

MEMORANDUM

DATE: September 25, 2013

TO: Brian Dissette, City of South Haven
Roger Huff, City of South Haven
Amanda Morgan, City of South Haven

FROM: Daniel A. Dombos, PE, Abonmarche

CC: Cindy Clendenon, MDEQ
Marcus Tironi, MDEQ
Timothy R. Drews, P.E., PTOE, Abonmarche
Tony McGhee, Abonmarche
Christopher J. Cook, PE

RE: City of South Haven – Sewer Study Progress Report

The following will summarize our progress to-date on the City of South Haven Sewer Study:

UTILITY MAPPING

We have completed this work. This task entailed compiling City record drawings, maps and field data into a comprehensive sanitary sewer system map. We added data fields such as reference drawing; installation/rehabilitation date; and length, material and slope of pipe. We converted city GIS information into AutoCAD for presentation, modeling, field investigation and study purposes.

FIELD INVESTIGATION AND DATA REVIEW

We have completed field work on the sewer lines to determine the size and slope of key runs and mapping that information for the modeling effort. We completed further investigation of the sewers in the Peterson Ravine Interceptor upstream of Clinton Street to the city limits. A significant portion of the I/I appears to be coming from the Peterson Ravine interceptor and this is the basis for additional metering along the interceptor and its tributaries. An amendment to the S2 Grant was awarded to complete this work.

COMPUTER MODELING AND FLOW MONITORING

Computer modeling, using calibration methods to adjust and fine tune the model will ensure that the results closely match actual flows observed during metering. The results will be used to predict the system response during certain large scale wet weather events (25 year, 24 hour storm). Meters were reset to measure both dry weather and wet weather flows since June. That metering work has been completed and will allow the improvement of the modeling along the Peterson Ravine where the wet weather flows are entering the system. The model is being recalibrated and re-run this fall.

SMOKE TESTING

We completed smoke testing of several key areas in the south-central portion of the City in June 2012 and presented the results to the BPU at that time. With the reaction of the Kalamazoo St., Main and other Lift Stations to the spring rains we conducted additional smoke testing in the LS tributary areas to further identify connection points for Inflow. Generally, the west-central and northern portions of the city were smoke tested. This was also part of the S2 amendment approval for completion this fall.

That additional smoke testing work is complete. We discovered connections to a few roof drains in the downtown business district as well as some residential connections north of the Black River. We also witnessed smoke coming from catch basins at the northeast, northwest and southeast corners of the intersection of Dyckman Avenue and Black River Street. CCTV inspection in this area revealed a number of structural sewer concerns including collapsed pipe and undermining beneath Dyckman Avenue. No direct pipe connections were observed during the CCTV work. We suspect these cross-connections may be a result of the structural defects and undermining present in this area. We are summarizing the findings and will update the exhibit drawings to indicate the locations and types

SEWER TELEVISION

The originally planned work has been completed. We have reviewed the results and prepared a summary of the findings for inclusion in the SRF Project Plan. We are reviewing the older tapes of the Peterson Ravine Sewer between Clinton Street (SMH 344) and La Grange Street (SMH 443) to determine whether additional televising is warranted.

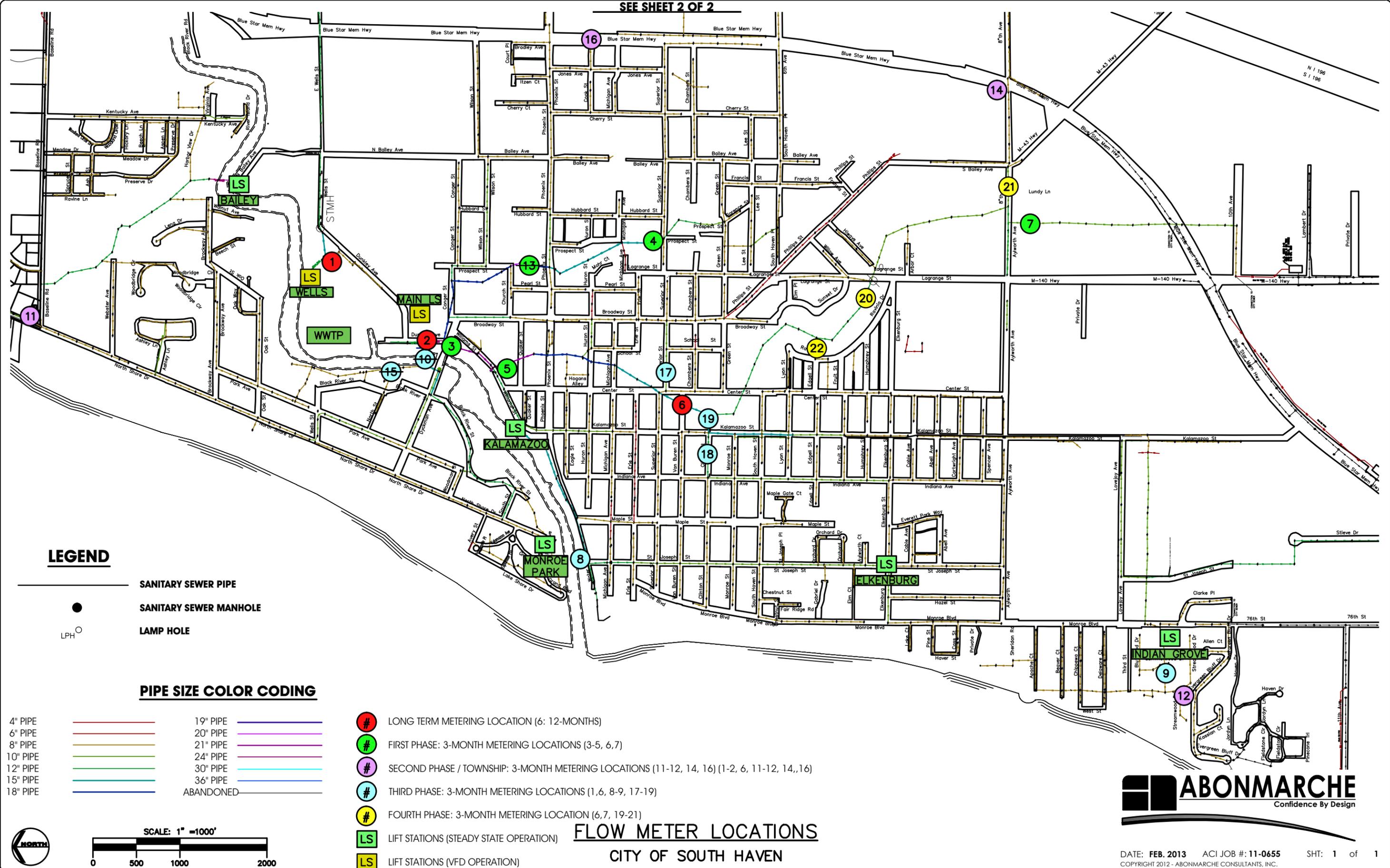


SRF PROJECT PLAN

We are roughly 70% complete with this task. The additional information arising out of the new smoke testing work is being added to the report with the remaining work expected to be completed following the additional metering/modeling. It is expected that the final plan will be submitted to DEQ in the spring of 2014.



SEE SHEET 2 OF 2



LEGEND

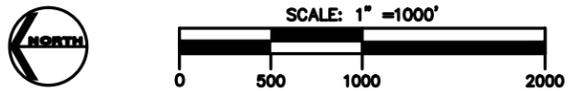
- SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE
- LAMP HOLE

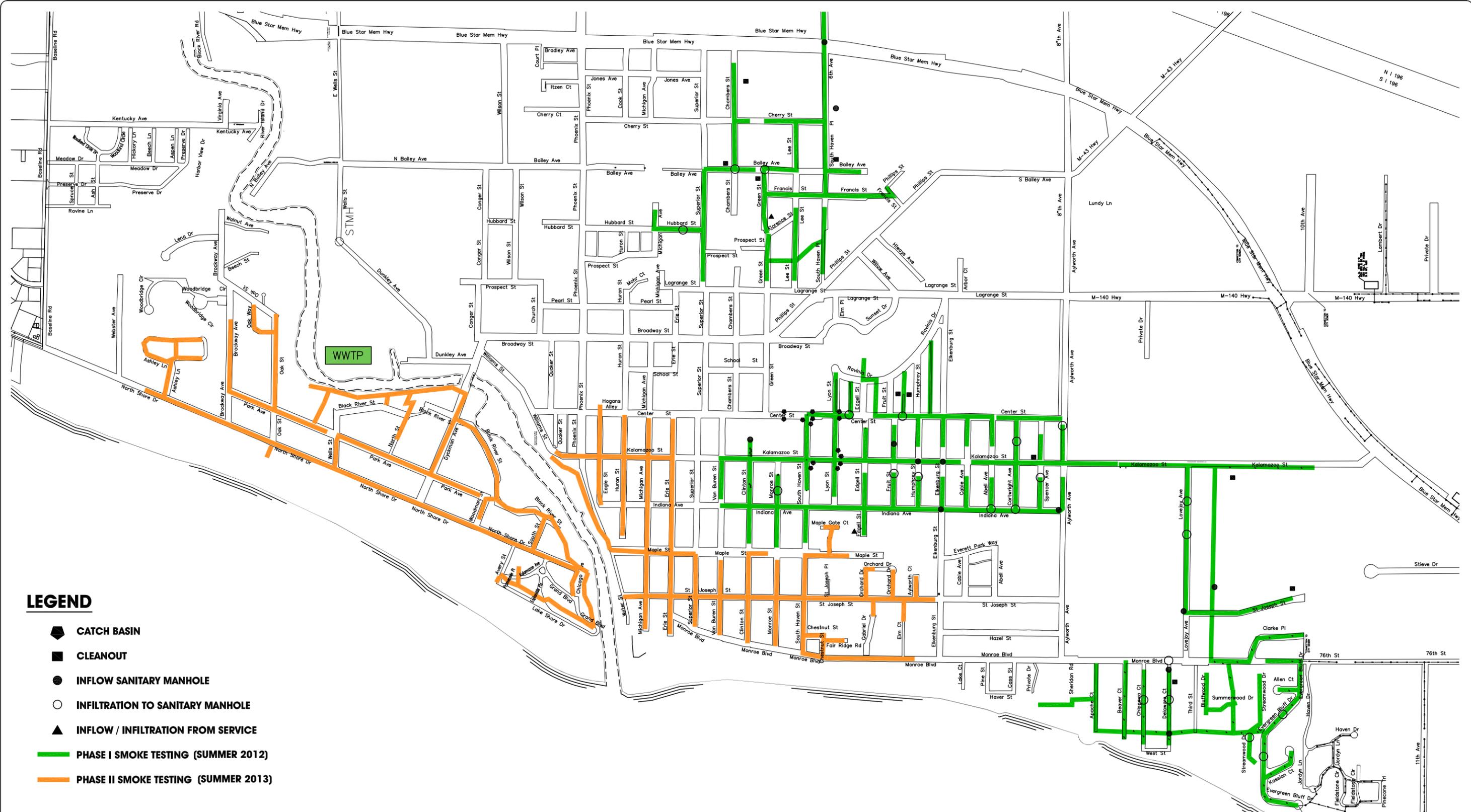
PIPE SIZE COLOR CODING

4" PIPE		19" PIPE	
6" PIPE		20" PIPE	
8" PIPE		21" PIPE	
10" PIPE		24" PIPE	
12" PIPE		30" PIPE	
15" PIPE		36" PIPE	
18" PIPE		ABANDONED	

- LONG TERM METERING LOCATION (6: 12-MONTHS)
- FIRST PHASE: 3-MONTH METERING LOCATIONS (3-5, 6,7)
- SECOND PHASE / TOWNSHIP: 3-MONTH METERING LOCATIONS (11-12, 14, 16) (1-2, 6, 11-12, 14,,16)
- THIRD PHASE: 3-MONTH METERING LOCATIONS (1,6, 8-9, 17-19)
- FOURTH PHASE: 3-MONTH METERING LOCATION (6,7, 19-21)
- LIFT STATIONS (STEADY STATE OPERATION)
- LIFT STATIONS (VFD OPERATION)

FLOW METER LOCATIONS
CITY OF SOUTH HAVEN





LEGEND

-  CATCH BASIN
-  CLEANOUT
-  INFLOW SANITARY MANHOLE
-  INFILTRATION TO SANITARY MANHOLE
-  INFLOW / INFILTRATION FROM SERVICE
-  PHASE I SMOKE TESTING (SUMMER 2012)
-  PHASE II SMOKE TESTING (SUMMER 2013)



SMOKING TESTING PLAN
CITY OF SOUTH HAVEN

