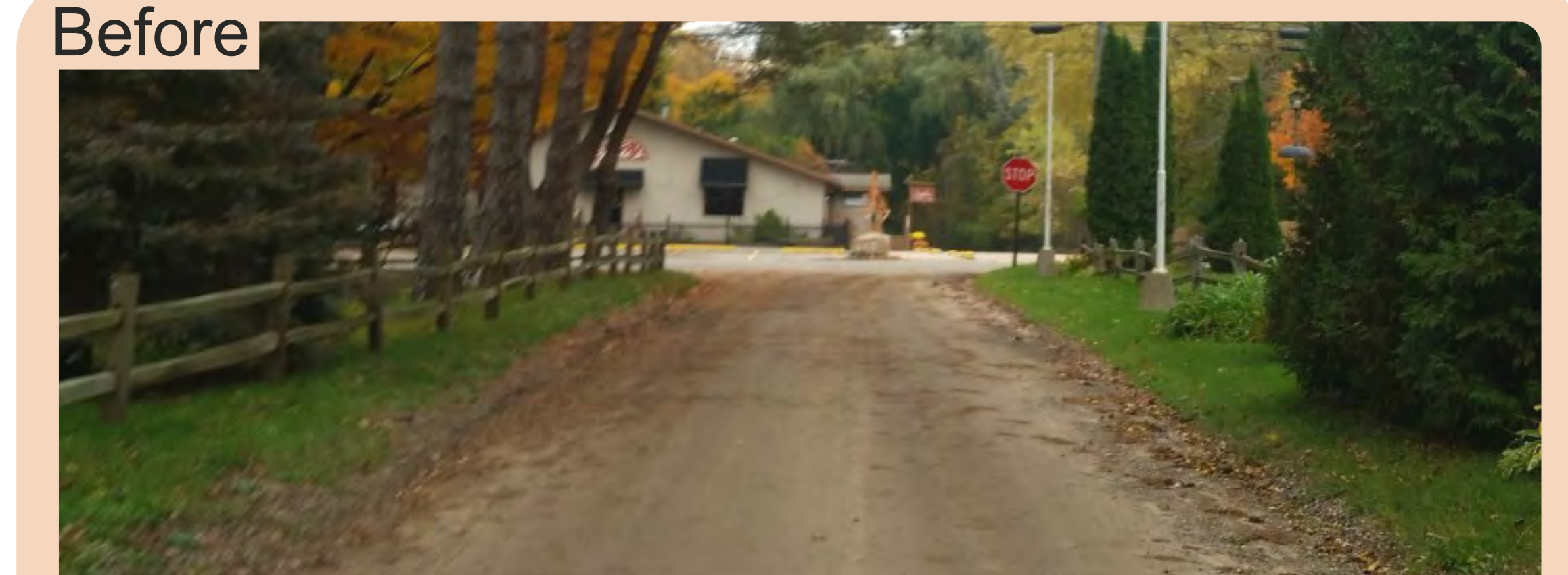
1 Washington Street

Even after the installation of a Drain in the mid 1990's, conditions on Washington St. caused persistent flooding. Several property elevations were too low to drain toward the road, and the enclosed drain clogged with gravel, exacerbating flooding. Specialized filter fabric, perforated pipes, and shallow infiltration swales were installed adjacent to the newly paved road. These design elements eliminated the need for ditches, protecting the root systems of the nearly 100 year old trees.



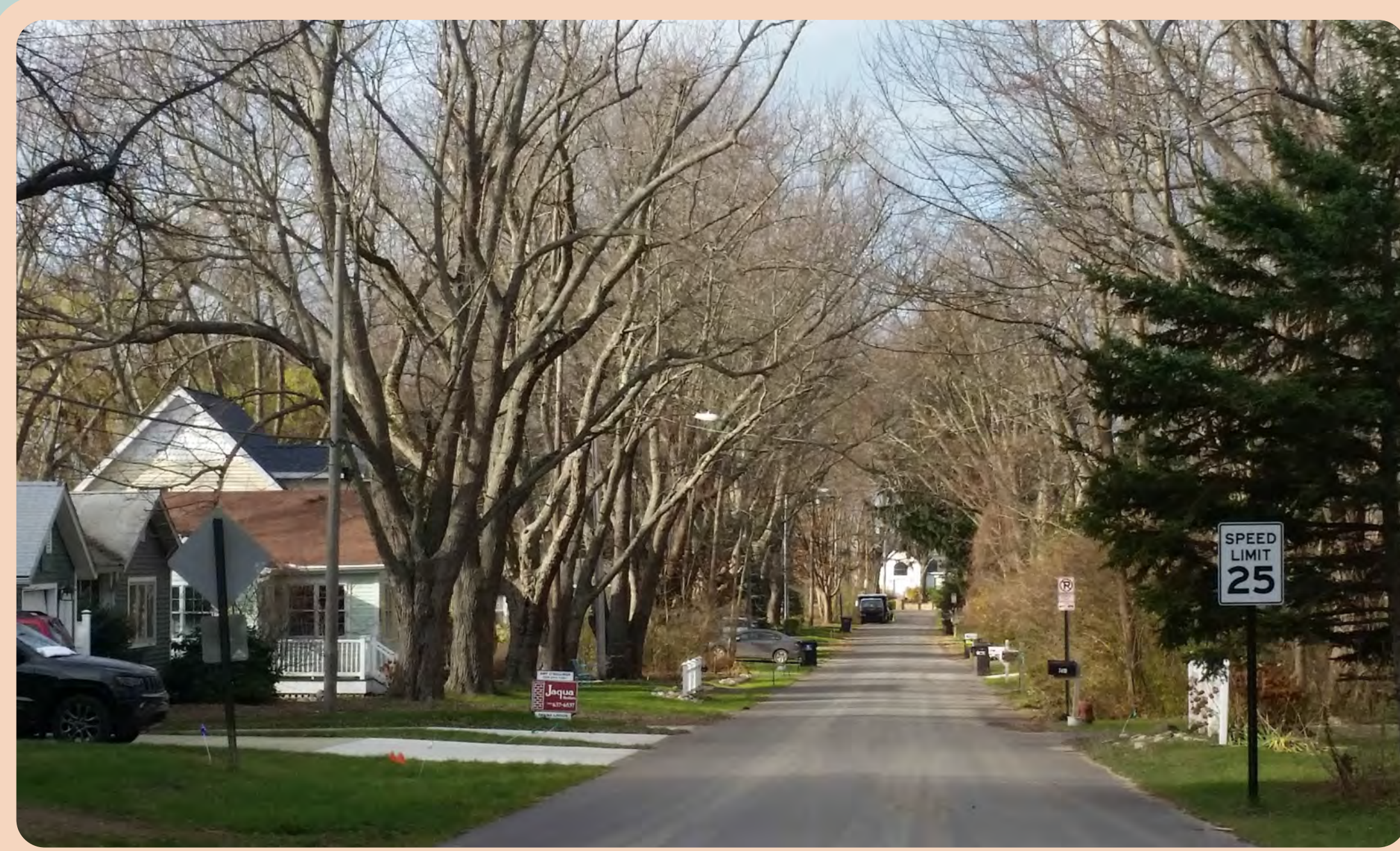
2 West Wing Estates-Linear Detention

The undersized pipes and unmaintained private detention system of the 15 acre housing development, West Wing Estates, overwhelmed the North Base Drain flooding homes in nearby Columbine Estates. Consolidating the North Base Drain into the North Shore Drain Drainage District allowed the ACDC and Eng. engineers to address the entire system. Working with residents and the Allegan County Road Commission, unused but platted road ROW's throughout the district were converted into linear detention critical for the DEQ permit and the project's success.



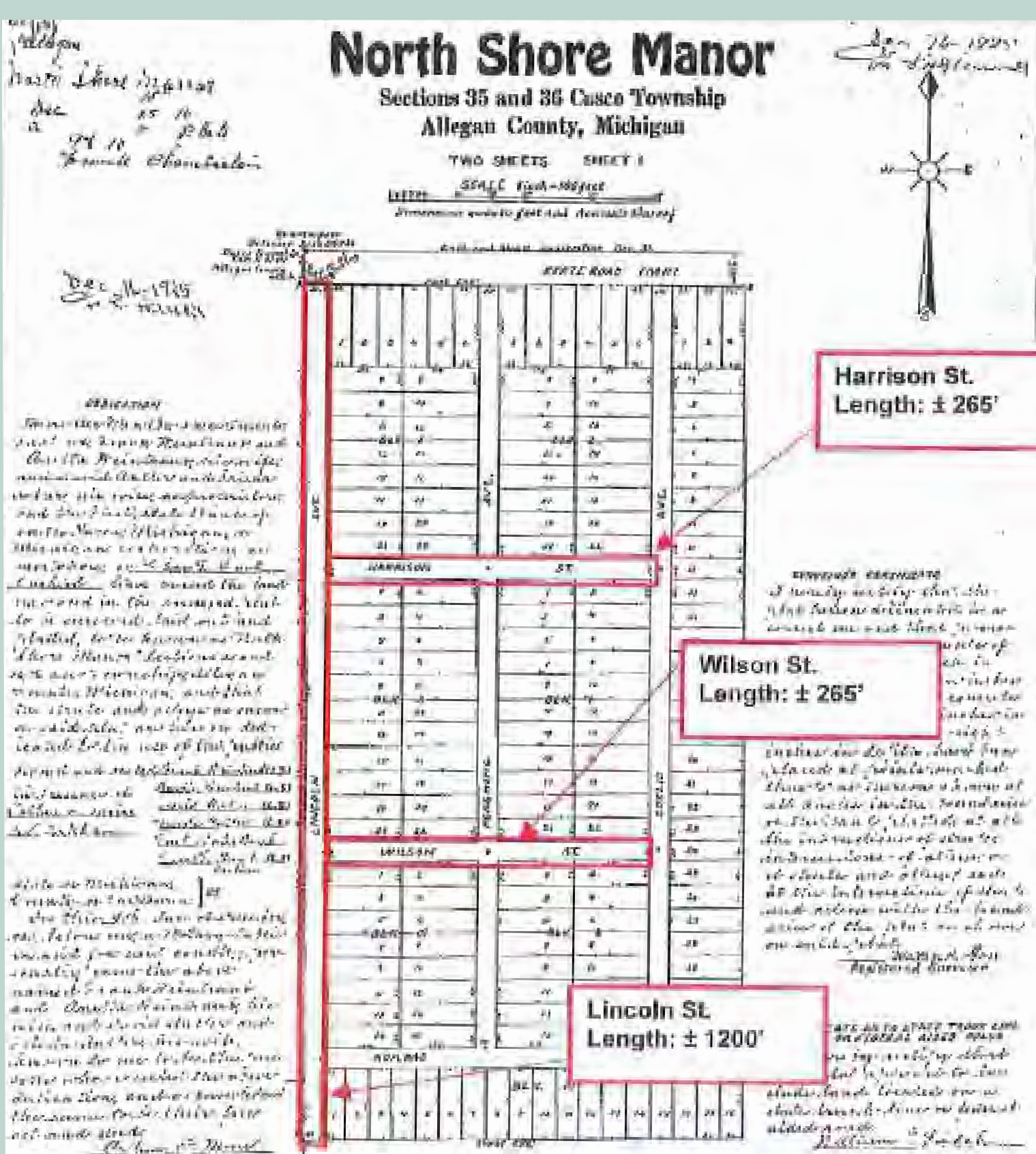
3 Euclid, Pershing & Adams Streets

Featuring several homes and the popular Jensen's RV Campground, this area had longstanding drainage problems due to a lack of prior drainage infrastructure. Additionally, the ROW's of the gravel roads were only 30 feet wide allowing at most 5 ft. to accommodate full utilities (sanitary, gas, electric, water, phone, cable) and a new drainage collection system. Remarkably, the project team successfully designed and meticulously installed a pipe collection system amongst a labyrinth of infrastructure in very tight spaces.



Saving the Trees

Detailed design included low-impact construction practices to minimize root damage and save the nearly 100 yr. old trees that line the streets.

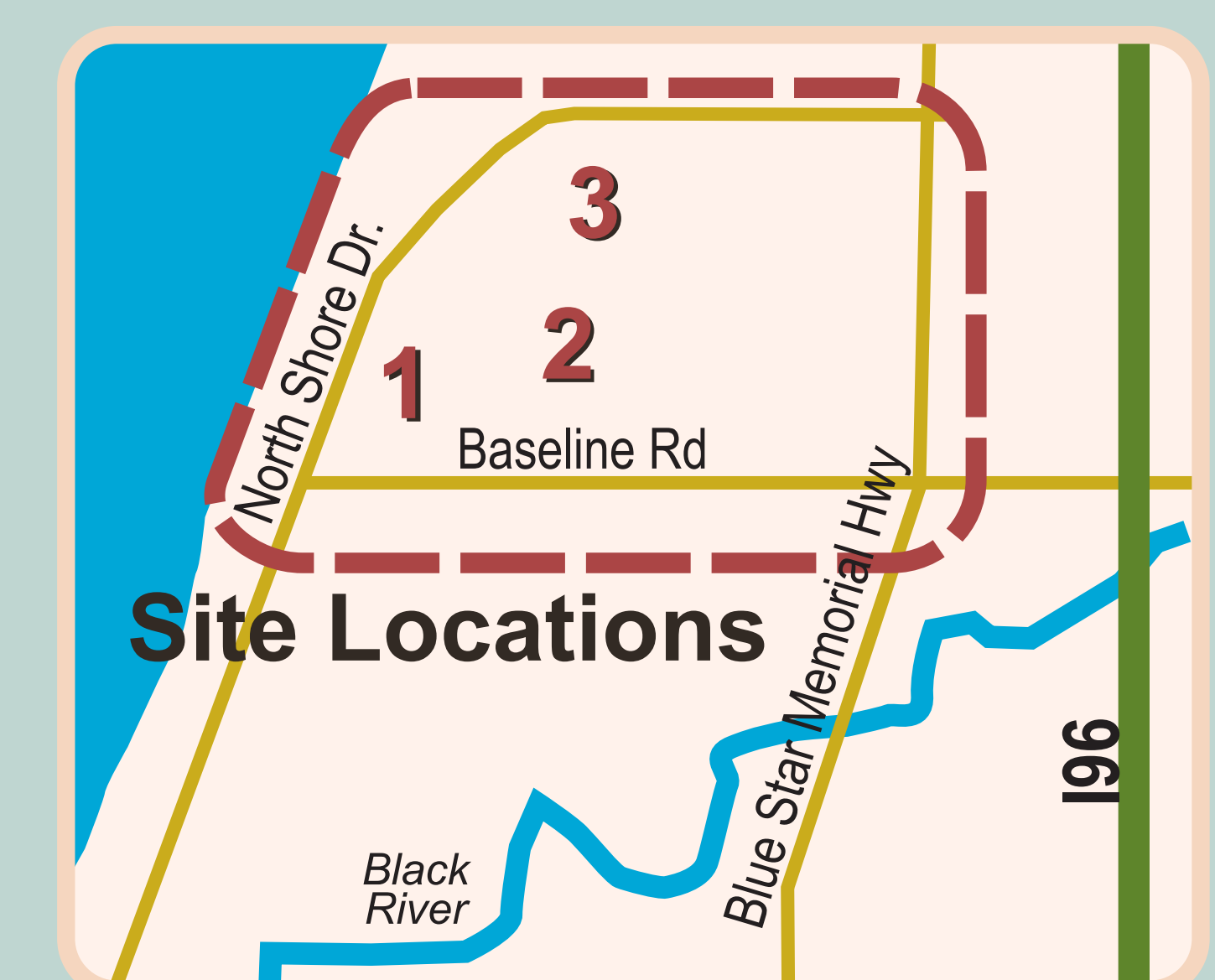


Collaborative Detention

The ACDC and Eng. worked with residents and the Allegan County Road Commission to turn unused ROW's into seeded, under drained, linear detention systems vital to the project's success.

Project Description

The 145-acre North Shore Drain Drainage District is a consolidated drainage district that solved three distinct drainage problems within one cohesive project.



Engineer:
Eng.
Engineering & Surveying

Contractor:
HB HOFFMAN BROS. INC.
EXCAVATING CONTRACTORS

Contributors:
SME
GEI Consulting Engineers & Scientists