FRIENDS OF CEDAR CREEK, MEETING OF JULY 24, 2018

The Annual Meeting of Friends of Cedar Creek, July 24, 2018 started with food at 6:00 pm. The program part of the meeting was called to order at 7:00 pm by Dave Van Gilder, President.

The program, Fort Wayne Tunnel Works, a deep rock CSO (combined sewer overflow) was presented by Mary Jane Slayton, Project Manager and T.J. Short, Construction and Design Manager. T.J. gave a detailed overview of the Fort Wayne sewer system and upgrades that are now in process. After the 1960's there were the sanitary systems, stormwater system, and the combined sewer system (1/3 are combined) with 41 combined sewer overflow locations. A typical year of rain will trigger 71 CSO discharges. The sewers are fine in dry weather, but with as little as a 1/4" of rain the sewers and rainwater will combine. A Long Term Control Plan (LTPC) agreement with the EPA was developed and approved in April 2001 with compliance due by 2021. The LTPC could have one overflow event on the St Joe River and the St Mary's and Maumee Rivers with three events. The focus of the work is repair and rehabilitation.

Thus: reduce through separation; treat more and store more, e.g. 169,595 ft new collection storage, 6571 houses protected, and move from 60,000,000 gal/day to 120,000,000 gal/day wet weather storage; collect more: the tunnel work, which will be the largest public infrastructure investment in Fort Wayne, protects neighborhoods, meets the federal mandates and meets future needs.

T.J. described the geological character of the ground under Fort Wayne and why the tunnel is being put where it is: glacial till with boulders and the like is not a good site for the tunnel. The tunnel is being placed below the till into dolomitic limestone which has three layers: Detroit, Wabash, and Louisville. An inverted siphon is being created where the storage in severe rains will start at Foster Park and fill up to the waste water treatment plant off Spy Run. This is a 5 mile long line 19 feet in diameter with a concrete liner with a finished diameter of 16'. There are 7 connectors allowing 800,000,000 gal/day to flow. The working shaft is 30' in diameter 200 feet deep created by drill and back blast. The sewage that flows into the tunnel is typically through a 4-8' die pipe. No more than an acre is being used for the construction at the top (fenced with manhole cover or hatch cover). Most of the drop shafts will be in parks and they will be drilled with an auger through 70' of dirt and not dynamited. A 10 foot casing of steel all the way down to the top of the storage pipe will create a vortex structure (water going in spins like a toilet when flushed).

Geological investigation went as much as 300' below the surface with samples extracted and saved for bidders to evaluate. The overburden was 10-20 feet in depth, the Detroit limestone was 40-60', Wabash formation 60-110' and the Louisville at 130'. There will be a starter shaft and a tall shaft that will be used to bring tracks down 450' for the drill. The shaft liner for the finished tunnel is in 6 pieces (many) and brought down and installed as the tunnel is drilled. Bentonite, a greasy acting clay, is used in the drilling and the ground up stone is pumped out in a slurry and sized for reuse in piles of stone.

There were 5 bids for the drilling with NTP Tunneling the successful bidder. The Tunnel Boring Machine (named MamaJo in August 2018) is coming from Schwanhau, Germany. It has a long journey to get to Fort Wayne, and the size of the equipment has required a circuitous route. At the end of its work in Fort Wayne it will be sold back to the manufacturer. The front of the machine is coming through the St Lawrence Seaway, the back part through Baltimore. $187,000,000 will be spent through 2021 with the final work to be completed by 2028. The drilling will be 24 hours/day 5 days/wk with maintenance on Saturdays of the cutters and oil lines. The expectation is that 71' per day will be drilled. The contractor has 100 people/day with 80 union personnel. There is some local management. Bunn Trucking & Equipment and Shambaugh & Son are both local subcontractors.