

MS4 and POLLUTANT REDUCTION PLAN MAP

MIDDLESEX TOWNSHIP

JULY 2017



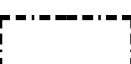

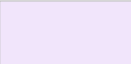

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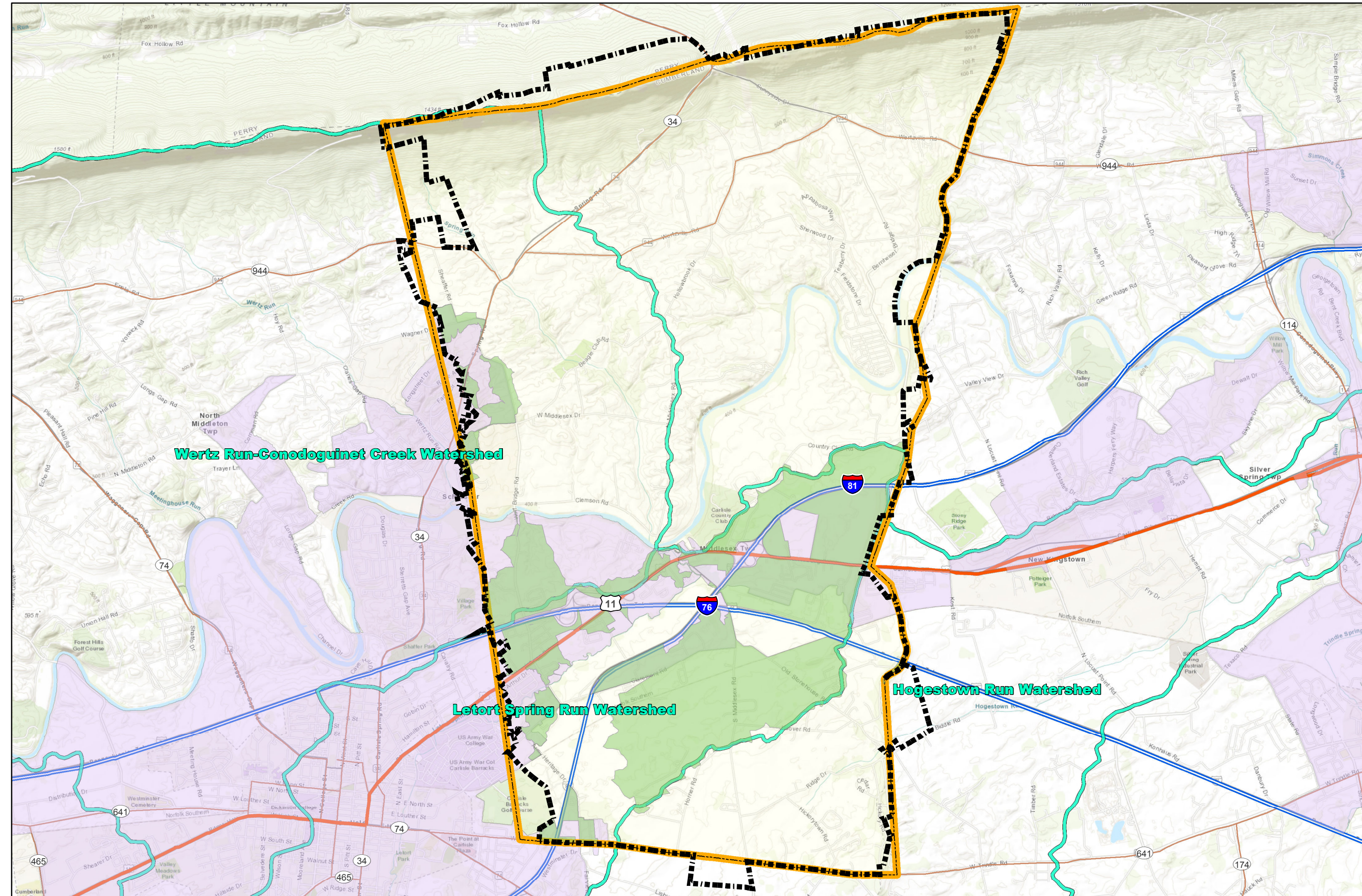
BMP	BEST MANAGEMENT PRACTICE
CWA	CLEAN WATER ACT
GIS	GEOGRAPHIC INFORMATION SYSTEM
HUC	HYDROLOGIC UNIT CODE
MS4	MUNICIPAL SEPARATE STORM SEWER SYSTEM
NWI	NATIONAL WETLANDS INVENTORY
PA BMP MANUAL	PENNSYLVANIA STORMWATER BEST MANAGEMENT PRACTICES MANUAL (PA DEP, 2006)
PA DCNR	PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
PA DEP	PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
PENNDOT	PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
TMDL	TOTAL MAXIMUM DAILY LOAD
UA	URBANIZED AREA
U.S. EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY

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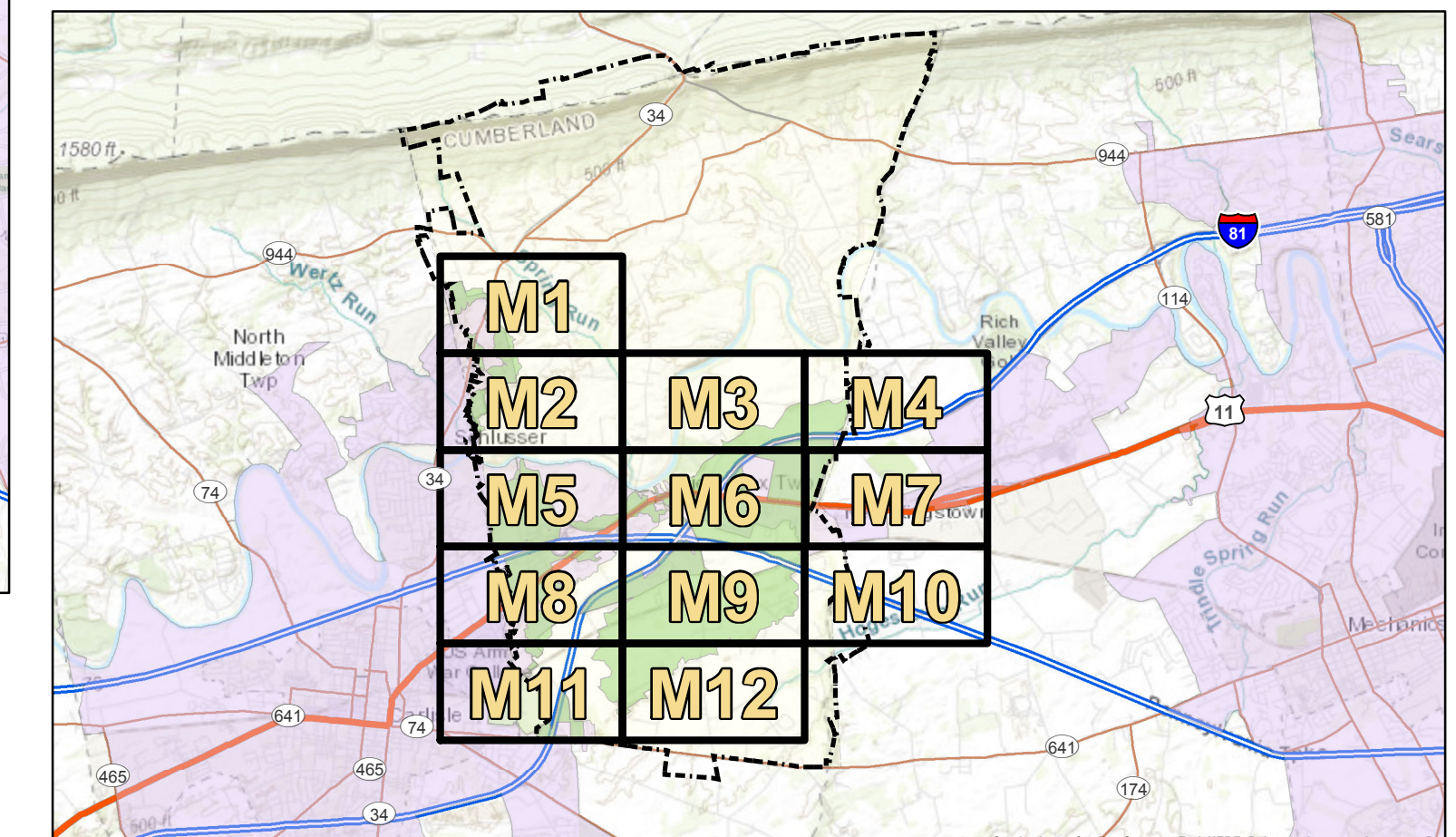
DRAWING TITLE	DRAWING NUMBER
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LEGEND

	REGULATED MS4		MIDDLESEX TOWNSHIP BOUNDARY
	MIDDLESEX GOVERNANCE BOUNDARY		GRID INDEX
	URBANIZED AREA		MS4 RECEIVING HUC 12 WATERSHEDS

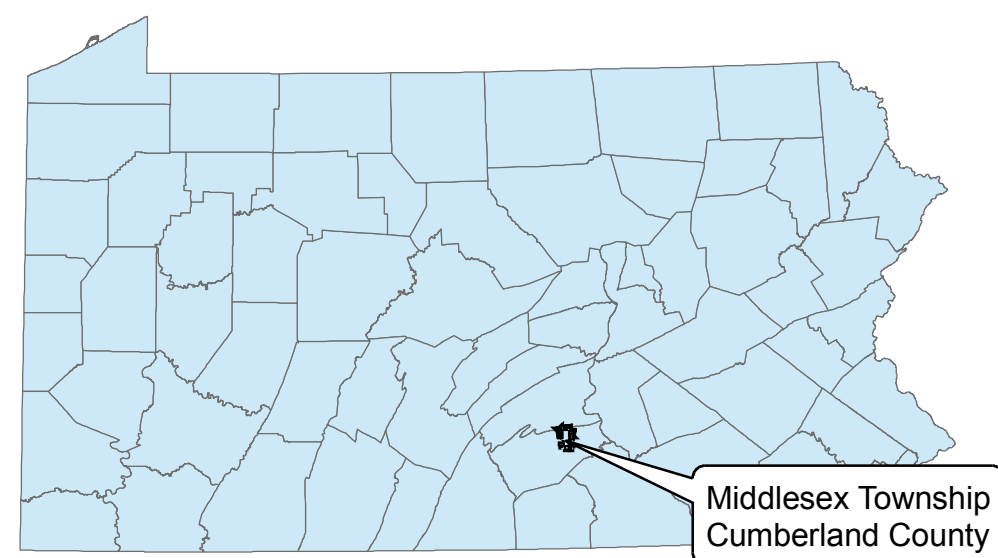


LOCATION MAP



INDEX MAP

LOCATION WITHIN STATE





















Prepared By:
SKELLY AND LOY, INC.
 ENGINEERING – ENVIRONMENTAL CONSULTANTS
 449 Eisenhower Boulevard, Suite 300
 Harrisburg, PA 17111
 717.232.0593 – 800.892.6532
 www.skellyloy.com














Prepared For:
MIDDLESEX TOWNSHIP
 350 N. Middlesex Road
 Carlisle, Pennsylvania 17013






MS4 MAP COVER SHEET

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet	
Project No. R15 - 0426.000	DWG. NO. G1
PLOT DATE: 7/19/2017	SHEET NO.1 of 14

LEGEND TERMINOLOGY:

-  **10' CONTOURS:** LINES DEPICTING THE CONNECTION OF POINTS OF EQUAL ELEVATION ON A 10-FOOT VERTICAL ELEVATION INTERVAL (SOURCE: PA DCNR)
-  **10' DEPRESSION CONTOURS:** LINES DEPICTING THE CONNECTION OF POINTS OF EQUAL ELEVATION ON A 10-FOOT VERTICAL ELEVATION INTERVAL THAT ENCIRCLE A LOW POINT OF THE GROUND SURFACE (SOURCE: PA DCNR)
-  **2' CONTOURS:** LINES DEPICTING THE CONNECTION OF POINTS OF EQUAL ELEVATION ON A 2-FOOT VERTICAL ELEVATION INTERVAL (SOURCE: PA DCNR)
-  **2' DEPRESSION CONTOURS:** LINES DEPICTING THE CONNECTION OF POINTS OF EQUAL ELEVATION ON A 2-FOOT VERTICAL ELEVATION INTERVAL THAT ENCIRCLE A LOW POINT OF THE GROUND SURFACE (SOURCE: PA DCNR)
-  **2010 URBANIZED AREA:** (UA) LAND AREA COMPRISING ONE OR MORE PLACES (CENTRAL PLACES) AND THE ADJACENT DENSELY SETTLED AREA (URBAN FRINGE) THAT TOGETHER HAVE A RESIDENTIAL POPULATION OF AT LEAST 50,000 AND AN OVERALL POPULATION DENSITY OF AT LEAST 1,000 PEOPLE PER SQUARE MILE, AS DEFINED BY THE US BUREAU OF THE CENSUS AND AS DETERMINED BY THE LAST AVAILABLE DECENNIAL (2010) CENSUS. THE UA OUTLINES THE EXTENT OF AUTOMATICALLY REGULATED AREAS (SOURCE: PA DCNR)
-  **2010 NON URBANIZED AREAS:** LAND AREA OUTSIDE THE UA (RURAL LAND AND URBAN CLUSTERS)
-  **BMP EXISTING:** EXISTING BEST MANAGEMENT PRACTICES (WITH REGARD TO MAP) ARE STRUCTURAL FACILITIES, USED TO MINIMIZE ACCELERATED EROSION AND SEDIMENTATION AND MANAGE STORMWATER TO PROTECT, MAINTAIN, RECLAIM AND RESTORE THE QUALITY OF WATERS AND THE EXISTING AND DESIGNATED USES OF WATERS WITHIN THIS COMMONWEALTH BEFORE, DURING AND AFTER EARTH DISTURBANCE ACTIVITIES. BMP'S INCLUDE WET PONDS AND EXTENDED DETENTION OUTLET STRUCTURES; FILTRATION PRACTICES SUCH AS GRASSED SWALES, SAND FILTERS AND FILTER STRIPS; INFILTRATION PRACTICES SUCH AS INFILTRATION BASINS AND INFILTRATION TRENCHES; AND OTHER BMPs AS REFERENCED IN CHAPTER 6 OF THE PENNSYLVANIA STORMWATER BMP MANUAL (363-0300-002)
-  **DISCHARGE POINT:** THE DOWNSTREAM END OF A STORMWATER PIPE OR CULVERT, WHETHER ACCOMPANIED BY A PIPE END TREATMENT SUCH AS A HEADWALL OR END SECTION OR NOT.
-  **DISCHARGE POINT OTHER:** DISCHARGE NOT UNDER THE JURISDICTION OF MIDDLESEX TOWNSHIP
-  **FLOW ARROWS:** SYMBOLS THAT INDICATE THE DIRECTION OF RUNOFF AS IT MOVES THROUGH THE STORMWATER SYSTEM TOWARD THE OUTFALL
-  **INLET:** A STORMWATER STRUCTURE THAT COLLECTS SURFACE RUNOFF THROUGH AN OPENING TO THE SURFACE (OR TO THE FACE OF A CURB) AND DROPS VERTICALLY TO AN UNDERGROUND STORMWATER CONVEYANCE OR FACILITY. ON THE MAP, THE INLET SYMBOL INCLUDES INLETS (WITH NO SUMP) AND CATCH BASINS (WITH A SUMP).
-  **INLETS – OTHER:** INLET NOT UNDER THE JURISDICTION OF MIDDLESEX TOWNSHIP
-  **INTAKE POINTS:** THE UPSTREAM END OF A STORMWATER PIPE OR CULVERT, WHETHER ACCOMPANIED BY A PIPE END TREATMENT SUCH AS A HEADWALL OR END SECTION OR NOT.
-  **INTAKE POINTS – OTHER:** INTAKE NOT UNDER THE JURISDICTION OF MIDDLESEX TOWNSHIP
-  **LAKES:** THIS LAYER CONTAINS THE LAKES THAT ARE PART OF THE PENNSYLVANIA FISH AND BOAT COMMISSION FISHERIES RESOURCE DATABASE. THESE INCLUDE LAKES THAT ARE CURRENTLY OR HAVE PREVIOUSLY BEEN STOCKED, REGULATED OR SAMPLED.
-  **MANHOLES:** A STRUCTURE WITH A COVERED OPENING THAT ALLOWS MAINTENANCE ACCESS TO UNDERGROUND PIPES AND FACILITIES, BUT THAT DOES NOT ACCEPT RUNOFF DIRECTLY FROM THE SURFACE. ON THE MAP THE MANHOLE SYMBOL INCLUDES MANHOLES (MAINTENANCE ACCESS) AND JUNCTION BOXES (A STRUCTURE AT THE INTERSECTION OF MULTIPLE UNDERGROUND PIPES THAT DOES NOT ACCEPT RUNOFF DIRECTLY FROM THE SURFACE AND MAY OR MAY NOT PROVIDE MAINTENANCE ACCESS).
-  **MUNICIPAL BOUNDARY:** CITIES, BOROUGH AND TOWNSHIPS LOCATED WITHIN THE BOUNDARIES OF THE COMMONWEALTH OF PENNSYLVANIA (SOURCE: PENNDOT)
-  **MUNICIPAL GOVERNANCE BOUNDARY:** BOUNDARY OF MUNICIPAL MAINTENANCE AND OPERATIONS (SOURCE: CUMBERLAND COUNTY TAX MAPS)

-  **NWI (WETLANDS):** AREAS THAT ARE INUNDATED OR SATURATED BY SURFACE WATER OR GROUNDWATER AT A FREQUENCY AND DURATION SUFFICIENT TO SUPPORT, AND THAT UNDER NORMAL CIRCUMSTANCES DO SUPPORT, A PREVALENCE OF VEGETATION TYPICALLY ADAPTED FOR LIFE IN SATURATED SOIL CONDITIONS, INCLUDING SWAMPS, MARSHES, BOGS AND SIMILAR AREAS AS MAPPED BY THE UNITED STATES FISH AND WILDLIFE SERVICE ON THE NATIONAL WETLANDS INVENTORY (NWI) MAP USING AERIAL IMAGING ANALYSIS TO IDENTIFY AND CLASSIFY WETLANDS AND DEEPWATER HABITATS FROM AERIAL IMAGERY.
-  **OBSERVATION POINTS:** A LOCATION UPSTREAM OF AN OUTFALL WHERE MIDDLESEX TOWNSHIP WILL CONDUCT DRY WEATHER SCREENING IF IT IS DETERMINED THAT SCREENING AT AN OUTFALL IS INFEASIBLE, AND THE POINT AT WHICH STORMWATER DISCHARGES TO STORM SEWERS OWNED OR OPERATED BY AN ADJOINING MS4 PERMITTEE OR MUNICIPALITY WHERE DRY WEATHER SCREENING WILL BE CONDUCTED
-  **OUTFALL – IMPAIRED:** A POINT SOURCE AS DEFINED BY 40 CFR §122.2 AT THE POINT WHERE A MUNICIPAL SEPARATE STORM SEWER DISCHARGES TO NON-ATTAINING SURFACE WATERS, EXCLUDING OPEN CONVEYANCES CONNECTING TWO MUNICIPAL SEPARATE STORM SEWERS; AND PIPES, TUNNELS OR OTHER CONVEYANCES WHICH CONNECT SEGMENTS OF THE SAME STREAM (OR OTHER SURFACE WATERS) THAT ARE USED TO CONVEY THE SURFACE WATERS, THEMSELVES. (25 PA. CODE § 92A.32(A) AND 40 CFR §122.26(B)(9))
-  **OUTFALL – UNIMPAIRED:** A POINT SOURCE AS DEFINED BY 40 CFR §122.2 AT THE POINT WHERE A MUNICIPAL SEPARATE STORM SEWER DISCHARGES TO ATTAINING SURFACE WATERS, EXCLUDING OPEN CONVEYANCES CONNECTING TWO MUNICIPAL SEPARATE STORM SEWERS; AND PIPES, TUNNELS OR OTHER CONVEYANCES WHICH CONNECT SEGMENTS OF THE SAME STREAM (OR OTHER SURFACE WATERS) THAT ARE USED TO CONVEY THE SURFACE WATERS, THEMSELVES. (25 PA. CODE § 92A.32(A) AND 40 CFR §122.26(B)(9))
-  **PARCELS:** TRACTS OF LAND OWNED BY INDIVIDUALS, CORPORATIONS, PARTNERSHIPS OR OTHER LEGAL ENTITY SHOWN ON THE MAP WITH APPROXIMATED PROPERTY BOUNDARIES (SOURCE: CUMBERLAND COUNTY GIS)
-  **PIPES:** AN UNDERGROUND CONDUIT THAT CONVEYS STORMWATER. ON THE MAP THE PIPE SYMBOL INCLUDES ROUND, ELLIPTICAL, AND BOX SHAPED CONDUITS (AKA CULVERTS) THAT ARE PART OF THE SEPARATE STORMWATER SEWER SYSTEM. PIPES AND CULVERTS WHOSE SOLE PURPOSE IS TO CONVEY A SURFACE WATER (STREAM) THROUGH THE MIDDLESEX TOWNSHIP PROPERTY ARE NOT SHOWN BECAUSE THEY CONSIDERED PART OF THE SURFACE WATER, NOT PART OF THE MIDDLESEX TOWNSHIP SEPARATE STORMWATER SEWER SYSTEM
-  **PIPES-OTHER:** PIPE NOT UNDER THE JURISDICTION OF MIDDLESEX TOWNSHIP
-  **PLANNING AREA/REGULATED MS4:** THE LAND WITHIN THE MIDDLESEX TOWNSHIP PROPERTY BOUNDARY SERVICED BY THE TOWNSHIP'S SEPARATE STORM SEWER SYSTEM WITHIN THE URBANIZED AREA AND UPSTREAM OF THE URBANIZED AREA.
-  **PROPOSED BIORETENTION/RAINGARDEN:** A PLANNED EXCAVATED SHALLOW SURFACE DEPRESSION PLANTED WITH SPECIALLY SELECTED NATIVE VEGETATION TO CAPTURE RUNOFF AND ENHANCE WATER QUALITY THROUGH FILTRATION OR INFILTRATION
-  **PROPOSED DRAINAGE AREA:** LAND THAT DRAINS TO A PROPOSED BMP
-  **PROPOSED STREAM RESTORATION:** A PLANNED PRACTICES THAT 1) PREVENT CHANNEL OR BANK EROSION THAT WOULD OTHERWISE RESULT IN SEDIMENT BEING DELIVERED DOWNSTREAM (PREVENTED SEDIMENT APPROACH); 2) INCLUDE DESIGN FEATURES THAT PROMOTE DENITRIFICATION DURING BASE FLOW (IN-STREAM DENITRIFICATION APPROACH) AND/OR; 3) RECONNECT STREAM CHANNELS TO THEIR FLOODPLAINS FOR A WIDE RANGE OF STORM EVENTS (FLOODPLAIN RECONNECTION)
-  **PROPOSED VEGETATED OPEN CHANNEL:** A PLANNED BROAD, SHALLOW STORMWATER CONVEYANCE SWALE ON THE GROUND SURFACE DESIGNED TO CONVEY AND INFILTRATE STORMWATER RUNOFF. THE BOTTOM AND SIDES OF THE CHANNEL INCLUDE VEGETATION WITH A SUBSOIL MATRIX WITH SIDE VEGETATION AT A HEIGHT GREATER THAN THE MAXIMUM DESIGN STORMWATER VOLUME
-  **RAIN TRACES:** A LINE ILLUSTRATING THE PATH THAT STORM RUNOFF WILL FOLLOW BY GRAVITY CONNECTING THE MIDDLESEX TOWNSHIP MS4 TO AN OUTFALL. PER PADEP 3800-PM-BCW0200A DATE 1/2017, (PAGE 6 NOTE 2) "ALL STORMWATER DISCHARGES FROM MS4S ARE POINT SOURCES TO SURFACE WATERS UNLESS THE STORMWATER IS INTENTIONALLY DIRECTED TO THE SUBSURFACE UNDER A PERMIT...FOR DISCHARGES TO THE GROUND SURFACE RATHER THAN DIRECTLY TO SURFACE WATERS THE LOCATION WHERE STORMWATER WOULD LIKELY ENTER A SURFACE WATER AS A RESULT OF A SIGNIFICANT STORM EVENT IS TO BE IDENTIFIED AS THE OUTFALL." SURFACE TOPOGRAPHY WITH ENCLOSED DEPRESSION CHARACTERISTICS SUCH AS STORMWATER BASINS, SINKHOLES, AND PONDS HAVE BEEN IGNORED AND ASSUMED PATHS FOR THE RAIN TRACES HAVE BEEN SHOWN ON THE MAP ILLUSTRATING THE PADEP-DIRECTED FLOODED CONDITION

-  **STORM SEWERSHED – IMPAIRED:** LAND THAT DRAINS TO A SINGULAR MS4 OUTFALL AT A NON-ATTAINING SURFACE WATER FROM WITHIN THE JURISDICTION OF A MS4 PERMITTEE
-  **STORM SEWERSHED – UNIMPAIRED:** LAND THAT DRAINS TO A SINGULAR MS4 OUTFALL AT AN ATTAINING STREAM FROM WITHIN THE JURISDICTION OF A MS4 PERMITTEE
-  **STREAM:** A CHANNEL OR CONVEYANCE OF SURFACE WATER HAVING DEFINED BED AND BANKS, WHETHER NATURAL OR ARTIFICIAL, WITH PERENNIAL OR INTERMITTENT FLOW (SOURCE: PA DEP)
-  **STREAM IMPAIRED:** STREAMS NOT ATTAINING ANY ONE OF ITS SURFACE WATER USES: AQUATIC LIFE, FISH CONSUMPTION, POTABLE WATER SUPPLY, AND RECREATION PER THE PA DEP STREAMS INTEGRATED LIST (SOURCE: PA DEP)
-  **STORMWATER SURFACE CONVEYANCE:** AN OPEN-TO-THE-AIR SURFACE FEATURE THAT TRANSPORTS STORMWATER RUNOFF INCLUDING ROADS, CURBS, GUTTERS, DITCHES, SWALES AND MAN-MADE CHANNELS

OTHER DEFINITIONS:

MUNICIPAL SEPARATE STORM SEWER: A CONVEYANCE OR SYSTEM OF CONVEYANCES (INCLUDING ROADS WITH DRAINAGE SYSTEMS, MUNICIPAL STREETS, CATCH BASINS, CURBS, GUTTERS, DITCHES, MAN-MADE CHANNELS, OR STORM DRAINS): (I) OWNED OR OPERATED BY A STATE, CITY, TOWN, BOROUGH, COUNTY, PARISH, DISTRICT, ASSOCIATION, OR OTHER PUBLIC BODY (CREATED BY OR PURSUANT TO STATE LAW) HAVING JURISDICTION OVER DISPOSAL OF SEWAGE, INDUSTRIAL WASTES, STORMWATER, OR OTHER WASTES, INCLUDING SPECIAL DISTRICTS UNDER STATE LAW SUCH AS A SEWER DISTRICT, FLOOD CONTROL DISTRICT OR DRAINAGE DISTRICT, OR SIMILAR ENTITY, OR AN INDIAN TRIBE OR AN AUTHORIZED INDIAN TRIBAL ORGANIZATION, OR A DESIGNATED AND APPROVED MANAGEMENT AGENCY UNDER SECTION 208 OF THE CWA THAT DISCHARGES TO SURFACE WATERS; (II) DESIGNED OR USED FOR COLLECTING OR CONVEYING STORMWATER; (III) WHICH IS NOT A COMBINED SEWER; AND (IV) WHICH IS NOT PART OF A PUBLICLY OWNED TREATMENT WORKS (POTW) AS DEFINED AT 40 CFR 122.2.(25 PA. CODE § 92A.32(A) AND 40 CFR § 122.26(B)(8))

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): ALL SEPARATE STORM SEWERS THAT ARE DEFINED AS "LARGE" OR "MEDIUM" OR "SMALL" MUNICIPAL SEPARATE STORM SEWER SYSTEMS PURSUANT TO 40 CFR §§ 122.26(B)(4), (B)(7), AND (B)(16), RESPECTIVELY, OR DESIGNATED UNDER 40 CFR § 122.26(A)(1)(V). (25 PA. CODE § 92A.32(A) AND 40 CFR § 122.26(B)(18))

STORMWATER: RUNOFF FROM PRECIPITATION, SNOW MELT RUNOFF AND SURFACE RUNOFF AND DRAINAGE. "STORMWATER" HAS THE SAME MEANING AS "STORM WATER." (25 PA. CODE § 92A.2)

SURFACE WATERS: PERENNIAL AND INTERMITTENT STREAMS, RIVERS, LAKES, RESERVOIRS, PONDS, WETLANDS, SPRINGS, NATURAL SEEPS AND ESTUARIES, EXCLUDING WATER AT FACILITIES APPROVED FOR WASTEWATER TREATMENT SUCH AS WASTEWATER TREATMENT IMPOUNDMENTS, COOLING WATER PONDS AND CONSTRUCTED WETLANDS USED AS PART OF A WASTEWATER TREATMENT PROCESS. (25 PA. CODE § 92A.2)

SURFACE WATERS ATTAINING: A SURFACE WATER THAT HAS BEEN EVALUATED AS ATTAINING FOUR SURFACE WATER USES: AQUATIC LIFE, FISH CONSUMPTION, POTABLE WATER SUPPLY, AND RECREATION

SURFACE WATERS NON ATTAINING: A SURFACE WATER SEGMENT THAT IS NOT ATTAINING ANY ONE OF ITS FOUR USES (AQUATIC LIFE, FISH CONSUMPTION, POTABLE WATER SUPPLY, AND RECREATION) IS CONSIDERED IMPAIRED

SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (SMALL MS4): AN MS4, THAT IS NOT A LARGE OR MEDIUM MS4 PURSUANT TO 40 CFR §§ 122.26(B)(4) AND 122.26(B)(7). THE TERM SMALL MS4 INCLUDES SYSTEMS SIMILAR TO SEPARATE STORM SEWER SYSTEMS IN MUNICIPALITIES, SUCH AS SYSTEMS AT MILITARY BASES, LARGE HOSPITAL OR PRISON COMPLEXES, AND HIGHWAYS AND OTHER THROUGHFARES. THE TERM DOES NOT INCLUDE SEPARATE STORM SEWERS IN VERY DISCRETE AREAS, SUCH AS INDIVIDUAL BUILDINGS. (25 PA. CODE §92A.32(A) AND 40 CFR §122.26(B)(16))

NOTES:

GENERAL

1. THE PURPOSE OF THE MS4 MAP INCLUDES:
 - A. INVENTORY OF THE MIDDLESEX TOWNSHIP STORM SEWER NETWORK
 - B. DELINEATION OF THE REQUIRED POLLUTANT REDUCTION PLANNING AREAS AND OUTFALLS
 - C. FRAMEWORK FOR DOCUMENTING MAINTENANCE PRACTICES AND ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDD&E) ACTIVITIES
2. THE MS4 BASE MAP IS COMPILED OF INFORMATION FROM VARIOUS SOURCES. SOURCES ARE CITED IN THE GIS DATA BASE METADATA. NO MODIFICATIONS WERE MADE TO INFORMATION OBTAINED FROM OUTSIDE SOURCES. MIDDLESEX TOWNSHIP AND SKELLY AND LOY, INC. ARE NOT RESPONSIBLE FOR THE ACCURACY OF DATA OBTAINED FROM OUTSIDE SOURCES.

APPROACH

4. STORMWATER PIPES, INLETS, MANHOLES, INTAKES, DISCHARGES, AND SWALES WERE DIGITIZED BY DESKTOP ANALYSIS OF AERIAL PHOTOGRAPHS AND SUPPLEMENTED WITH INFORMATION PROVIDED BY MIDDLESEX TOWNSHIP STAFF.
5. THE STORMWATER SYSTEM DEPICTED WILL BE FIELD VERIFIED AS A SEPARATE WORK EFFORT (YEARS 2018 THROUGH 2023 OF PERMIT).
6. OUTFALLS WERE LOCATED BY PLOTTING THE PATH (AKA RAIN TRACES) THAT STORM RUNOFF WILL FOLLOW BY GRAVITY BETWEEN THE MIDDLESEX TOWNSHIP MS4 AND THE RECEIVING SURFACE WATER. SURFACE TOPOGRAPHY WITH ENCLOSED DEPRESSION CHARACTERISTICS SUCH AS STORMWATER BASINS, SINKHOLES, AND PONDS WERE ASSUMED TO BE IN THE PA DEP-DIRECTED FLOODED CONDITION.

PA DEP 3800-PM-BCW0200A DATE 1/2017, (PAGE 6 NOTE 2) "FOR DISCHARGES TO THE GROUND SURFACE RATHER THAN DIRECTLY TO SURFACE WATERS THE LOCATION WHERE STORMWATER WOULD LIKELY ENTER A SURFACE WATER AS A RESULT OF A SIGNIFICANT STORM EVENT IS TO BE IDENTIFIED AS THE OUTFALL. ALL STORMWATER DISCHARGES FROM MS4s ARE POINT SOURCES TO SURFACE WATERS UNLESS THE STORMWATER IS INTENTIONALLY DIRECTED TO THE SUBSURFACE UNDER A PERMIT.

NUMBERING

7. OUTFALL NUMBERS ARE SHOWN AS A THREE-DIGIT WHOLE NUMBER (E.G. 001) WITH LOWER NUMBERS AT THE DOWNSTREAM INTERSECTION WITH THE SURFACE WATER.
8. OBSERVATION POINT NUMBERS ARE FOUR DIGITS. THE FIRST THREE REFER TO THE ASSOCIATED OUTFALL. THE FOURTH DIGIT THAT FOLLOWS THE DECIMAL POINT, REFERS TO THE OBSERVATION POINT (E.G. 001.1)



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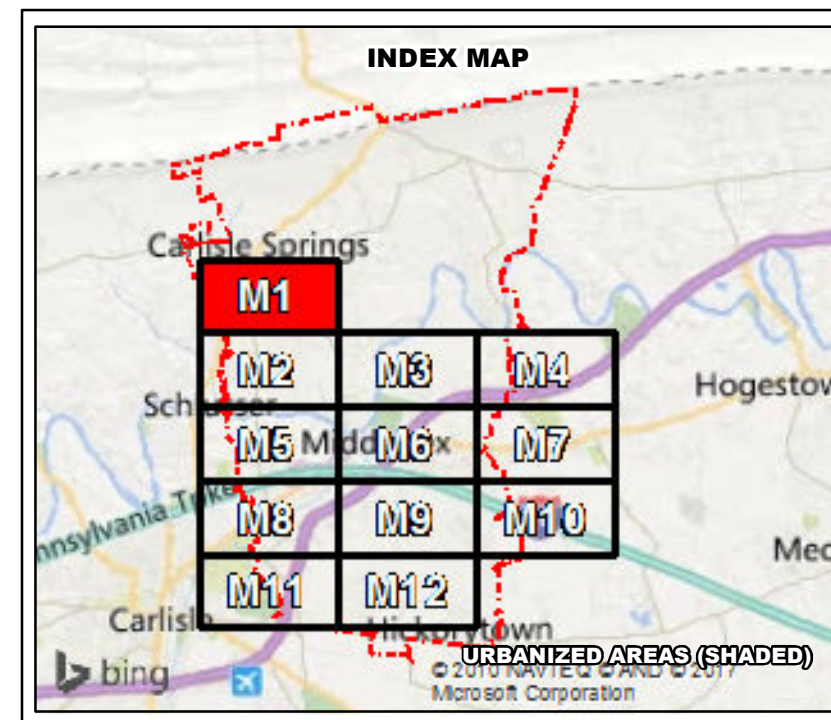
ENGINEERING - ENVIRONMENTAL CONSULTANTS

449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111
717.232.0593 - 800.892.6532 - skellyloy.com

Prepared For:
MIDDLESEX TOWNSHIP

NOTES

Project No. R15 - 0426.000	DWG. NO. G2
Date: 7/19/2017	PLAN SET NO. 2 OF 14



Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	10' Depression Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	2' Depression Contours
Discharge Points				

0 300 600 Feet

SKELLY AND LOY, INC.
ENGINEERING - ENVIRONMENTAL CONSULTANTS
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111
717.232.0593 - 800.892.6532
www.skellyloy.com

Urbanized Area: Harrisburg

HUC Name: Wertz Run-Conodoguinet Creek

HUC Code: 020503050403

Date: 7/19/2017

Prepared By:

Revised By:

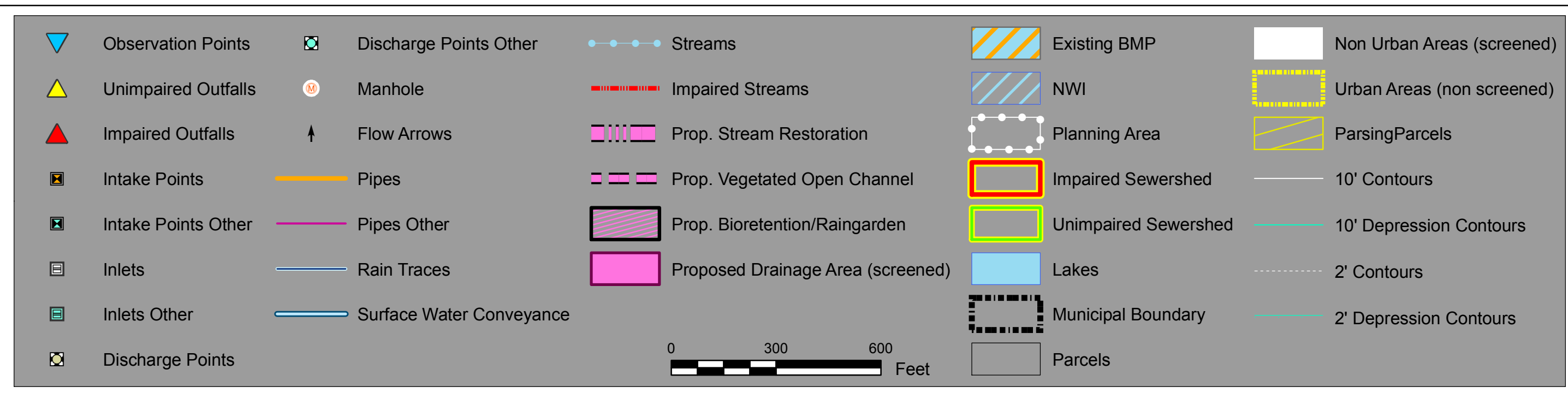
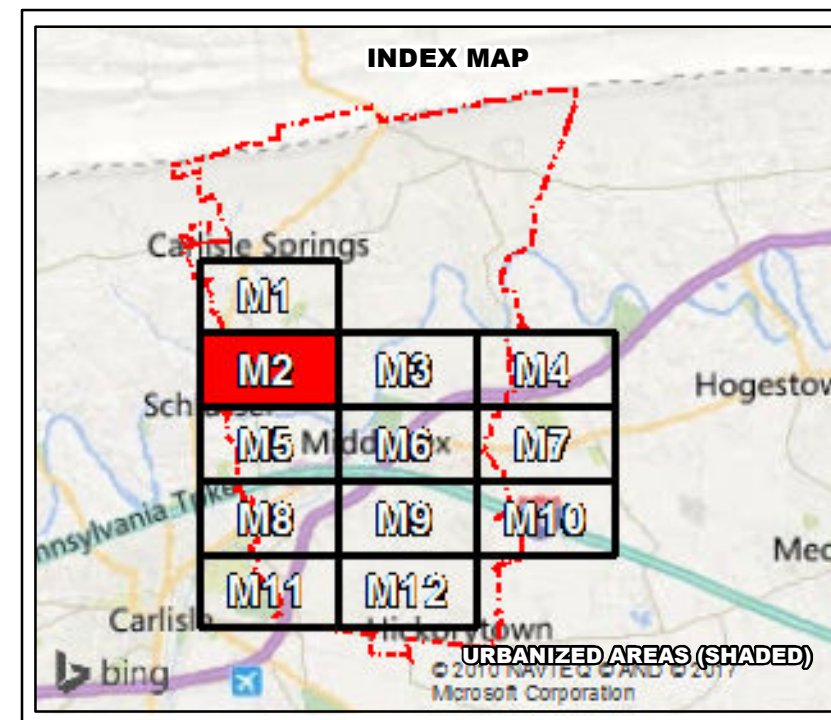
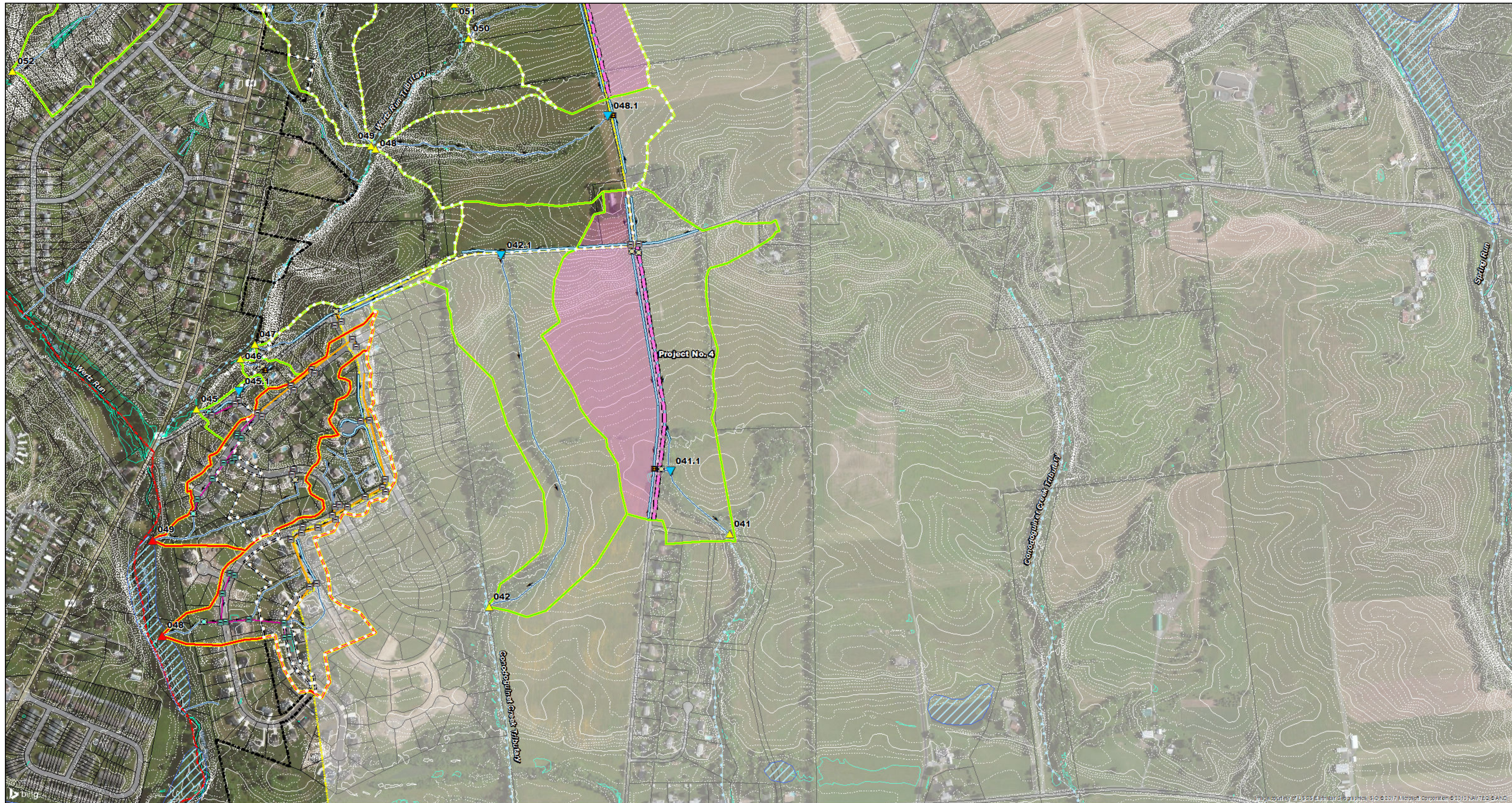
MS4 MAP #1

Middlesex Township
Cumberland County, Pennsylvania

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Project No. R15 - 0426.000	DWG. NO. M1
Plan Set # 3 of 14	

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ENGINEERING - ENVIRONMENTAL CONSULTANTS
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111
717.232.0593 - 800.892.6532
www.skellyloy.com

Urbanized Area: Harrisburg

HUC Name: Wertz Run-Conodoguinet Creek

HUC Code: 020503050403

Date: 7/19/2017

Prepared By:

Revised By:

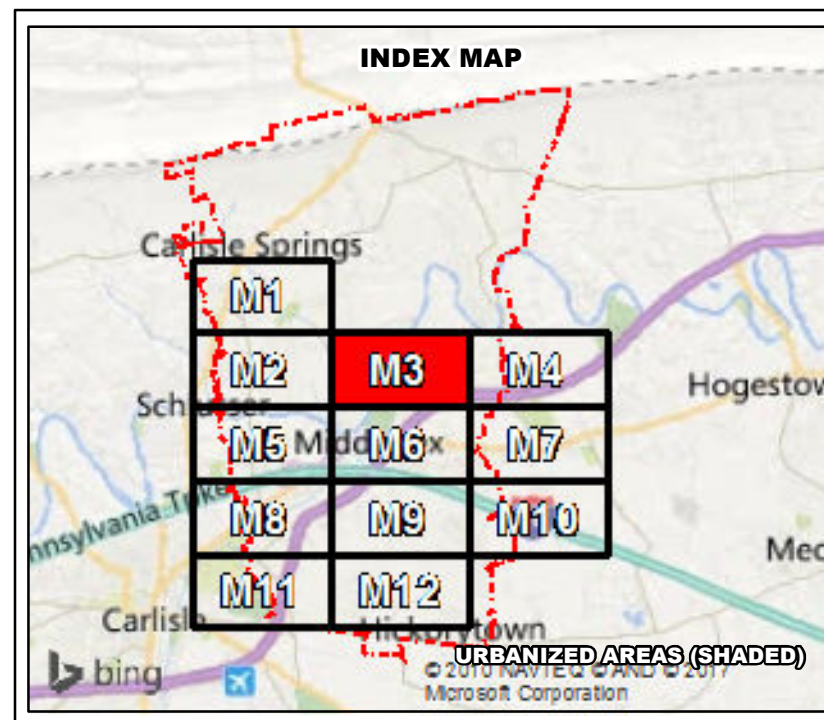
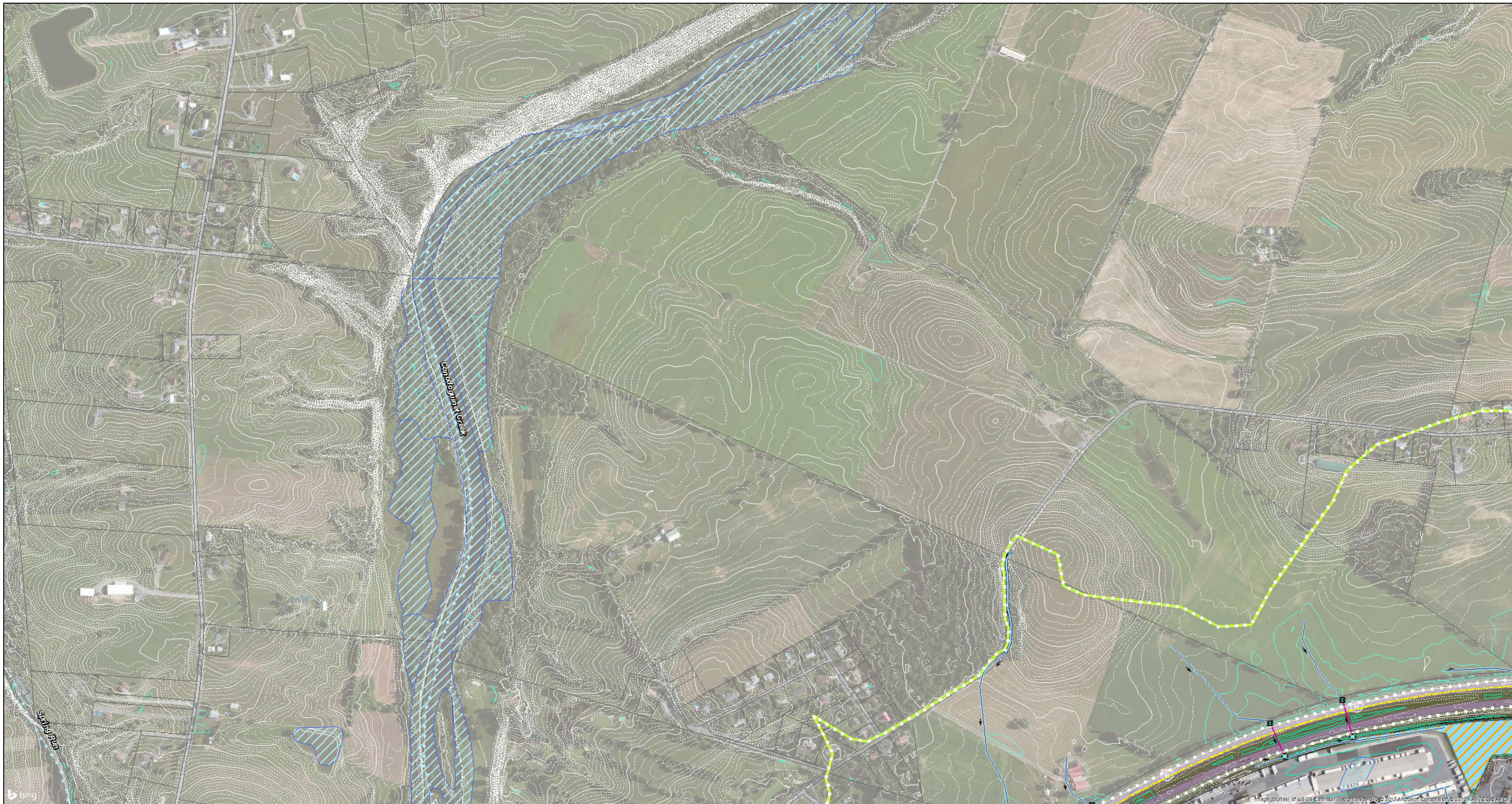
MS4 MAP #2

Middlesex Township
Cumberland County, Pennsylvania

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

DWG. NO. M2

Project No. R15 - 0426.000 Plan Set # 4 of 14



Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	10' Depression Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	2' Depression Contours
Discharge Points				

0 300 600 Feet

SKELLY AND LOY, INC.
ENGINEERING - ENVIRONMENTAL CONSULTANTS
449 Eisenhower Boulevard, Suite 300
Harrisburg, PA 17111
717.232.0593 - 800.892.6532
www.skellyloy.com

Urbanized Area: Harrisburg

HUC Name: Wertz Run-Conodoguinet Creek, Letort Spring Run

HUC Code: 020503050403, 020503050404

Date: 7/19/2017

Prepared By:

Revised By:

MS4 MAP #3

Middlesex Township
Cumberland County, Pennsylvania

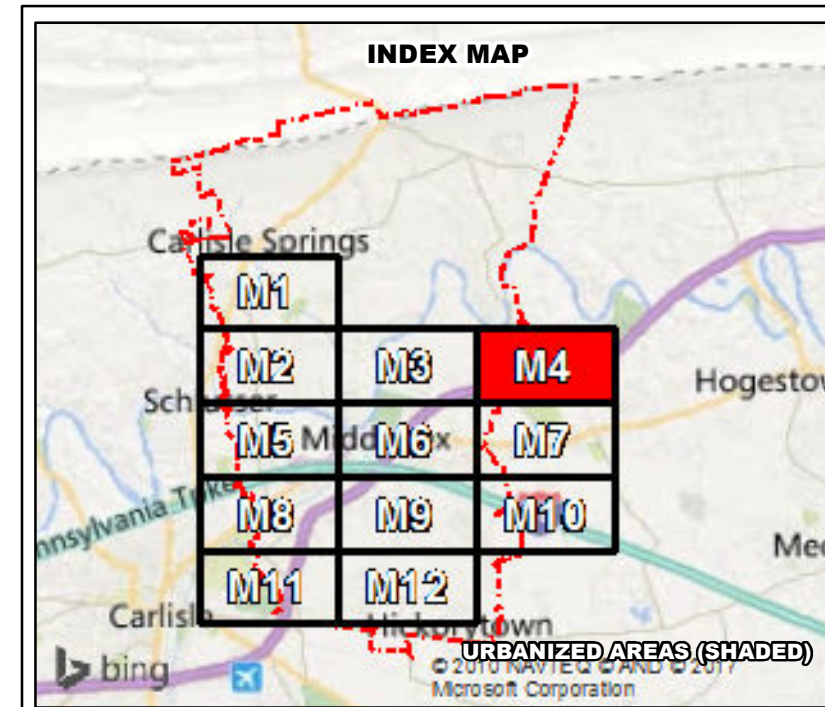
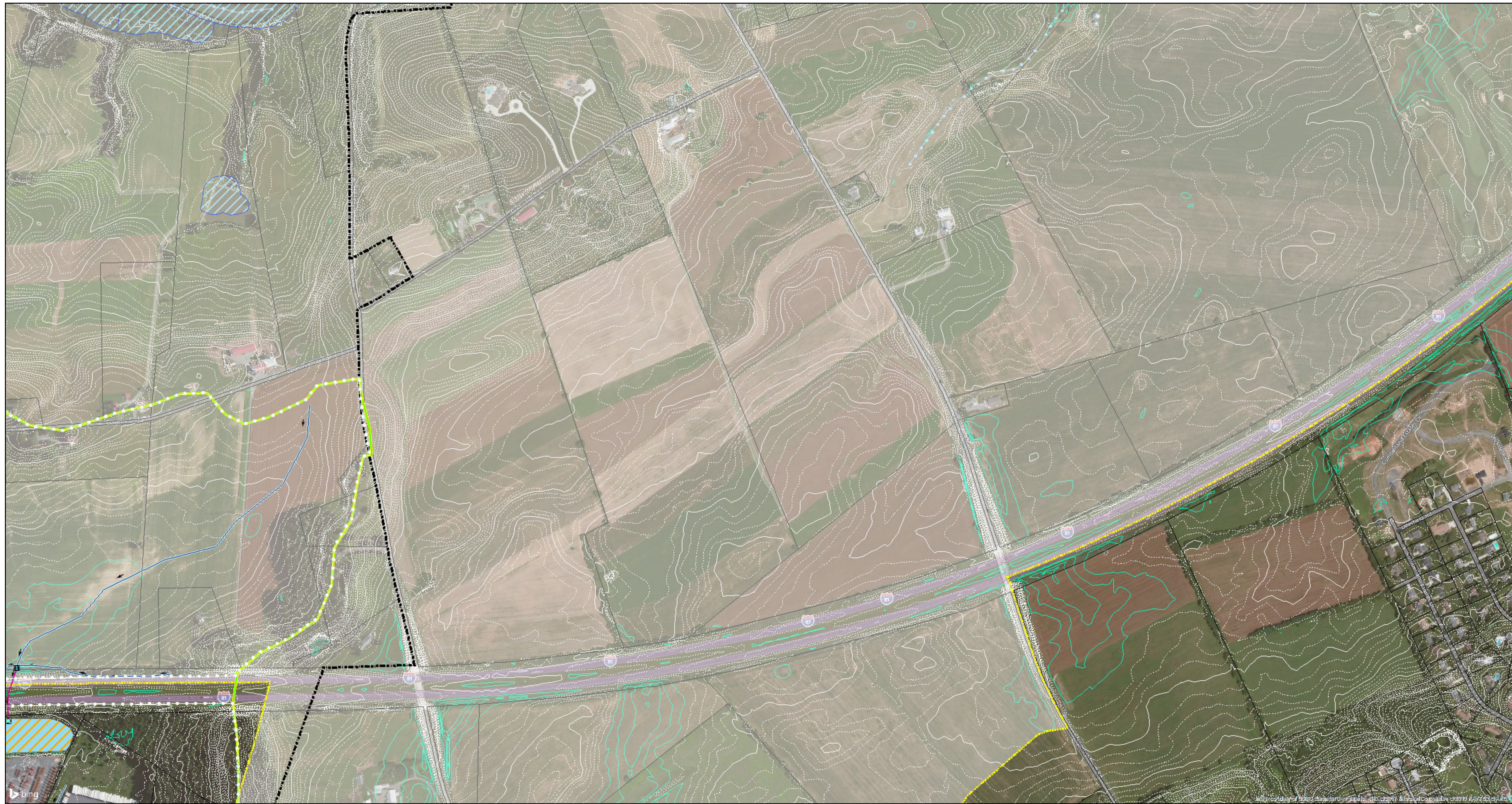
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Project No. R15 - 0426.000

DWG. NO. M3

Plan Set # 5 of 14

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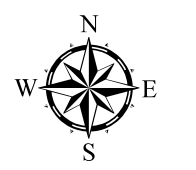
Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	Parsing Parcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	2' Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Depression Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	
Discharge Points				



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Urbanized Area: Harrisburg
 HUC Name: Letort Spring Run
 HUC Code: 020503050404
 Date: 7/19/2017
 Prepared By:
 Revised By:

MS4 MAP #4

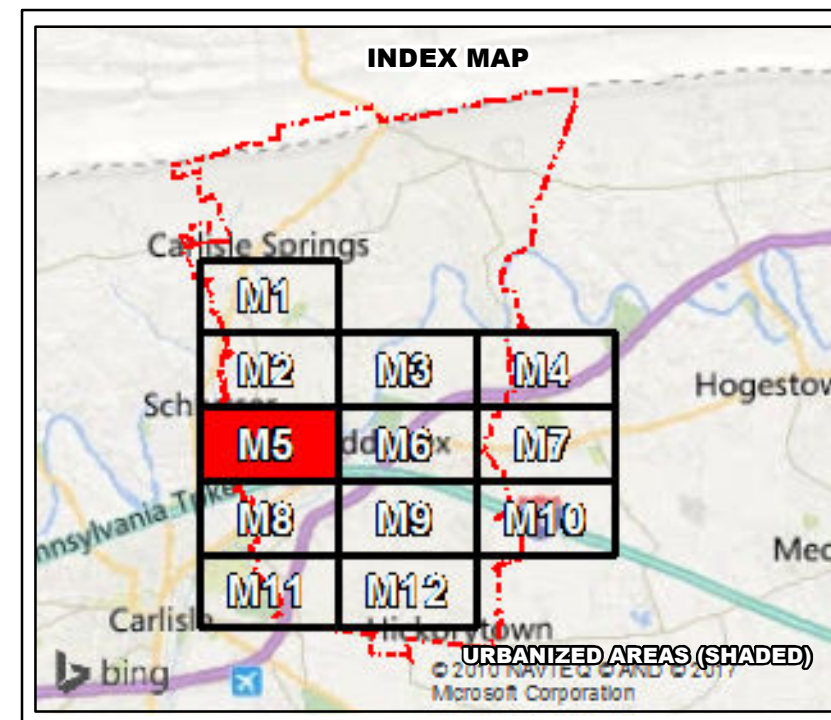
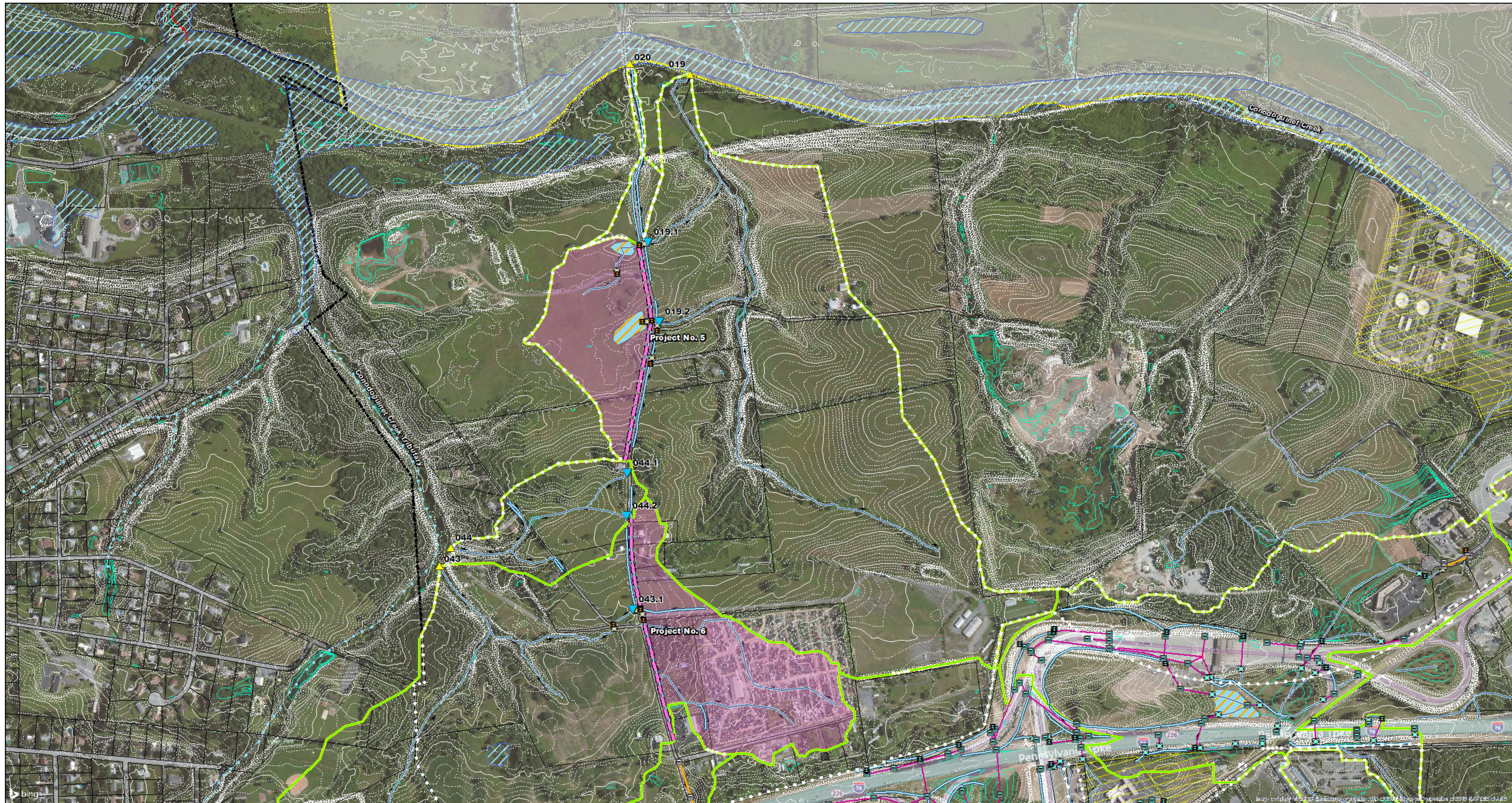


Middlesex Township
 Cumberland County, Pennsylvania

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Project No. R15 - 0426.000 DWG. NO. M4
 Plan Set # 6 of 14

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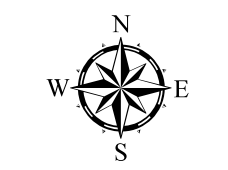
Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	2' Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Depression Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	
Discharge Points				



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Urbanized Area: Harrisburg
 HUC Name: Wertz Run-Conodoguinet Creek, Letort Spring Run
 HUC Code: 020503050403, 020503050404
 Date: 7/19/2017
 Prepared By:
 Revised By:

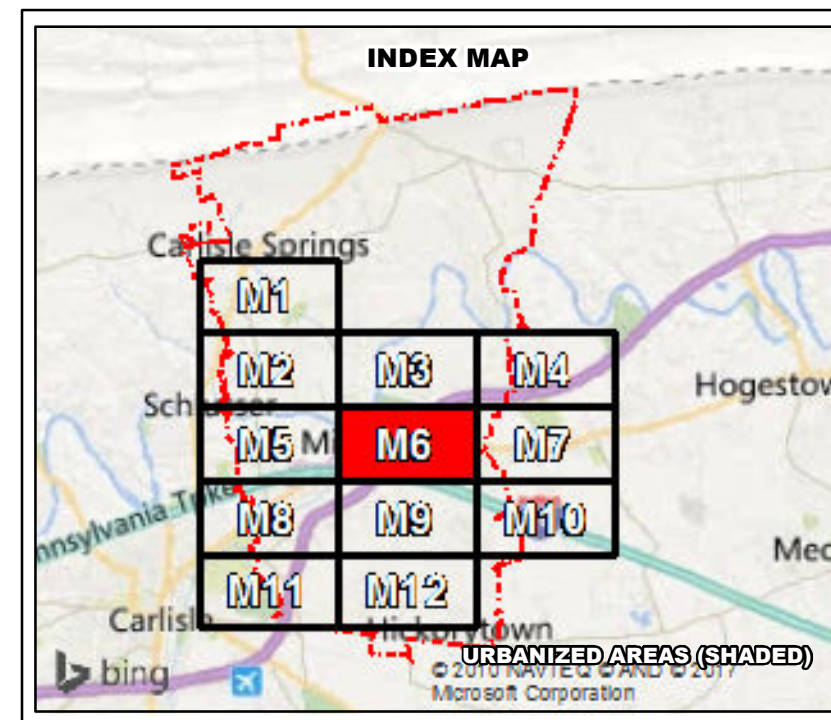
MS4 MAP #5



Middlesex Township
 Cumberland County, Pennsylvania

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Project No. R15 - 0426.000 DWG. NO. M5
 Plan Set # 7 of 14



Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	10' Depression Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	2' Depression Contours
Discharge Points				

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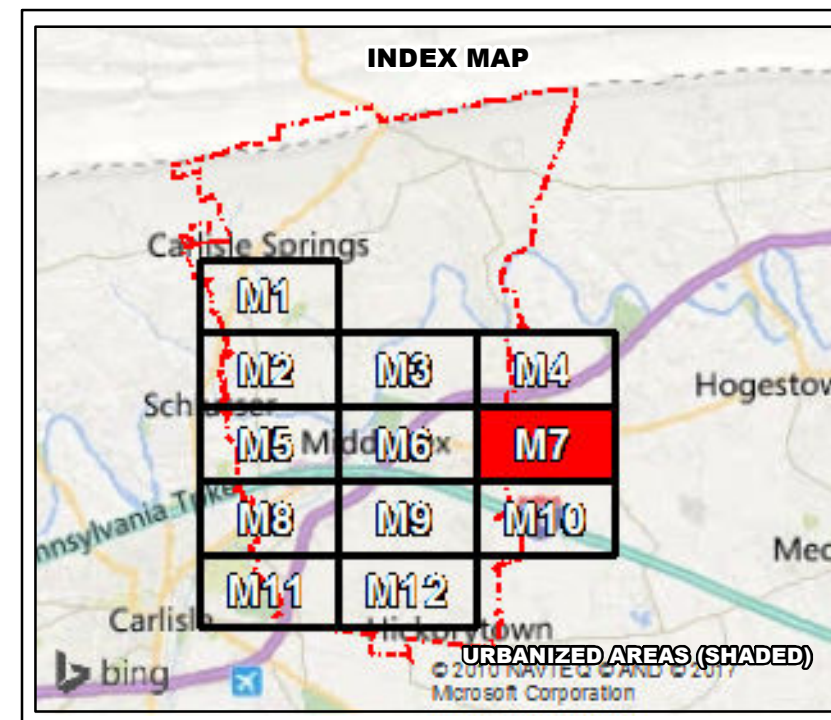
Urbanized Area: Harrisburg
 HUC Name: Wertz Run-Conodoguinet Creek, Letort Spring Run, Hogestown Run
 HUC Code: 020503050403, 020503050404, 020503050405
 Date: 7/19/2017
 Prepared By:
 Revised By:

MS4 MAP #6

Middlesex Township
 Cumberland County, Pennsylvania

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Project No. R15 - 0426.000
 DWG. NO. M6
 Plan Set # 8 of 14



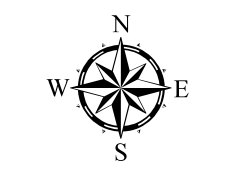
Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	2' Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Depression Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	
Discharge Points				



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Urbanized Area: Harrisburg
HUC Name: Letort Spring Run, Hogestown Run
HUC Code: 020503050404, 020503050405
Date: 7/19/2017
Prepared By:
Revised By:

MS4 MAP #7

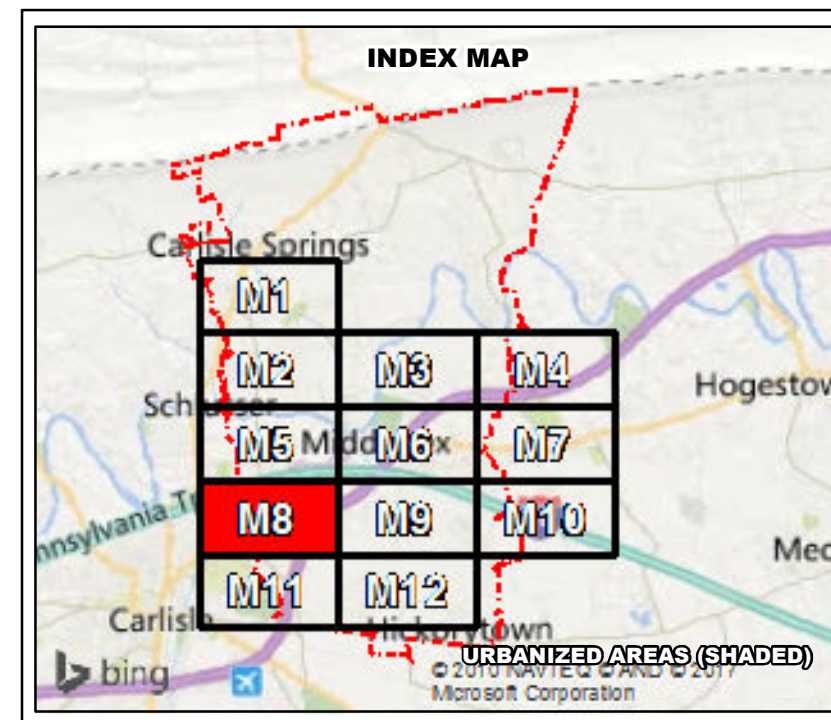


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Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	10' Depression Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	2' Depression Contours
Discharge Points				

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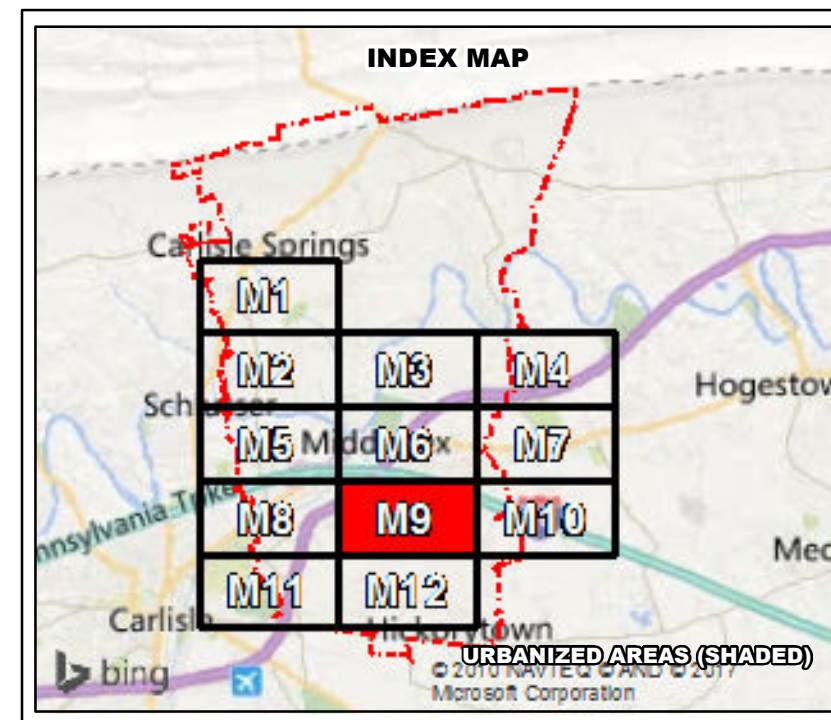
Urbanized Area: Harrisburg
HUC Name: Wertz Run-Conodoguinet Creek, Letort Spring Run
HUC Code: 020503050403, 020503050404
Date: 7/19/2017
Prepared By:
Revised By:

MS4 MAP #8

Middlesex Township
Cumberland County, Pennsylvania

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

DWG. NO. M8
Project No. R15 - 0426.000
Plan Set # 10 of 14



Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	10' Depression Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	2' Depression Contours
Discharge Points				



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Urbanized Area: Harrisburg
HUC Name: Letort Spring Run, Hogestown Run
HUC Code: 020503050404, 020503050405
Date: 7/19/2017
Prepared By:
Revised By:

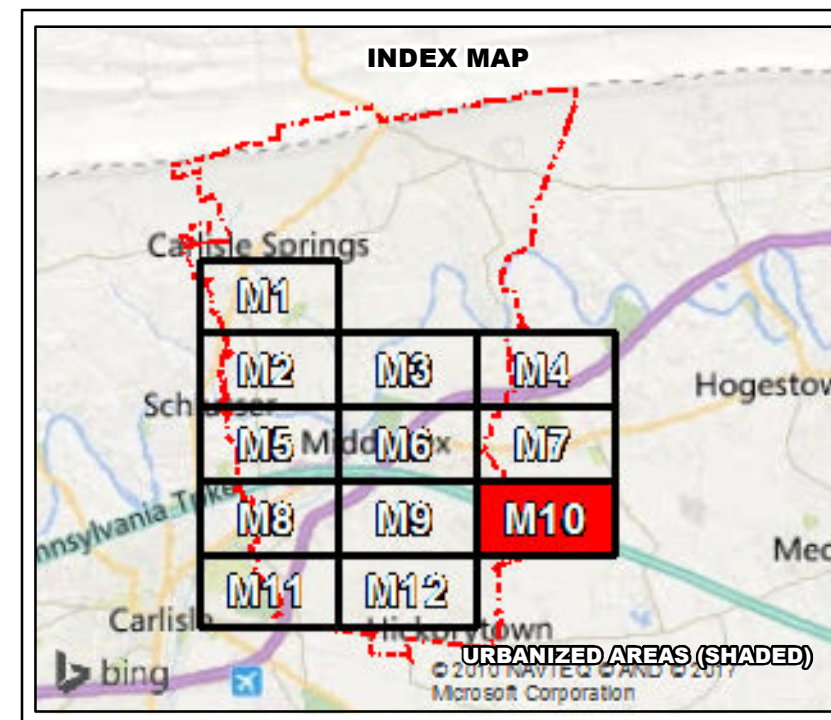
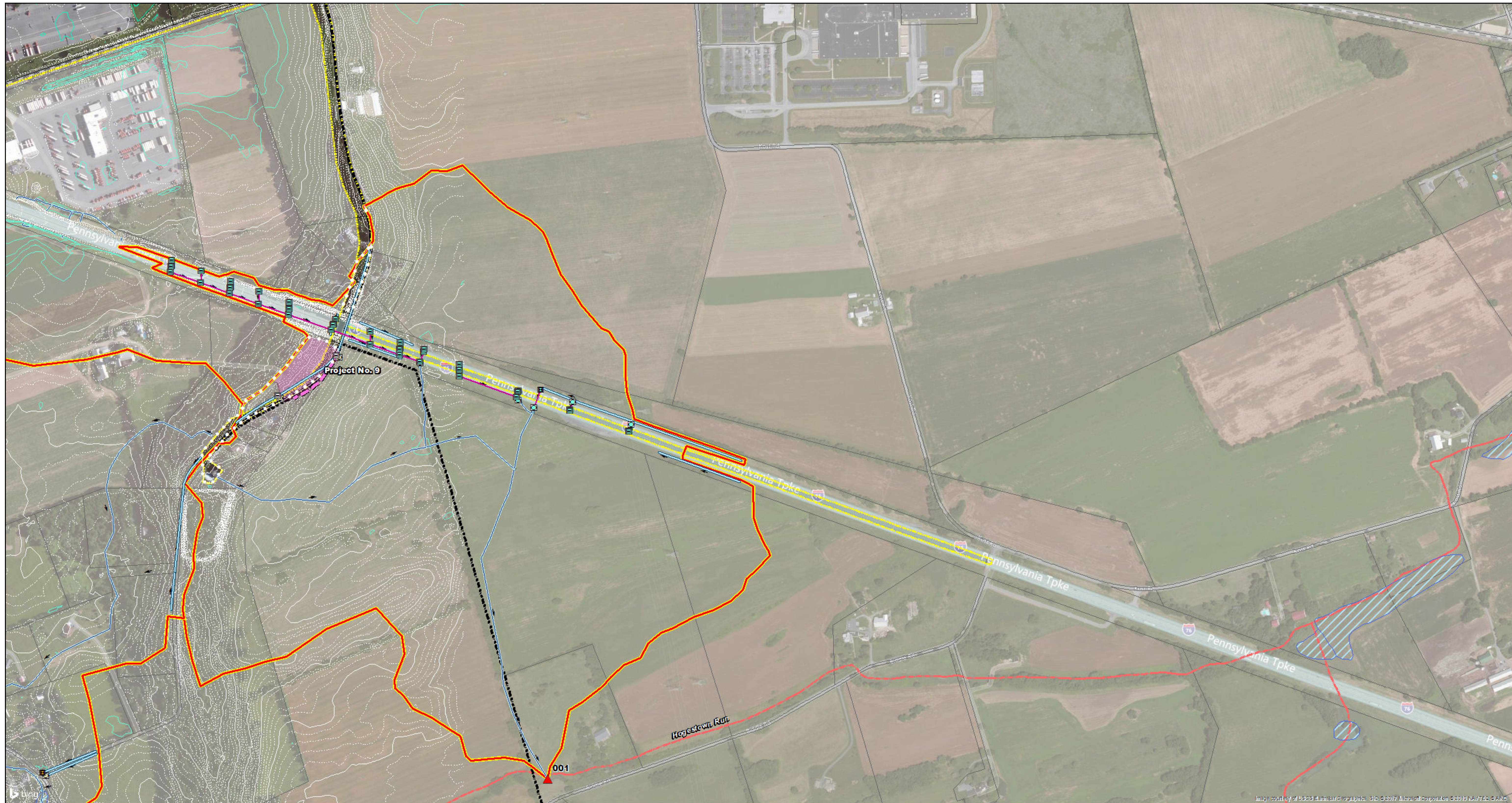
MS4 MAP #9



Middlesex Township
 Cumberland County, Pennsylvania

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Project No. R15 - 0426.000 DWG. NO. M9
 Plan Set # 11 of 14



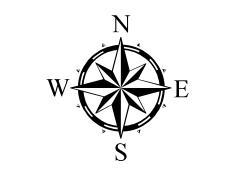
Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	2' Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Depression Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	
Discharge Points				



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Urbanized Area: Harrisburg
 HUC Name: Hogestown Run
 HUC Code: 020503050405
 Date: 7/19/2017
 Prepared By:
 Revised By:

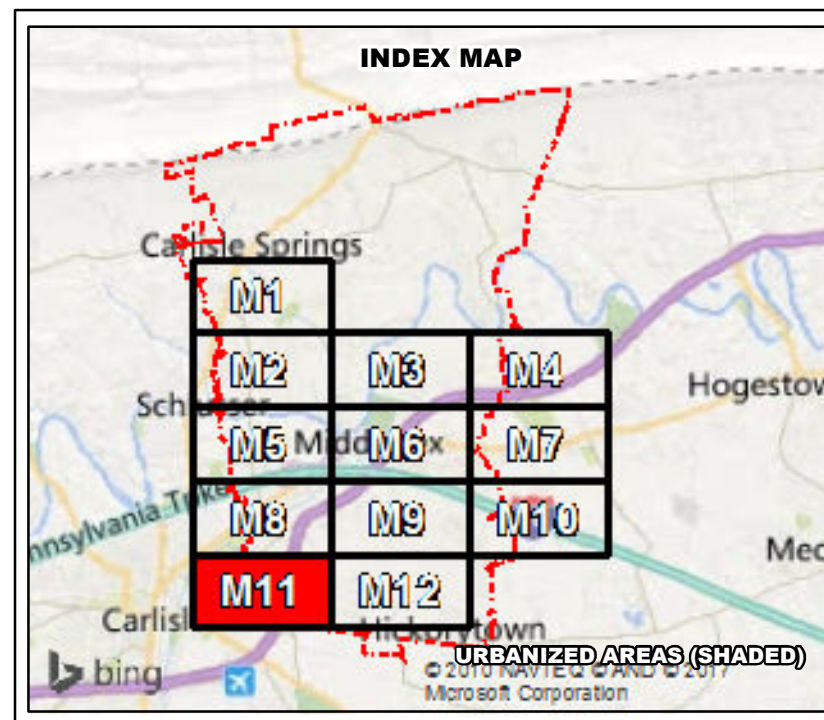
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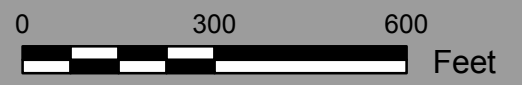
Middlesex Township
 Cumberland County, Pennsylvania

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Project No. R15 - 0426.000 DWG. NO. M10
 Plan Set # 12 of 14



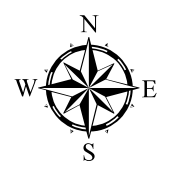
Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	Parsing Parcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	10' Depression Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	2' Depression Contours
Discharge Points				



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Urbanized Area: Harrisburg
 HUC Name: Letort Spring Run, Hogestown Run
 HUC Code: 020503050404, 020503050405
 Date: 7/19/2017
 Prepared By:
 Revised By:

MS4 MAP #11

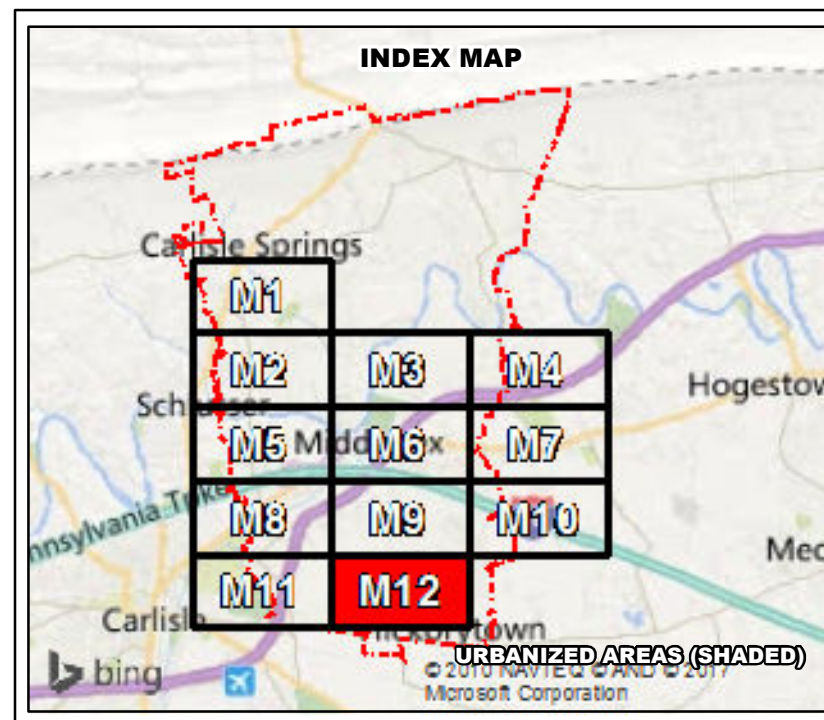


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Observation Points	Discharge Points Other	Streams	Existing BMP	Non Urban Areas (screened)
Unimpaired Outfalls	Manhole	Impaired Streams	NWI	Urban Areas (non screened)
Impaired Outfalls	Flow Arrows	Prop. Stream Restoration	Planning Area	ParsingParcels
Intake Points	Pipes	Prop. Vegetated Open Channel	Impaired Sewershed	10' Contours
Intake Points Other	Pipes Other	Prop. Bioretention/Raingarden	Unimpaired Sewershed	2' Contours
Inlets	Rain Traces	Proposed Drainage Area (screened)	Lakes	2' Depression Contours
Inlets Other	Surface Water Conveyance	Municipal Boundary	Parcels	
Discharge Points				

0 300 600 Feet

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Urbanized Area: Harrisburg

HUC Name: Letort Spring Run, Hogestown Run

HUC Code: 020503050404, 020503050405

Date: 7/19/2017

Prepared By:

Revised By:

MS4 MAP #12

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