

ATTENDEES: SWMAC: Paige Maz, Regina Majercak, Paul Burgmayer, Heather Gill
CH2M: Daniel Wible, Courtney Finneran

PREPARED BY: CH2M

MEETING DATE: August 18, 2016

SUBJECT: August 2016 meeting

YouTube link:

<https://www.youtube.com/watch?v=V-RU-NKEeAk>

Review of Previous Meeting Minutes

- JULY 14, 2016 SWMAC meeting minutes – approved with one minor typographical edit

Public Comment

- Ken Taylor (Radnor resident; Willow Ave) asked about the status of the flood-impacted resident interviews and/or questionnaires, noting that this was approved by the Board of Commissioners at the same meeting that they authorized the Township Wide Assessment proposal
 - Paul stated that the SWMAC recently developed an online questionnaire, but that the Township Solicitor recommended that it be put on hold for now
 - Daniel agreed and stated that the Township Solicitor was also looking into this question with respect to in-person resident interviews
 - Ken asked if the SWMAC’s intention was to prevent the interviews and/or questionnaire from happening; both Regina and Paul stated that this was definitely not the case
 - Regina stated that in her opinion, either the interviews or questionnaire will occur at some point, but it will likely need to be restricted to flooding on public property
 - Ken noted that Cynthia Curley has a list of residents who have volunteered to be block representatives
 - Heather noted that residents are welcome to submit information (photos, memos, etc.) on flooding problems at any time and that such information would be passed on to CH2M
 - Daniel noted that the flooding model results shared to date were preliminary and that CH2M would soon have a much more detailed existing conditions model built; discussions around the more detailed model results would be more productive than those based on the preliminary results

Township Wide Assessment (TWA) Update

- Daniel noted that a lot of CH2M’s effort to date has been spent on Task 2 (Data Gap Analysis and Collection)
 - CH2M has continued reviewing record drawings in the prioritized study areas and will supplement with additional field investigation as needed
 - The N. Wayne data collection effort was more complicated and costly than originally anticipated
 - Courtney discussed CH2M’s process for data gathering
 - The GIS storm pipe data that CH2M had previously carried over from MapInfo is generally insufficient for hydraulic modeling purposes
 - Record drawings generally did not exist for N. Wayne; the recent field survey of N. Wayne for the purposes of this study has yielded a much more detailed hydraulic foundation for modeling purposes

- CH2M reviewed over 100 record drawings for the other prioritized study areas; the drawings were dated from 1954 to 2006; CH2M identified any stormwater feature (e.g. pipes, inlets, manholes, BMPs, etc.) that would impact the model
- Record drawings were photographed and then overlaid / georeferenced into GIS; based on these overlays, CH2M would then spatially locate in GIS the relevant stormwater features and record the available attribute information (e.g. invert elevations, pipe sizes, pipe slopes, public/private ownership, etc.)
- This effort resulted in much more refined storm pipe information that will be useful both for modeling purposes and asset management
- Courtney also noted that remaining data gaps and/or questions were discussed with Steve Norcini and other Township staffers
- Paul asked how CH2M knows when it needs to look for additional information; Daniel stated that it really depends on the specific area and that CH2M's engineers and modelers use their professional judgment/experience to determine what information is needed to flesh out the model and how to make reasonable assumptions to do so
- Heather asked if there was information was available from previous MS4 documentation that could help with this effort; Courtney noted that previous MS4 documentation included only public drainage / stormwater management information and that it was generally not detailed enough for modeling purposes
- Courtney noted that the TWA will help to satisfy some of the requirements of the new MS4 permit
- Discussion of preliminary N. Wayne basin modeling results
 - Daniel noted that the field survey of N. Wayne did not pick up everything (some inlets and pipes were inaccessible for various reasons), but it still provided enough information so that a hydraulic model could be reasonably constructed
 - Daniel stressed that the results of the modeling are preliminary and that the surface component of the model is still being developed
 - The drainage area to the N. Wayne basin is around 11% of the overall drainage area to N. Wayne and Poplar Ave
 - Around 10% of the drainage area to the basin is in Tredyffrin Township
 - The drainage area to the basin is 55 acres, 28% of which is impervious cover
 - Of the overall drainage area not going to the basin (89%), around 73% is in Tredyffrin Township
 - The drainage area not going to the basin is 439 acres, 30% of which is impervious cover
 - Existing conditions runoff flow results for both the basin and the stream were presented for the 100-year, 1-hour design storm
 - The peak flow in the stream was 980 cubic feet per second (cfs) in the vicinity of N. Wayne and Poplar
 - The peak flow from the basin was 49 cfs
 - The basin discharge is around 5% of the total flow in the stream for the 100-year, 1-hour storm
 - The peak discharge from the basin occurs slightly earlier than the peak flow in the stream
 - CH2M modeled three scenarios:
 - Original basin design, which had approximately 49,000 cubic feet of storage capacity
 - Existing basin conditions, in which there is approximately 12-18 inches of sedimentation within the storage pipes, as well as a slightly obstructed inflow point

- Proposed basin conditions (Option E from the Chagrin Valley design), which has approximately 147,000 cubic feet of storage capacity, as well as a reconfigured outlet structure
- Results of the three model scenarios were presented, also for the 100-year, 1-hour storm event
 - Comparing the discharges from the existing conditions basin with the cleaned out (i.e. restored to original conditions) basin, not much of a difference was seen
 - The proposed basin yielded a peak discharge of around 16 cfs compared to around 49 cfs for the existing conditions basin and around 47 cfs for the restored basin; however, when compared to the flow in the stream, the proposed basin yielded a peak rate reduction of around 1.7%
 - For the September SWMAC meeting, CH2M plans to update the analysis by overlaying the surface topography into the model
- Daniel noted that CH2M also looked at the 5-year, 1-hour storm event and saw similar trends
- SWMAC would like to see the results for smaller, more frequent storm events
- Tom L. (N. Wayne resident) asked if the analysis could show the capacity of the stream (i.e. at which point the stream banks are overtopped); Regina also noted that it would be helpful to know what the “breaking point” is and would like to see multiple storm events modeled so that the problematic conditions can be isolated
- Ken Taylor asked if CH2M had modeled any of the other proposed basin options; Daniel noted that this is something that can be done fairly quickly
 - Heather recommended holding off on modeling other basin options until the model has been refined
 - Daniel added that the TWA will also explore other potential flood mitigation projects in the watershed, including in Tredyffrin Township
- Bryan Morrison (N. Wayne resident) asked if the 11% estimate was area-based or runoff volume-based; Daniel responded that it was area-based (i.e. the drainage area to the N. Wayne basin is around 11% of the overall drainage area to N. Wayne and Poplar Ave)
 - Bryan also questioned the accuracy of the 28% imperviousness of the basin drainage area; Bryan suggested that flow meters could be installed in the pipe leading to the basin to get a more accurate estimate of the flow
 - Paul noted that most of the drainage area to the basin was residential property
 - Bryan noted that “when that basin gives way, that’s when a wall of water hits Poplar Ave and floods everybody out”; so even though the basin drainage area to the basin is small compared to the overall basin, it is still significant to localized flooding
- Bill Bruno (N. Wayne resident) asked if the changes that Amtrak made to the tracks 5 years ago were taken into account (those changes entailed lots of disturbance and additional impervious cover – the tracks are now “like a very large parking lot”)
 - Bill stated that the current basin is defective and that a few years ago it ruptured and the Township had to fix it; when the basin ruptured, it was like a “tsunami” coming toward his and others’ houses
 - At one point, the Township removed the orifice plate; at Bill’s request, the Township replaced the plate so that water would back up into the pipes underneath the basin
- Regina asked if the only issue associated with the current basin is the sedimentation in the pipes
 - Regina’s impression was that there was some other type of dysfunction or failure associated with the basin
 - General confusion over the current conditions of the basin

- Bill recommended that the best course of action would be to increase the storage in the basin so that it won't overflow
 - Regina noted that even if there was zero discharge from the basin, there would still be a significant amount of runoff that would remain uncontrolled; therefore, the best course of action would be to identify the most cost-effective solution at the basin and then use the remaining budget to help manage runoff in the larger area not draining to the basin; in this way, solutions can be identified to help manage runoff in the overall drainage area
- Ken stated that he had notified the BOC of a PA appellate court case (Bretz Vs. Central Bucks School District), which is a seminal case having to do with the legal liability of a governmental entity for stormwater projects that have failed
 - Ken noted that this case may be relevant to the N. Wayne basin, which he claimed was not designed for maximum capture, was not constructed per the design, and was not properly maintained by the Township
 - It could be argued that the failure of the basin and its subsequent impacts downstream were more problematic than if the basin had never been built
 - The Township has ultimate responsibility / liability for the functionality of the basin
 - The precedent established by that case may require a decision-making process other than “best bang for the buck”
 - Regina stated that the SWMAC understands these issues and suggested that it might make sense to repair the basin now and then to also possibly reconstruct/expand it later on

Discussion of Draft Budget for 2017-2021 & MS4 Permit Scope / Fee Proposal

- Discussion on CH2M proposal for addressing new MS4 permit requirements
 - Courtney noted that the hope was for the SWMAC to review the proposal and then make a recommendation at the September SWMAC meeting
 - Courtney presented several slides summarizing the MS4 permit requirements and what is included in CH2M's scope of work
 - There are three major updates to the PAG-13 NPDES MS4 permit:
 - Enhanced stormwater mapping requirements (due Sept 2017)
 - Pollution Control Measures (due 2019, 2020, and 2022)
 - Pollutant Reduction Plan (due Sept 2017)
 - Stormwater system map requirements have increased significantly
 - Newly required features include private BMPs (2003-2016), drainage areas to those private BMPs, drainage areas to outfalls to impaired streams (approximately 140)
 - For the private BMP mapping, CH2M proposes to convert the existing tracking system via the Township's grading permit inventory to GIS format
 - Pollution Control Measures (PCMs) are activities to identify and control pollutant loading to impaired waters; PCMs need to be prepared to mitigate priority organic compounds, such as PCBs, pesticides, or other organic compounds
 - Courtney presented a table summarizing the Township's impaired waters, causes of impairment, required PCMs, and required Pollutant Reduction Plans (PRPs)
 - With respect to PRPs, the Township is required to identify specific projects that will help mitigate the specified water quality issues in each watershed
 - 79% of the Township is required to have a PRP (7000 acres)
 - 21% of the Township is required to have just the PCM (1850 acres)
 - The TWA area overlaps with the required PRP areas by 20%
 - PRPs are due to DEP in September of 2017

- Two public meetings are required
- Paul asked how the pollutant loads are determined (i.e. are they measured?); Courtney noted that pollutant loads are assumed based on land use
- Paul asked about the cost for the CH2M’s MS4 permit proposal
 - Courtney noted that the 2016 cost, which includes some mapping and updating of the Township’s Minimum Control Measures (MCMs) is \$50k
 - The 2017 cost, which includes the PCMs and PRPs, is \$117k
- Courtney noted that the proposal also includes the preparation of a public outreach plan; the SWMAC and the Township would still be responsible for implementing this plan
- Heather requested a copy of the Township’s 2016 MS4 report, which CH2M helped to prepare; Heather stated that she would reach out to Leah McVeigh for this report
- Paul presented several slides on the 5-year budget plan
 - Paul reviewed the 2013 ordinance that stated: collected fees are to be used for “operation, maintenance, repair, administration, replacement, and improvement of all stormwater services”
 - In 2015, the SWMC proposed and the BOC agreed to the following budget allocations:
 - 70% for capital improvement projects
 - 20% for repair/maintenance/replacement
 - 8% for administration/general engineering
 - 2% residential credits for stormwater installations
 - The SWMAC’s goal is to focus most spending on new projects that improve stormwater management; however, the Township’s list of identified replacement projects has steadily been growing, with over \$2M in repairs identified so far this year
 - CH2M’s TWA will be identifying capital projects; the Banbury flood mitigation project is the only capital project currently on the budget
 - Based on Steve’s prioritized repair costs through 2020, there is only enough cost remaining to implement one Banbury-type capital project every three to four years
 - SWMAC looking for guidance from BOC on the following options:
 - 1) stick with the current 70%/20% plan for spending stormwater fees; any repair costs exceeding these would be funded from another source
 - 2) fund only a portion of repairs that directly related to stormwater (as opposed to road/structure repairs)
 - 3) use the currently proposed Radnor administration repair schedule, which would allow for implementation of one capital improvement project every 3-4 years
 - This option utilizes the recommended schedule for repairs developed by Steve
 - Any other options?
 - In general, the identified culvert repairs are not in flooding areas and would be repaired / replaced “in kind” (i.e. to the existing dimensions)
 - Ken noted that when AMEC did their stormwater fee analysis, they recommended a higher fee based on the identified projects at the time; the eventually-approved fee amount (\$29/BU) was less than the lowest of three fee scenarios considered by AMEC (\$59/BU)
 - According to Ken, the stormwater budget is underfunded and therefore the question of increasing the stormwater fee should be reconsidered
 - Regina noted that the new MS4 permit requirements may reinforce the need to revisit the stormwater fee
 - The fact that there are multiple expensive repair projects in the current budget and multiple capital projects that will soon be added to the budget (per the TWA) should help to address criticisms that the current stormwater fee is already too high

- Regina suggested that the SWMAC should go ahead and make a recommendation on the budget, as opposed to asking for guidance
 - Paige suggested that the SWMAC might recommend limiting the annual stormwater fee for repairs to \$200k; any necessary repair costs above that amount would have to come out of a separate Township fund
 - The SWMAC will discuss the 5-year budget again at the September meeting

Old/New Business

- Malin Road Culvert, Arthur Road, Radnor Street/Willow Ave repair work - the SWMAC will review the information provided by Steve and make a recommendation at the September meeting
- Daniel noted that at the 8/15/16 BOC meeting, the BOC approved the televising and cleaning effort, as well as the selection of Gannett Fleming as the design engineer for the Highview Road outfall project
- Banbury Way project – the kickoff meeting occurred on 7/15/16; T&M has prepared a schedule for design (final design will be completed by the end of January 2017)
- Daniel noted that the Township recently received an award from the PA Resources Council for leadership in stormwater management; there will be an award ceremony taking place at the Villanova Hotel and Conference Center in November
- Daniel also provided updates on various other stormwater projects in the Township (see attached August 2016 Stormwater Tracking Table for detailed information)

Next SWMAC meeting: 9/8/16 (Radnorshire room)

Action Items

- **SWMAC** to review the information provided by Steve regarding the Malin Road culvert and the proposed storm inlet and pipe projects at Arthur Road and Radnor Street/Willow Ave prior to the September SWMAC meeting
- **SWMAC** to review CH2M's MS4 permit proposal prior to the September SWMAC meeting