

CHELTENHAM TOWNSHIP  
 POSSIBLE SHORT TERM FLOODING MITIGATION MEASURES  
 November 2, 2011

DRAFT

ITEM	Four item groups are shown on the subsequent pages. They are listed in order of group priority and include: "P" items (potential point repair locations); "C" items (potential coffin block locations); "D" items (potential creek dredging and/or cleaning locations); and "B" items (potential basin locations).	
<u>Point Repair (P Items) General Notes:</u> These items are for repairs at specific locations to attempt improvements in the stormwater collection and/or conveyance system.		
P-1	<b>LOCATION</b>	On both sides of Waverly Road, between Lismore Avenue & Harrison Avenue
	<b>DESCRIPTION</b>	Reconstruct/replace storm drain inlet to provide larger throat opening and reduce surface runoff reaching Harrison Ave low spot – near #215.
P-2	<b>LOCATION</b>	On both sides of Woodland Road, near Greenwood Avenue
	<b>DESCRIPTION</b>	Reconstruct/replace storm drain inlet to provide larger throat opening and reduce surface runoff crossing Greenwood Ave and entering Maple Ave, which ultimately runs along swale behind 146 Greenwood Ave.
P-3	<b>LOCATION</b>	Stormwater swale behind 146 Greenwood Avenue
	<b>DESCRIPTION</b>	Modify design of existing grouped inlet covers to improve the capability for surface water to get into the underground culvert (to help reduce flooding of homes near 146 Greenwood Ave).
P-4	<b>LOCATION</b>	Robinson Park - northerly area
	<b>DESCRIPTION</b>	Improve existing stormwater inlet structure to help to allow greater flow into underground culvert.
P-5	<b>LOCATION</b>	At low area behind Bickley Rd homes along existing concrete culvert wall
	<b>DESCRIPTION</b>	Determine if wall weep holes are ineffective. Consider possible improvements such as behind-the-wall installation of drainage rock and fabric, or high-flow drainage composite (e.g. miradrain).
P-6	<b>LOCATION</b>	In creek near North Ave & Paxson Ave intersection
	<b>DESCRIPTION</b>	Lower existing sanitary sewer chimney manhole to remove obstruction in creek and improve flow. Should consider possible negative impacts on aged sanitary sewer pipe system.
P-7	<b>LOCATION</b>	Adams Ave Bridge (Philadelphia)
	<b>DESCRIPTION</b>	Remove/reduce a major choke point for Tookany Creek at the Adams Ave Bridge arches.
P-8	<b>LOCATION</b>	Behind 215 Harrison Avenue at junction of creek channels
	<b>DESCRIPTION</b>	Install flap gate on existing storm drain outlet pipe and construct supplemental storm drain manhole that discharges into the channel at a higher elevation.
P-9	<b>LOCATION</b>	On both sides of Harrison Avenue near #215
	<b>DESCRIPTION</b>	Reconstruct/replace storm drain inlet to provide larger throat opening to better allow surface water drainage to channel behind #215.

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**Coffin Blocks (C Items) General Notes:** The purpose of this item is an attempt to prevent overbank flooding of protected areas and for use as creek bank armoring. The coffin block is made of concrete, measures 2 foot wide by 2 foot high by 6 feet long, and weighs approximately 1.8 tons. They are relatively inexpensive, but not aesthetically pleasing, nor 100% watertight. Water retainage abilities can be improved by utilizing joint sealants.

C-1a	<b>LOCATION</b>	Behind 215 Harrison Avenue at junction of creek channels
	<b>DESCRIPTION</b>	2 tiers along northerly side of concrete channel for approx 100 LF.
C-1b	<b>LOCATION</b>	Behind Harrison Ave from Springhouse Lane to near Waverly Road (includes C-1a)
	<b>DESCRIPTION</b>	3 (or maybe 2?) tiers along northerly side of concrete channel for approx 1,092 LF.
C-2	<b>LOCATION</b>	From culvert junction on Brookdale, down to Rices Mill Road bridge
	<b>DESCRIPTION</b>	1 tier along top of earthen levee for approx 1,157 LF. May require additional footing construction near pump station.
C-3	<b>LOCATION</b>	Along entire length of Shoemaker Drive between existing walls
	<b>DESCRIPTION</b>	3 (or maybe 2?) tiers for approx 1,200 LF. Will require integrated roadway side storm drain (french drain, duck bill outlets?).
C-4	<b>LOCATION</b>	Downstream from High School Road bridge along northerly bank
	<b>DESCRIPTION</b>	Shore up bank with multiple tiers as needed for approx 150 LF.
C-5	<b>LOCATION</b>	Rock Lane from Serpentine Lane to Widener Road (underground box culvert)
	<b>DESCRIPTION</b>	2 tiers along both sides of creek for approx 600 LF.
C-6	<b>LOCATION</b>	Behind Mill Road homes from # 7859 (Mr. Sharp) to Harrison Avenue bridge
	<b>DESCRIPTION</b>	2 tiers for approx 624 LF.

**Dredging/Cleaning (D Items) General Notes:** The purpose of this item is to rid the creek of obstructions which impede stormwater flow. Creek cleaning constitutes the removal of large objects (stones, logs, etc.) as well as minor deposits of sand/gravel. The word dredging is being used to describe the scraping of mucky/sandy areas. Dredging will not be an attempt to deepen the creek (which could destabilize the banks) but to restore the natural conveyance capacity of the creek. Where possible, large stone will be reused for bank armoring. Otherwise, removed material will need to be trucked out and disposed of at an appropriate location. Dredging will have to be repeated yearly or bi-annually in order to avoid siltation build up. This process will likely produce a profound aesthetic change and can be expected to adversely impact stream morphology. It is not anticipated that this work will significantly increase the creek's stormwater conveyance capacity. If cleaning and dredging of the creek is to be done on a regular schedule, it may make financial sense to consider purchasing the required equipment and train operators.

D-1	<b>LOCATION</b>	Tookany Creek along rear of lower Bickley Rd down to Waverly Rd
	<b>DESCRIPTION</b>	Clean out accumulated sand and stone in concrete channel.
D-2	<b>LOCATION</b>	Tookany Creek from Waverly Road down to Rices Mill Road
	<b>DESCRIPTION</b>	Clean out creek along upper section and dredge along levee section.
D-3	<b>LOCATION</b>	From Rices Mill Road to Glenside Avenue
	<b>DESCRIPTION</b>	Clean out creek.
D-4	<b>LOCATION</b>	From outfall of culvert below Glenside Avenue down to Greenwood Avenue
	<b>DESCRIPTION</b>	Dredge creek.

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D-5	LOCATION	From Greenwood Avenue to Church Road
	DESCRIPTION	Dredge creek.
D-6	LOCATION	From Old York Road to Church Road, behind Shoemaker Drive
	DESCRIPTION	Dredge creek. Remove section of old dam.
D-7	LOCATION	From Church Road to High School Road Bridge
	DESCRIPTION	Mostly clean out creek—some minor dredging.
D-8	LOCATION	From High School Road Bridge to Mill Road
	DESCRIPTION	Mostly clean out creek—some minor dredging near Silver Maple Spur.
D-9	LOCATION	From Mill Road down to Second Street
	DESCRIPTION	Mostly dredging of creek with some minor cleaning.
D-10	LOCATION	From Second Street to Central Avenue
	DESCRIPTION	Minor cleaning of creek.
D-11	LOCATION	From Central Street down to Fairmount Park
	DESCRIPTION	Cleaning and dredging of creek.
D-12	LOCATION	Behind Oak Road homes near Springhouse Lane
	DESCRIPTION	Clean out large rubble and stack on banks.

Detention Basin (B Items) General Notes: The purpose of this item is an attempt to provide some stormwater storage relief during more frequent storm events. The relatively limited area available for basin use would make them ineffective for significant rainfall events. The construction of detention basins along an existing waterway is a very complex relationship and requires careful analysis. There is typically a lag time between the beginning of a storm event and the peak stormwater flow in the creek. Since the main function of a detention basin is to provide a delayed release of stormwater, care must be taken as to not have the release from multiple basins actually exacerbate the peak flow and increase flooding. The potential basin locations being considered are typically within Township parks. The construction of these basins would then make portions of the parks unusable. They would likely be considered a safety hazard area and need to be fenced. They would not be aesthetically pleasing and would require routine cleaning out and maintenance.

B-1	LOCATION	Robinson Park - northerly area
	DESCRIPTION	Replace existing stone wall near Bent Road with "Flood Wall".
B-2	LOCATION	Bird Sanctuary and old bus lot near Rices Mill Road and Glenside Avenue
	DESCRIPTION	Construct basin in one or both of above locations.
B-3	LOCATION	Two properties northwesterly of Paxson Avenue and North Avenue (old Mack Electric)
	DESCRIPTION	Buy-out properties and create basin
B-4	LOCATION	Northerly side of Cheltenham Hills Dr between Washington Lane and SEPTA 1012 Bridge
	DESCRIPTION	Create basin.
B-5	LOCATION	Ogontz Park - westerly field area
	DESCRIPTION	Create basin.

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B-6	<b>LOCATION</b>	Gimble Park - northeasterly area behind ball fields
	<b>DESCRIPTION</b>	Create basin.
B-7	<b>LOCATION</b>	Below Ashbourne Road and northeasterly of Tookany Creek Parkway
	<b>DESCRIPTION</b>	Create basin.
B-8	<b>LOCATION</b>	Along Rock Lane in park area
	<b>DESCRIPTION</b>	Create basin. This is a small area compared to most sites being considered.
B-9	<b>LOCATION</b>	High School Park - athletic field above Mill Road bridge
	<b>DESCRIPTION</b>	Create basin.
B-10	<b>LOCATION</b>	Grove Park
	<b>DESCRIPTION</b>	Create basin. This is not a large area and there are existing homes nearby. Aesthetic trees in park would need to be removed.
B-11	<b>LOCATION</b>	Waverly Road Park
	<b>DESCRIPTION</b>	Create basin. This is a small park area and aesthetic trees would need to be removed.
B-12	<b>LOCATION</b>	Curtis Park - southeasterly area near dog park
	<b>DESCRIPTION</b>	Create basin. Discounted as viable area because of extensive sanitary sewer manholes in this area and resultant I&I concerns

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