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## MEMORANDUM

TO: Dan Schluender, City Engineer

FROM: Dustin Cesafsky, Project Manager

DATE: June 9, 2021

RE: Town Square Storm review  
SEH No. BLAIN 159365 14.00

SEH Inc. coordinated televising of the requested storm sewer segments from CBMH7 to FES12 in the Town Square Parking Lot.

After review of the televising data, the concrete arch pipe is generally in good condition. We recommend repair of the existing pipe with one of the 3 options listed below.

Option 1 Slip form lining- This option is the least invasive and will provide access to the majority of the parking lot during construction. The final product would perform as a new pipe and ensure no I&I is allowed into the pipe. The estimated construction cost to wet out, slip line, and grout several structures is \$450,000.

Option 2 Install new 65" Arch Pipe- Option 2 is to install new arch pipe, the process of installing new pipe would restrict access and limit the number of parking stalls during construction. The pipe would be installed with new procedures to eliminate I&I issues that currently exist. The estimated construction cost to install structures, castings, arch pipe, curb, gutter and bituminous patching is \$370,000. If the new pipe is installed with a parking lot improvement project, the estimated cost would decrease approx. \$50,000 to encompass solely the storm sewer work.

Option 3 Grout Arch Joints with Minor Structure Repairs- This option is the least invasive as all the work can be done via access through the existing manholes while maintaining parking lot access and capacity. Option 3 is to have the arch pipe dewatered then enter the pipe and structures to grout several of the rings and arch pipe joints. If this option is selected, it could range from \$20,000 to \$100,000 depending on the number of joints that are repaired. Currently the televising report shows 4 joints that are failing. Based on conversation with the contractor, if a single joint has infiltration and is repaired, often the joint up or downstream will start leaking. If all the joints are grouted, the costs will increase but the possibility of having issues in the future greatly decrease.

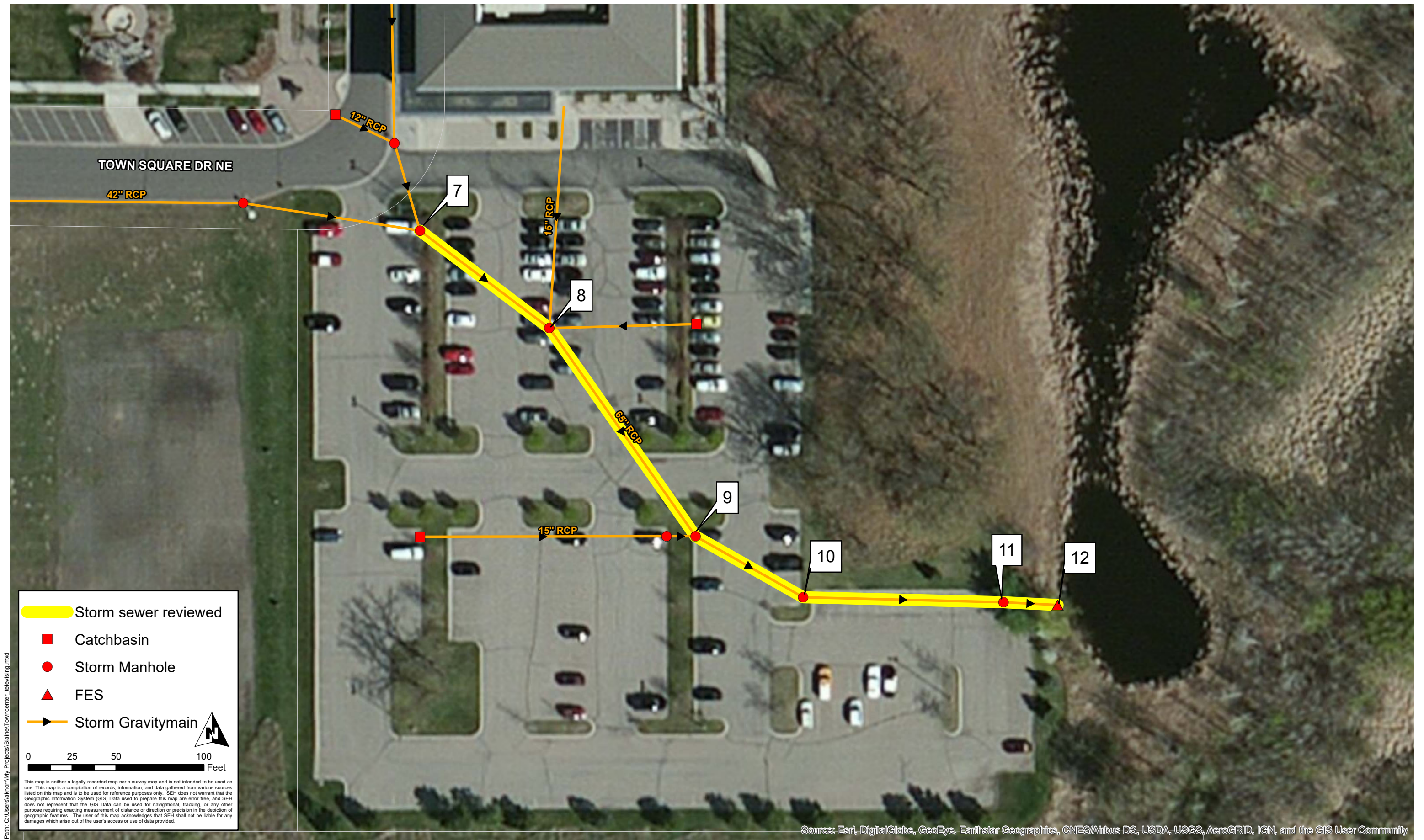
Attachments:  
Figure 1

djc

c: Greg Anderson, SEH

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TOWN SQUARE STORM SEWER REVIEW  
Blaine, Minnesota

FIGURE 1