

**CHELTENHAM TOWNSHIP SUMMARY OF SANITARY SEWER PROJECTS AND WORK COMPLETED
FOURTH QUARTER 2015**

Act 537 Plan

1. Arro and BCM collaborated with Cheltenham Township and the municipal engineers from Abington and Jenkintown on final plan revisions, clarifications, etc., in particular regarding draft Agreement flow limits for each municipality and related cost-sharing responsibilities.
2. Comments generated by participating municipalities were incorporated into the Agreements.
3. The completed plan was approved by all municipalities and submitted to PaDEP 10/2014.
4. Meetings were held with PaDEP to review the plan 12/2014. PaDEP has requested that the plan be withdrawn and revised to emphasize long range I/I reduction and remove equalization tank planning.
5. Monthly meetings are being held with PaDEP to review the progress of plan revisions and study for I/I reduction.

Interceptor A Replacement – Phases 2A, 2B and 3

1. BCM is continuing with the replacement design of the interceptor along Tookany Creek, from York Road to Central Avenue. This includes development of base topography plans from previously completed aerial surveying, manhole and utility surveying, system layout and connections, basic pipe design and material selection, PADEP and other Agencies permitting, bidding and technical specifications, site inspections, etc.
2. An additional crossing was added to the project to remove a portion an existing connector that has been a source of SSOs and constant maintenance work. The crossing is located behind Ogontz Park.
3. An additional crossing and design modification behind the Public Works facility has been added to the project. This will allow the removal of the Public Works pumping station also a source of maintenance work and operational costs.
4. Wetlands investigations and clearance reports for all utility line stream crossings were prepared and provided to Cardno BCM by Munro Ecological Services in August 2014.
5. The design is being coordination with the replacement of the Tookany Creek Parkway Bridge replacement project and Tookany Creek Trail Master Plan.
6. Construction Bids were received 5/2015 from 5 contractors and rejected due to unexpected high costs.
7. Meetings were held with Township Officials to incorporate design revisions for reducing construction costs and meeting additional permit requirements including placement of fill material within the Township
8. The revised project was resubmitted for permits (NPDES, Stream Crossings, Water Quality Management, Highway Occupancy) 11/2015.
 - a. NPDES (MCCD) review in progress.
 - b. Stream Crossings (PaDEP) review in progress.
 - c. Stream Crossings (ACoE) review in progress.
 - d. Water Quality Management (PaDEP) permits received 12/2015.
 - e. Highway Occupancy (PennDOT) permits received 11/2014 and extension received 10/2015.
9. ACoE and the Pennsylvania Historical and Museum Commission (PHMC) are requiring historical investigation for the project. Township Officials, BCM, and Munro are meeting to determine the scope and timing of the investigation.
10. ACoE has determined the project site contains areas of possible Bog Turtle habitat and has requested a review from US Fish and Wildlife. Munro has submitted contrary findings to USFW as requested. The USFW review is in progress.

Additional Items

1. The agreement with PWD raise the flow limit from 18 cfs to 29 cfs has been approved by all municipalities and PWD 9/2014. Option 3 is being evaluated to determine if the flow limit can be reduced back down to 18 cfs.
2. In late-August, six (6) flow meters were installed through the Township to collect flow data for a period of 52 weeks. The information obtained will be analyzed to determine the effectiveness of prior repairs and locate other areas where I/I repairs are needed. 4 additional flow meters were installed in March 2015 for a total of 10 meters. 3 more meters are being considered for the Abington connections.
3. In light of the submitted documentation showing a reduction of flows as a result of the work completed in the watershed, PaDEP released 584 EDUs on June 16 for the revised Connection Management Plan submitted 5/29.

Cheltenham Township: Correction Action Plan (CAP) Quarterly Status

(revised 1/7/2016)

Corrective Action Plan Task	Status	Comments
Interceptor "A" Bypass Pumping	ONGOING	Currently in operation. Anticipated to no longer be needed after Interceptor A Replacement Phases 2A, 2B, and 3 are completed (target date: early 2017).
Act 537 Plan	ONGOING	Monthly meetings are being held with PaDEP to review the progress of plan revisions and study for I/I reduction based on more recent data for improvement recommendations
PWD Intermunicipal Agreement	ONGOING	Update agreement with PWD to raise flow limit from Township from 18 cfs to 29 cfs. Approved by Cheltenham, Abington, Jenkintown and PWD 9/2014. Agreement required to be in place prior to Act 537 plan approval.
Connection Management Plan (CMP)	ONGOING	In light of the submitted documentation showing a reduction of flows as a result of the work completed in the watershed, PaDEP released 584 EDUs on June 16 for the revised Connection Management Plan submitted 5/29.
Phase 1A and 1B Sanitary Sewer Lining	COMPLETED	Construction was completed in 9/2013. Flow metering project started to quantify the lining improvements. Closeout administration work in progress.
Phase 2: Lining of Sanitary Sewers and Laterals	COMPLETED	Construction is complete. Closeout administration work completed. Final change order and payment approved
Phase 2A, 2B, & 3: Interceptor "A" Replacement, Manhole A-94 to A-31	ONGOING	Plan revisions for cost reduction and permit review completed and resubmitted to ACoE, PaDEP, PHMC, and MCCD. PaDEP WQMII permit approved for revisions. PHMC and ACoE requiring additional historical investigation. ACoE may also require additional Bog Turtle investigation. Meetings being scheduled to determine the scope and timing of the investigations. PennDOT permits extended.
Phase 4: Interceptor "A" Replacement, Manhole A-31 to A-1	NOT STARTED	Section A-36 to A-31 removed and added to Phase 2A
Phase 5A, 5B: Replacement of Sewer from Phase 1A/1B lining	IF NECESSARY	
Hydrogeologic/Groundwater monitoring study	COMPLETED	Installation of groundwater (GW) monitoring wells by Del Val. High GW areas would have lateral rehab priority. Item #6b in 2012 CAP
JC Melrose Interceptor D Pipe Bridge & Sanitary Sewer Replacement	COMPLETED	Completed in 2012
Roof Drain Inspection and Disconnections	NOT STARTED	Item #7 in 2012 CAP. Awaiting implementation.
Manhole Inspection Program	COMPLETED	
Manhole Rehabilitation	NOT STARTED	Review field inspection results to determine manholes to be replaced. Contract documents to be developed.
Development of FOG ordinance	COMPLETED	The ordinance for management of fats, oils and grease in the sanitary sewer system was adopted late 2013. Implementation and compliance issues being reviewed by Township and Township Engineer
Sump Pump Inspections	ONGOING	

SANITARY SEWER STATUS UPDATE

January 6, 2016

PWD Timeline per agreement dated March 19, 2014 – see attached flow chart

Options evaluated:

1. Interceptor – Evaluation of a sanitary sewer interceptor through Philadelphia per PWD direction to connect to a point downstream of their limiting pipe. DEP is not in favor of this option. PWD supports this option.
2. Equalization Tank – Evaluation of potential EQ sites and potential for EQ tank to control flows to 18 cfs per PWD direction. DEP is not in favor of this option. PWD supports this option.
3. Inflow/Infiltration reduction and diversion – Evaluation of substantial and concentrated reduction of I/I and flow diversion to other municipalities or PWD sewer line as directed by DEP. PWD has expressed concern that flows will not be able to be reduced enough to meet the 18 cfs limit, and even if they can be, it would not be able to occur within the remaining Timeline period. Evaluation expected to be completed in Nov. or Dec. 2015 depending on input from agencies.

Key Dates:

PWD agreement signed – 3/19/14

Options 1 and 2 evaluated – April 2014 to October 2014

Act 537 Plan submitted to DEP – 10/8/14

Meeting with DEP to discuss Option 2 and 3 evaluation – 12/12/14

Meeting with DEP where Option 3 was requested – 12/17/14

Act 537 Plan withdrawn per DEP request – March 2015

Option 3 evaluation started – February 2015

System Model sent to PWD on September 2, 2015

Meetings:

Progress Meetings held: April 7, 2015, May 5, 2015, June 16, 2015, July 16, 2015 and October 15, 2015 with DEP, Jenkintown, and Abington

Conference calls with PWD: August 5, 2015, September 1, 2015, October 8, 2015

Progress Meeting October 15, 2015 with DEP, PWD, and Abington (Jenkintown absent due to emergency) – discussion brought all parties up to speed on all aspects of evaluation since some had not been at all of the meetings. Discussed the concept of diversion and projected I/I reduction to meet 2021 date. PWD's staff reviewed diversion and found that diversion could not occur at the Township line since the pipes accepting flow already had capacity issues – diverted flows could not enter the system until some distance further into the City. ARRO's I/I reduction modeling is not putting Township

close to the 18cfs on its own. DEP agreed that intense I/I reduction and an EQ tank and seemed to be the only answer. They stated that the Township should do some intense I/I work prior to sizing the tank to try to keep the tank as small as possible. DEP indicated the Township would likely be under a consent decree with the tank. DEP agreed to send a letter to the Township shortly after the meeting once they had a chance to determine if this would be handled as 537 planning or as a CAP matter.

Township Planning Meeting November 12, 2015 with staff, consultants, and select Commissioner group to discuss 10-year plan for I/I Identification and Remediation.

Total expenditure 2000-2006: \$ 1,539,697.59

Total expenditure 2007-2015: \$16,227,791.72*

*also \$7.5M borrowed but not yet spent for Interceptor A Ph. 2A, 2B, 3 and part of 4 work

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Cheltenham Township Option 3 (I/I Reduction)

January 7, 2016

PENDING PROJECTS:

- 2016 – Interceptor A, Ph. 2A, 2B, 3 and Part of 4 replacement of 17,000 lf of 36” and 42” pipe; (\$7.5M estimated, originally bid in 2015 and being rebid after value-engineering revisions)
- 2016 – Relining of 250 lf of leaking 8” pipe along Ashbourne Road. (\$20,000 estimated)

PROPOSED PROJECTS (2016-2026): (\$40M ALLOCATED IN BUDGET FOR PROPOSED PROJECTS FOR YEARS 1-5, \$40M ANTICIPATED FOR YEARS 6-10 FOR TOTAL PROJECT COSTS OF \$80M)

1. Interceptor A – Remainder of Phase 4 and Phase 5 replacement;
2. Interceptor B – Cleaning and Televising, Grout Repairs and Testing where applicable, Replacement or Relining if necessary based on televising.
3. Adopt and Implement Roof Drain Inspection and Disconnection Ordinance;
4. Adopt and implement Private Lateral Inspection, Rehabilitation/Replacement Ordinance;
5. Continued flow monitoring and metering. Add meters as necessary to monitor key manholes;
6. Neighborhood sewer rehabilitation and repairs:
 - a. Initial focus on older neighborhoods and areas of suspected I/I. Remainder of Township will then be divided into drainage area sections for methodical neighborhood sewer rehabilitation and repairs which will encompass the entire Township.
 - b. Work will be done on a manhole drainage area basis starting with the 4 areas identified on the “Areas of Potential Projects” map, being located in Glenside, Wyncote, Cheltenham Village, and Melrose Park East and including approximately 60,000 lf of Township-owned collection system.
 - c. Work will include:
 - i. Smoke Testing to identify and document roof drain, area drain and sump pump connections as well as faulty laterals and sewer mains. Residents will be notified to remove illicit connections.
 - ii. Cleaning and Televising Collection system in each neighborhood drainage area.
 - iii. Grout Repairs and Testing where applicable.
 - iv. Replacement or Relining of Collection system where applicable based on televising.
 - v. Lateral Saddle repairs where relining or replacement occurs.
 - vi. Manhole Rehabilitation.

Cheltenham Township Inflow and Infiltration Identification and Remediation

January 7, 2016

WORK COMPLETED:

Cleaning, Televising, and Grout Sealing:

- 2000/2001 Phase I – 87,000 lf various pipe sizes;
- 2001/2002 Phase II – 20,000 lf various pipe sizes;
- 2005/2006 Phase III – 139,000 lf various pipe sizes;
- 2007 Phase IV – 136,300 lf various pipe sizes;
- 2008 Phase V – 190,000 lf various pipe sizes;
- 2015 – Portion of Interceptor B cleaned and televised due to FOG – no repairs required.

Repairs:

- 2005 – Replacement of 400 lf of 12” sewer;
- 2007 – Removed Waverly Road leaf site stormwater connection to sanitary sewer;
- 2009 – Replaced approx. 200 lf of 24” Interceptor A at SEPTA bridge;
- 2011 – CAP Ph. 1 replacement of 160 lf of 8” sewer;
- 2011 – CAP Ph. 2 cured in place lining of 32,923 lf of 8”, 10”, and 12” sewer;
- 2011 – Replacement of approx. 160 lf of 8” sewer pipe;
- 2013 – Interceptor A, Ph. 1A and 1B cured in place lining of 11,653 lf of 20” and 22” sewer.

PROFESSIONAL SERVICES AND OTHER HISTORY:

- 2005 – Started inspection program for illegal sump pump connections;
- 2005 – Corrective Action Plan developed;
- 2006 – Consent Order and Agreement with PADEP;
- 2007 – Added (2) additional full-time employees to Sewer Department;
- 2007 – Engineering firm hired to study Consent Order and advise Township;
- 2008 – Engineering firm contract expanded to include additional services and develop bid documents for repairs found during Ph. III and IV televising;
- 2010 – Installed temporary sanitary sewer bypass pumping system;
- 2010 – Engineering firm hired to complete the new Act 537 Plan;
- 2013 – Adopted Fats, Oils and Grease Ordinance and inspection program;
- 2014 – Engineering firm hired to develop design plans and bid documents for Interceptor A, Ph. 2A, 2B, 3 and Part of 4 replacement;
- 2014 – Engineering Firm hired to evaluate parallel interceptor and EQ tank;
- 2014 – Installed 6 meters to monitor sewer flows
- 2014 – DEP will not approve an equalization system or a new interceptor, Cheltenham must evaluate elimination of I/I and consider flow diversion;
- 2015 – Engineering Firm hired to evaluate Option 3 for the Act 537 Plan for I/I reduction and flow diversion;
- 2015 – Installed 4 additional meters to monitor sewer flows (10 total).

Total expenditure 2000-2006: \$ 1,539,697.59

Total expenditure 2007-2015: \$16,227,791.72*

*also \$7.5M borrowed but not yet spent for Interceptor A Ph. 2A, 2B, 3 and Part of 4 work