



Draft for Review

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Doylestown Township Total Maximum Daily Load Plan (TMDL Plan) and Pollutant Reduction Plan (PRP)

Doylestown Township
425 Wells Road
Doylestown, PA 18901

NPDES Permit No. PAG130007

GHD | 1240 N Mountain Road Harrisburg PA 17112

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Introduction

Doylestown Township (Township) has a population of 17,565 people as reported in the 2010 Census and is located in Bucks County, Pennsylvania.

Discharges from the Township's small municipal separate storm sewer system (MS4) are currently regulated under NPDES Permit No. PAG130007.

Surfaces within the Township's Urbanized Area (UA) drain to four (4) surface watersheds, as defined by the HUC-12 watershed classification system: Neshaminy Creek, Pine Run, Cooks Run, and Mill Creek. Pine Run, Cook Run and Mill Creek all drain into the Neshaminy Creek. All four watersheds are listed on DEP's MS4 Requirements Tables as being impaired for nutrients, and therefore have Appendix E load reduction requirements. The Township's Planning Area consists of the delineated storm sewersheds of outfalls discharging to the streams.

The Neshaminy Creek has an EPA-approved Total Maximum Daily Load (TMDL). Of the four watersheds within Doylestown Township, only the Pine Run and Mill Creek watersheds have identified Waste Load Allocations (WLAs) for sediment.

As a condition of the continuation to discharge under this permit, the Township must develop a Total Maximum Daily Load Plan (TMDL Plan) and Pollutant Reduction Plan (PRP) to address reduction of their existing sediment, Total Phosphorus (TP), Total Nitrogen (TN) to local surface waters that are impaired for sediment and/or nutrients. This combined report will satisfy both requirements for both the Township's TMDL and PRP.

A. Public Participation

A copy of this combined report is available for review at the Doylestown Township municipal office. A public notice will be advertising the availability of the plan will be published in the Intelligencer newspaper. A copy of the public notice and proof of publication will be included as Attachment A-1 to this plan. Comments on the PRP will also be accepted at the August 15, 2017 Township Supervisors meeting. Attachment A-2 will include all comments received from the public during the public comment period. The Township's response to the comment will immediately follow each comment. The Township's response will note changes to the combined plan because of the comments, if applicable.

B. Map

All of the required mapping information can be found on the Storm Sewer Outfall Map, which is Attachment B-1.

C. Pollutants of Concern

The four watersheds located within Doylestown Township are identified as being impaired for nutrients. The Pollutant Reduction Plan (PRP) requirements listed in Appendix E of the NPDES PAG-13 Authorization instructions list the pollutants of concern for discharges to watersheds impaired by nutrients as being total



nitrogen (TN) and total phosphorus (TP). However, for this permit cycle, Doylestown Township is going to take a presumptive approach. For the four (4) impaired watersheds, the pollutant of concern will be sediment. In accordance with DEP's PRP guidance, it will be presumed that if a 10% reduction of sediment can be met, then the required reductions in nitrogen and phosphorus will also be met.

As described in the Introduction, Neshaminy Creek has an EPA-approved TMDL. However, only Pine Run and Mill Creek have WLAs for sediment. The long-term TMDL requirements for sediment reduction for Pine Run is 52.5% for Doylestown Township. The long-term TMDL requirements for Mill Creek is a 28.4% reduction in sediment. The short-term goal for sediment reduction in these two watersheds is 10%. The Township intends to develop the required network of funding, planning, and construction professionals to meet the 10% sediment reduction goal, at a minimum, over the upcoming 5-year construction cycle. Any sediment reduction that is achieved beyond 10%, in this permit term, will be credited towards the TMDL long-term reduction requirements. By developing multiple projects during this first permit cycle, the Township will be well equipped to efficiently implement additional projects in subsequent permit cycles. Doylestown Township will strive to work efficiently with DEP and EPA regulators to develop a realistic timeline for meeting the long-term reduction goals for the Pine Run and Mill Creek watersheds. Funding opportunities at the state and local level will help the Township to expedite meeting these long-term requirements.

D. Determination of Existing Loading for Pollutants of Concern

The existing pollutant loads for Doylestown Township were developed by using modeling at the local watershed scale. The land uses that make up each drainage area/sewershed to each regulated outfall were determined by utilizing the Stroud Water Research Center Wiki Watershed Tool. The sediment loading for each land use identified in the Wiki Watershed model was developed by using the literature loading rates identified in the Neshaminy Creek TMDL report. These loading rates were then calibrated for Doylestown Township based on the percentage of pervious and impervious cover in the Township provided by the National Land Cover Database 2011.

Each storm sewershed's sediment loads were then added together to provide the combined total sediment loads for each watershed. Table D.1 below presents the base existing sediment load calculations, not including existing BMP credits. A more thorough of each watershed's load calculation can be found in Attachment D-1. Detailed output from the Wiki Watershed models can be found in Attachment D-2.



Table D.1: Base Existing Sediment Load Calculations

Watershed	TMDL WLA?	Total Acres	Wiki Watershed Load Calculations for TSS (lbs)
Neshaminy Creek	N	2,155	1,162,374
Pine Run	Y	883	426,747
Cooks Run	N	268	189,184
Mill Creek	Y	106	49,555
Entire Planning Area		3,412	1,827,860

Pollutant reduction credits for the PRP baseline sediment load were taken for only BMPs installed after March 10, 2003. Attachment D-3 lists the existing BMPs that the Township has elected to utilize to reduce the existing pollutant load. The BMP ID number listed in the worksheet corresponds to the location of each BMP as depicted on Attachment B-3. The Operation and Maintenance (O&M) of all BMPs installed since March 10, 2003 has been incorporated into the Township’s BMP Inventory under MCM #5 of the Township’s Stormwater Management Program under their existing NPDES permit. As such, the Township has assessed the O&M of these BMPs in accordance with the Township’s BMP Inspection Program and noted the completion of the required O&M activities for each BMP in the Township’s annual reports.

To determine the amount of sediment reduction that is credited to each BMP, individual drainage areas were calculated using GIS data and information provided by the Township Engineer. The drainage areas were then multiplied by the sediment loading ratios (i.e. lbs/acre) that were calculated in the calibrated base sediment load Wiki Watersheds models. This resulted in the sediment, in lbs, that is delivered to each BMP. A sediment reduction effectiveness value was then calculated for each BMP using the hydrologic soil group classification and DEP’s BMP Effectiveness Values document. The calculated sediment that is delivered to each BMP was then multiplied by the BMP sediment reduction effectiveness value to produce the pounds of sediment that are removed by each BMP.

Table D.2 summarizes the existing BMP credits that were calculated for each watershed. Attachment D-3 includes the calculated credits for each individual BMP.



Table D.2: Existing BMP Pollutant Reduction Credits

Watershed	Existing BMP Sediment Reduction Credits (lbs)
Neshaminy Creek	58,678
Pine Run	19,391
Cooks Run	39,623
Mill Creek	556

To calculate the minimum load reduction that is required, the base existing sediment load calculated in the Wiki Watershed model (Table D.1) was decreased by the existing BMP pollutant reduction credits (Table D.2) for each watershed. The adjusted sediment load was then multiplied by 10% to yield the required minimum reduction in pollutant loading. Table D.3 below presents these calculations for all the Township’s watersheds.

Table D.3: Adjusted Sediment Loads and Minimum Required Reductions in Pollutant Loading

Watershed	Base Existing Sediment (TSS) Load from Calibrated BayFast Model (lbs)	Existing BMP Sediment Reduction Credits (lbs)	Adjusted Sediment (TSS) Load (lbs)	Minimum Required Sediment Reduction (lbs)
Neshaminy Creek	1,162,374	58,678	1,103,696	110,370
Pine Run	426,747	19,391	407,356	40,736
Cooks Run	189,184	39,623	149,561	14,956
Mill Creek	49,555	556	48,999	4,900
Entire Planning Area	1,827,860	118,248	1,709,612	170,961

E. Selection of BMPs to Achieve the Minimum Required Reductions in Pollutant Loading

BMPs have been selected to achieve the minimum required reductions in sediment loading that are shown in Table D.3. The 10% sediment reduction required for each watershed will be met by installing three (3) stream restoration projects and two (2) retrofitting projects that will convert dry detention basins into dry extended detention basins.



E.1 Neshaminy Creek Watershed

The Neshaminy Creek watershed has a minimum sediment reduction requirement of 110,370 pounds. This reduction will be met by developing one project. BMP-A is the UNT Neshaminy Creek Stream Restoration project.

E.1.1 BMP-A: UNT Neshaminy Creek Stream Restoration

An unnamed tributary of the Neshaminy Creek is located to the north of the Doylestown Township administration building on Wells Road. A large section of the stream was analyzed for the appropriateness for the stream restoration techniques outlined in the Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects. The stream restoration project will likely include reconnection to the stream's floodplain and preventing sediment during storm flow by stabilizing the stream banks. Pictures shown in Attachment E.1. display areas where the stream bank is compromised and is in need of stabilization. Other areas along this stretch of stream, through grading and other enhancements, will allow stormwater runoff associated with high frequency storms to flood over the banks of the stream and be treated by the stream's floodway.

In accordance with DEP's PRP Instructions and the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects, the 960 linear feet of stream restoration will provide 110,400 pounds of sediment reduction per year.

E.2 Pine Run Watershed

The Pine Run watershed has a minimum sediment reduction requirement of 40,736 pounds. Two BMPs are proposed to provide this reduction. BMP-B will be the Ridings at Covered Bridge BMP Retrofits and BMP-C will be the Pine Run Road Stream Restoration project.

E.2.1 BMP-B: Ridings at Covered Bridge BMP Retrofits

The Ridings at Covered Bridge neighborhood was developed in 1992. As part of the project, three (3) basins were installed. One of the basins functions very well and has established vegetation and hydrology supporting a robust wetland. The other two basins function as dry detention basins and do not provide any meaningful stormwater runoff management other than decreasing the discharge rates. As visible in the photos found in Attachment E-1, both dry detention basins have outlet pipes positioned at the bottom of the basins. One basin has a concrete channel that quickly conveys water through the basin and out the discharge pipe before any treatment can be applied to the runoff. For this series of BMPs, the Township proposes to reconfigure the outlet structures to promote infiltration of the stormwater within the basins and increase the detention time of the stormwater in the BMP. Increasing the detention time will, as described in the BMP Effectiveness Values Table (3800-PM-BCW0100m), theoretically improve the treatment effectiveness. The current 10% BMP Effectiveness Value for the dry detention basins will be increased to 60% for the basins after they are retrofitted to be dry extended detention basins.

The two BMPs treat a combined 80 acres of drainage area. The annual sediment loading to these BMPs, 38,663 lbs, was calculated based on the average loading per acre determined in the Wiki Watershed model. Increasing the BMP effectiveness value by 50% will result in 19,331 lbs of additional sediment removal capacity. The stormwater management for the Ridings at Covered Bridge will be evaluated as a whole during the design phase



of this project. Other possible improvements to the system could include removing the concrete channel from one basin, grading level spreaders to help existing flat areas act as filter strips, and/or modifying the underlying soils to provide additional filtering capacity.

E.2.2 BMP-C: Pine Run Road Stream Restoration

An unnamed tributary to Pine Run flows along Pine Run Road. This ephemeral watercourse gains tremendous velocity as it cuts through steep slopes as it flows down from a culvert conveying it under Ferry Road. The velocity creates issues with erosion and sediment discharge into Pine Run. The proposed 190 linear feet of stream restoration will include stream bank stabilization and grading to help connect the creek with its floodway. By creating areas for high frequency storms to flood into, the velocity of the stream will be reduced and the sediment from this unnamed tributary will be reduced. Using the default sediment reduction rate of 115 lbs/ft/year, this project will reduce 21,850 lbs of sediment per year.

E.3 Cooks Run Watershed

The Cooks Run watershed has a minimum sediment reduction requirement of 14,956 pounds. One project is proposed to provide this reduction. BMP-D will be the Cottonwood Court BMP Retrofit project.

E.3.1 BMP-D: Cottonwood Court BMP Retrofit

Similar to the Ridings at Covered Bridge BMP Retrofit described in Section E.2.1. of this report, the proposed Cottonwood Court BMP Retrofit will upgrade a large dry detention basin into a dry extended detention basin. By upgrading the basin's outlet structure, grading level spreaders to better distribute high frequency storms across the basin, and adding plantings, the upgraded basin will be more efficient at removing sediment than it currently is. As can be seen in Attachment E-1, a concrete channel directs stormwater runoff straight through the existing dry detention basin and through the outlet structure. The basin functions only to manage the stormwater runoff rate for larger storms and provides minimal water quality enhancement.

The BMP treats 50 acres of drainage area. The annual sediment loading to this BMP is 35,296 lbs. Increasing the BMP effectiveness value by 50% will result in 17,648 lbs of additional sediment removal capacity.

E.4 Mill Creek Watershed

The Mill Creek watershed has a minimum sediment reduction requirement of 4,900 pounds. One BMP is proposed to provide this reduction. BMP-E will be the Old New Road Stream Restoration project. Any sediment reduction that is achieved beyond the 10% requirement will be credited towards the TMDL long-term reduction requirements for this watershed.

E.4.1 BMP-E: Old New Road Stream Restoration

A section of an unnamed tributary to Mill Creek has been identified as needing repair. The tributary discharges through a culvert going underneath Old New Road, out over a slab of concrete, and into the defined stream channel. The banks of the stream are heavily eroded. The concrete slab is at a higher elevation than the streambed. The energy created by water cascading off the concrete slab has caused a large pool to develop. This pool will be analyzed as part of the project to determine if it should be filled in and if the transition between



the slab and streambed should be adjusted. The stream banks will be restored in accordance with the Expert Panel on Stream Restorations and in conjunction with future guidance provided by DEP. It is assumed that the 100 linear feet of stream restoration will result in 11,500 pounds of sediment reduction per year.

As noted in Section C, the excess sediment reduction of 6,600 pounds is being credited towards the Mill Creek TMDL long term reduction requirement. At the end of the upcoming 5 year construction cycle, the outstanding reduction for the Mill Creek TMDL will be 2,416 pounds of sediment.

E.5 Summary

Table E.1 below summarized the selected BMPs to achieve the minimum required sediment load reductions.

Table E.1: Sediment Reduction Provided by Selected BMPs

Watershed	Minimum Required Sediment Reduction (lbs)	Sediment Reduction Provided (lbs)
Neshaminy Creek	110,370	110,400
Pine Run	40,736	41,181
Cooks Run	14,956	17,648
Mill Creek	4,900	11,500
Entire Planning Area	170,961	180,729

F. Funding Mechanism

The Township will utilize money from the Township’s General Fund to finance the BMPs proposed as part of this combined PRP/TMDL plan. The Township will consider and evaluate the feasibility of any grants during the TMDL/PRP implementation period, should any become available.

G. Operation and Maintenance (O&M) of BMPs

As discussed in Section E., the Township is proposing three (3) stream restoration projects and two (2) retrofitting projects that will convert dry detention basins into dry extended detention basins. Doylestown Township will be responsible for completing all ongoing Operation and Maintenance (O&M) for the BMPs listed in Section E. For all BMPs proposed in this TMDL/PRP, a site-specific O&M plan should be prepared by the designer prior to putting the specific BMP into operation. Recommended O&M activities and frequencies for the stream restoration BMPs are as follows:



Table G.1: Stream Restoration O&M Requirements (BMP-A, BMP-C, BMP-E, BMP-F)

Frequency (minimum)	Activity
Annually and after any rain event with localized flooding	<p>Stream restoration O&M activities are design-specific and vary greatly depending upon protocol or methodology used. Possible activities include:</p> <ul style="list-style-type: none"> • Regular inspection and watering of vegetation until vegetation is established; • Annual inspection of streambank • Annual photographs to monitor stream migration

Table G.2: Dry Extended Detention Basin O&M Requirements (BMP-B, BMP-D)

Frequency (minimum)	Activity
Annually and within 48 hours of >1" storm	Inspect/correct erosion, damaged vegetation; remove debris covering vegetation or >3" in depth
	Inspect side slopes for erosion and formation of rills/gullies; correct if needed
	Inspect for pools of standing water, dewater and discharge to approved location, restore design grade
	Inspect for uniformity in cross-section and longitudinal slope; correct if needed
	Inspect swale inlet and outlet for signs of erosion or blockage; correct if needed
	Inspect for litter, remove prior to mowing
	Mow and trim vegetation when swale is dry; mow/trim to a height to allow proper swale operation
As needed	Plant alternative grass species in event of unsuccessful establishment
	Reseed bare areas; install erosion control if needed
	Rototill and replant swale if draw down time > 48 hours
	Inspect and correct check dams if signs of altered water flow are identified



Frequency (minimum)	Activity
During winter de-icing activities	Use nontoxic, organic deicing agents, applied either as blended, magnesium chloride-based liquid products or pretreated salt if roadside or parking lot runoff is directed toward swale
Spring	Remove residuals from de-icing; replace damaged vegetation if needed
	Mulch and/or aerate soil to restore soil structure and moisture capacity

Attachments

Attachment A-1

Public Notice and Proof of Publication

PUBLIC NOTICE AND PROOF OF PUBLICATION TO BE INSERTED

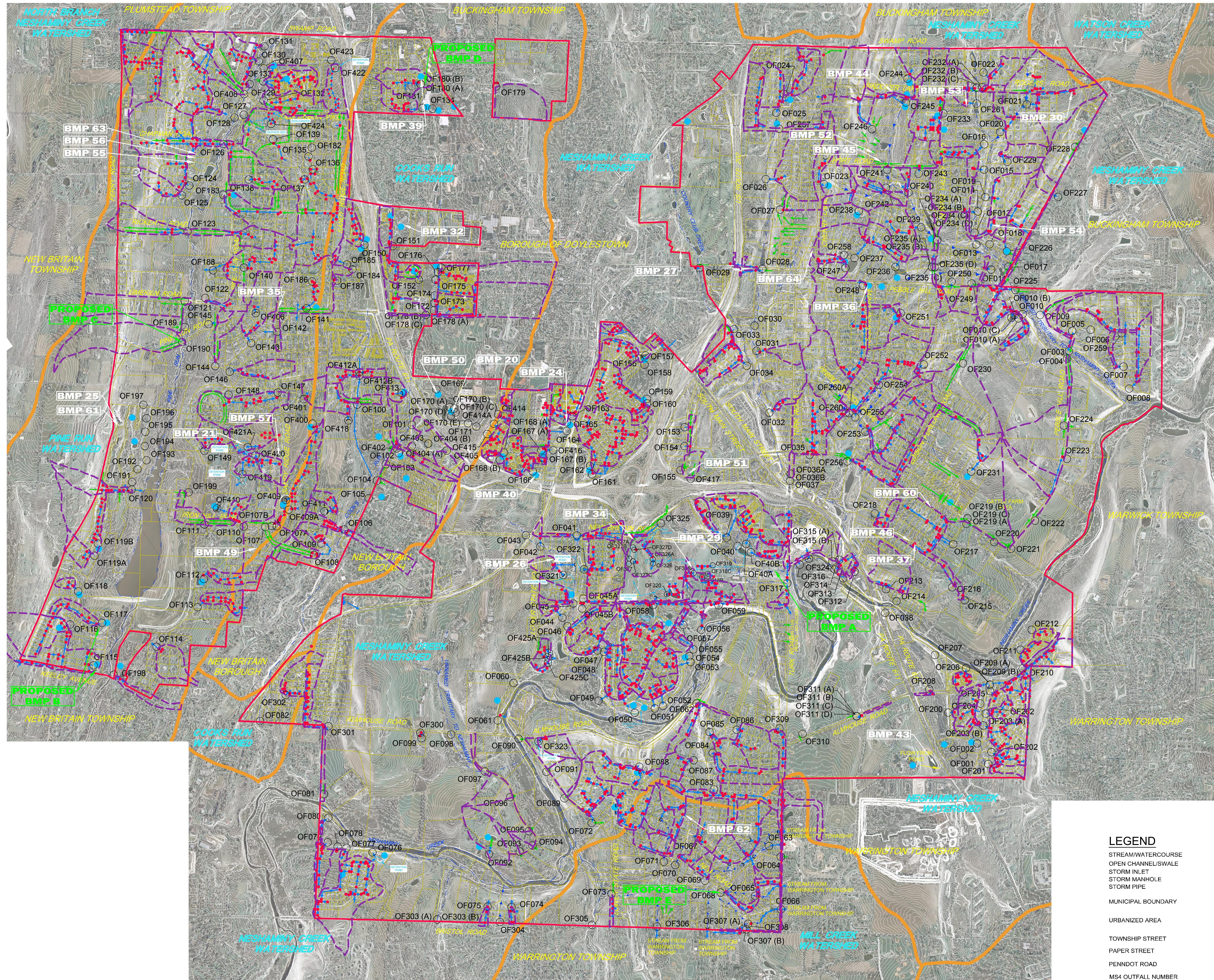
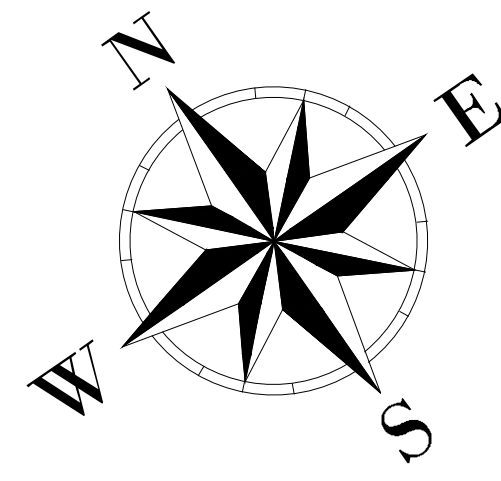
Attachment A-2

Public Comments and Township Response

**COMMENTS AND RESPONSE TO BE INSERTED
UPON CONCLUSION OF PUBLIC COMMENT PERIOD**

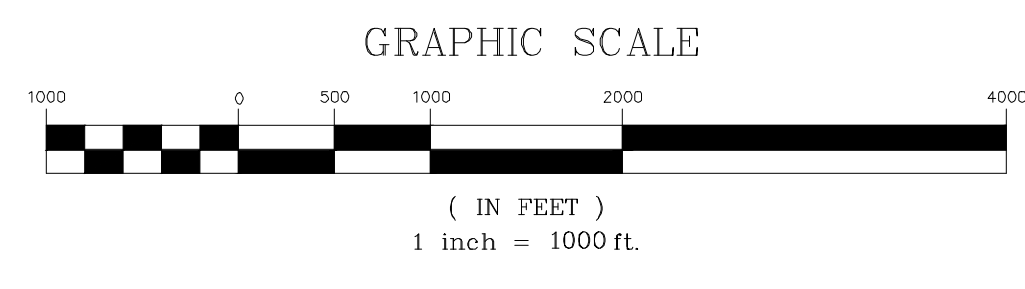
Attachment B-1

Storm Sewer Outfall Map



- LEGEND**
- OUTFALL TO BE INSPECTED
 - OF049 OUTFALL NUMBER
 - CATCH BASIN
 - POND / BASIN
 - STREAM
 - ON-LOT SEPTIC SYSTEM SERVICE
 - WATER FLOW DIRECTION
 - SWALE / DITCH FLOW DIRECTION
 - AREA I BOUNDARY (PREVIOUSLY AREA II)
 - AREA II BOUNDARY (PREVIOUSLY AREA I)
 - AREA III BOUNDARY
 - FLOODPLAIN

- LEGEND**
- STREAM/WATERCOURSE
 - OPEN CHANNEL/SWALE
 - STORM INLET
 - STORM MANHOLE
 - STORM PIPE
 - MUNICIPAL BOUNDARY
 - URBANIZED AREA
 - TOWNSHIP STREET
 - PAPER STREET
 - PENNDOT ROAD
 - MS4 OUTFALL NUMBER
 - MS4 OBSERVATION POINT NUMBER
 - STORM SEWERSHED BOUNDARY



Doylestown Township
Storm Sewer & Outfall Map
With Storm Sewersheds and Land Uses
 Doylestown Township, Bucks County, Pennsylvania
 January 2017

Prepared By:
PCS Pickering
 Corts &
 Summerson
 Consulting Engineers & Land Surveyors

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Revision	Description

Attachment D-1 Load Calculation Summaries

Doylestown Township
Total Neshaminy Creek Watershed

Land Use from 2011 National Land Cover Database (NLCD 2011)				Load Calculations Based on Neshaminy TMDL	
	Area (m2)	Coverage (%)	Area (acres)	Unit Area Sediment Load (lb/acre/year)	Annual Load of Sediment (lbs)
Developed, Open Space	3,985,398	45.7	985	410	403,765
Developed, Low Intensity	1,537,815	17.6	380	1,260	478,793
Developed, Medium Intensity	273,649	3.1	68	1,881	127,191
Developed, High Intensity	20,636	0.2	5	2,502	12,758
Barren Land (Rock/Sand/Clay)	37,683	0.4	9	380	3,538
Deciduous Forest	1,408,620	16.2	348	30	10,442
Evergreen Forest	28,711	0.3	7	30	213
Mixed Forest	43,963	0.5	11	30	326
Shrub/Scrub	317,615	3.6	78	20	1,570
Grassland/Herbaceous	28,711	0.3	7	440	3,122
Pasture/Hay	881,956	10.1	218	380	82,814
Cultivated Crops	139,067	1.6	34	1,100	37,800
Woody Woodlands	17,944	0.2	4	10	44
		100.0	2,155		1,162,374

Doylestown Township
Total Pine Run Watershed

Land Use from 2011 National Land Cover Database (NLCD 2011)				Load Calculations Based on Neshaminy TMDL	
Land Use	Area (m2)	Coverage (%)	Area (acres)	Unit Area Sediment Load (lb/acre/year)	Annual Load of Sediment (lbs)
Developed, Open Space	1,794,978	50.2	444	410	181,851
Developed, Low Intensity	346,001	9.7	85	1,260	107,726
Developed, Medium Intensity	61,794	1.7	15	1,881	28,722
Developed, High Intensity	10,000	0.3	2	2,502	6,182
Barren Land (Rock/Sand/Clay)	0	0.0	0	380	0
Deciduous Forest	448,039	12.5	111	30	3,321
Evergreen Forest	19,739	0.6	5	30	146
Mixed Forest	18,972	0.5	5	30	141
Shrub/Scrub	154,599	4.3	38	20	764
Grassland/Herbaceous	0	0.0	0	440	0
Pasture/Hay	549,797	15.4	136	380	51,625
Cultivated Crops	170,225	4.8	42	1,100	46,269
Woody Woodlands	0	0.0	0	10	0
		100.0	883		426,747

Doylestown Township
Total Cooks Run Watershed

Land Use from 2011 National Land Cover Database (NLCD 2011)				Load Calculations Based on Neshaminy TMDL	
Land Use	Area (m2)	Coverage (%)	Area (acres)	Unit Area Sediment Load (lb/acre/year)	Annual Load of Sediment (lbs)
Developed, Open Space	454,883	42.0	112	410	46,085
Developed, Low Intensity	347,218	32.1	86	1,260	108,105
Developed, Medium Intensity	58,318	5.4	14	1,881	27,106
Developed, High Intensity	4,486	0.4	1	2,502	2,773
Barren Land (Rock/Sand/Clay)	0	0.0	0	380	0
Deciduous Forest	165,983	15.3	41	30	1,230
Evergreen Forest	0	0.0	0	30	0
Mixed Forest	3,589	0.3	1	15	13
Shrub/Scrub	12,561	1.2	3	10	31
Grassland/Herbaceous	0	0.0	0	440	0
Pasture/Hay	27,813	2.6	7	380	2,612
Cultivated Crops	4,486	0.4	1	1,100	1,219
Woody Woodlands	3,589	0.3	1	10	9
		100.0	268		189,183

Doylestown Township
Total Mill Creek Watershed

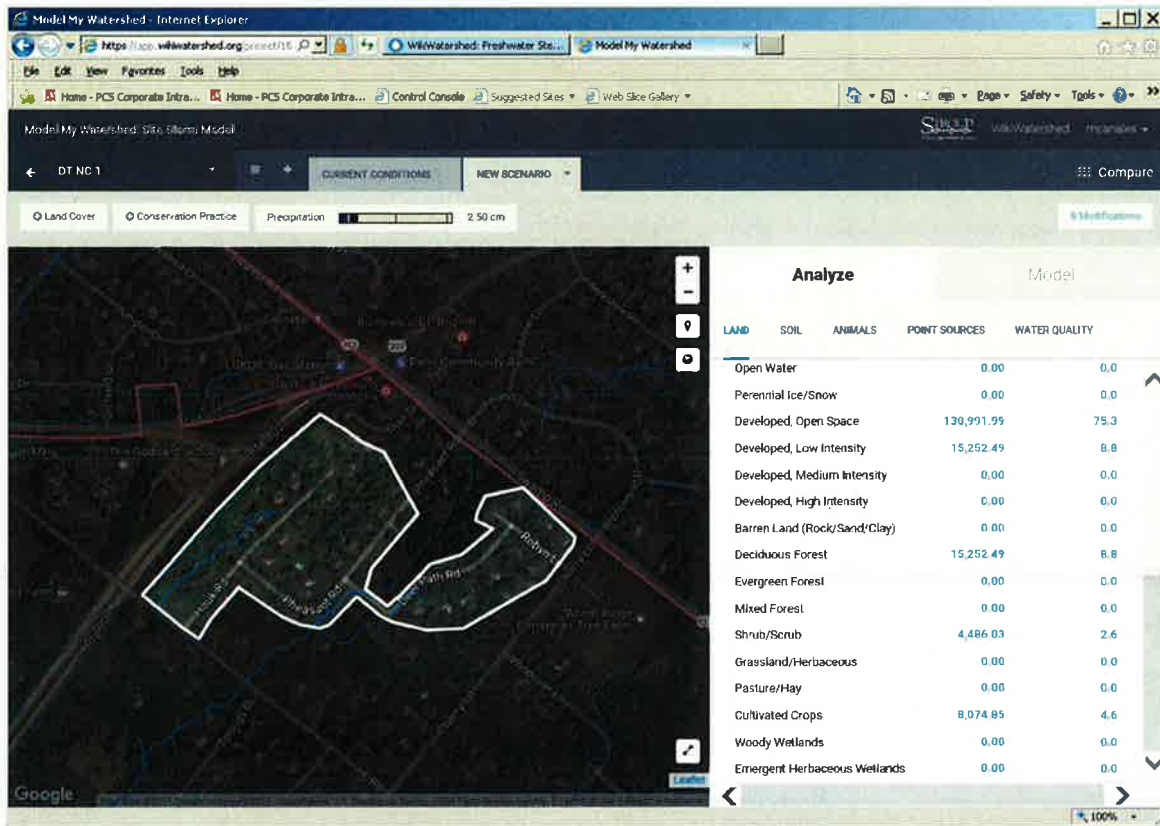
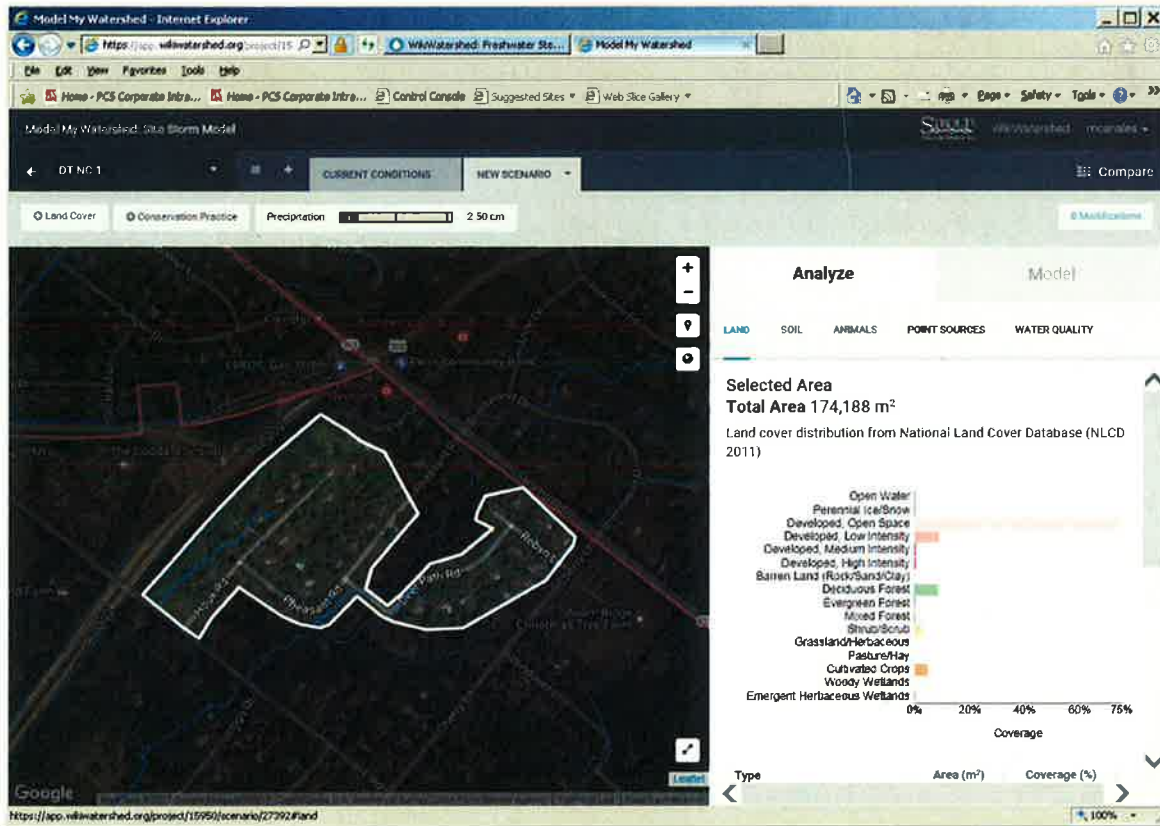
Land Use from 2011 National Land Cover Database (NLCD 2011)				Load Calculations Based on Neshaminy TMDL	
Land Use	Area (m2)	Coverage (%)	Area (acres)	Unit Area Sediment Load (lb/acre/year)	Annual Load of Sediment (lbs)
Developed, Open Space	328,379	76.7	81	410	33,268
Developed, Low Intensity	34,094	8.0	8	1,260	10,615
Developed, Medium Intensity	0	0.0	0	1,881	0
Developed, High Intensity	0	0.0	0	2,502	0
Barren Land (Rock/Sand/Clay)	0	0.0	0	380	0
Deciduous Forest	2,692	0.6	1	30	20
Evergreen Forest	0	0.0	0	30	0
Mixed Forest	0	0.0	0	30	0
Shrub/Scrub	0	0.0	0	20	0
Grassland/Herbaceous	0	0.0	0	440	0
Pasture/Hay	60,113	14.0	15	380	5,645
Cultivated Crops	0	0.0	0	1,100	0
Woody Woodlands	2,692	0.6	1	10	7
		100.0	106		49,555

Attachment D-2

Detailed Output from Wiki Watershed Model

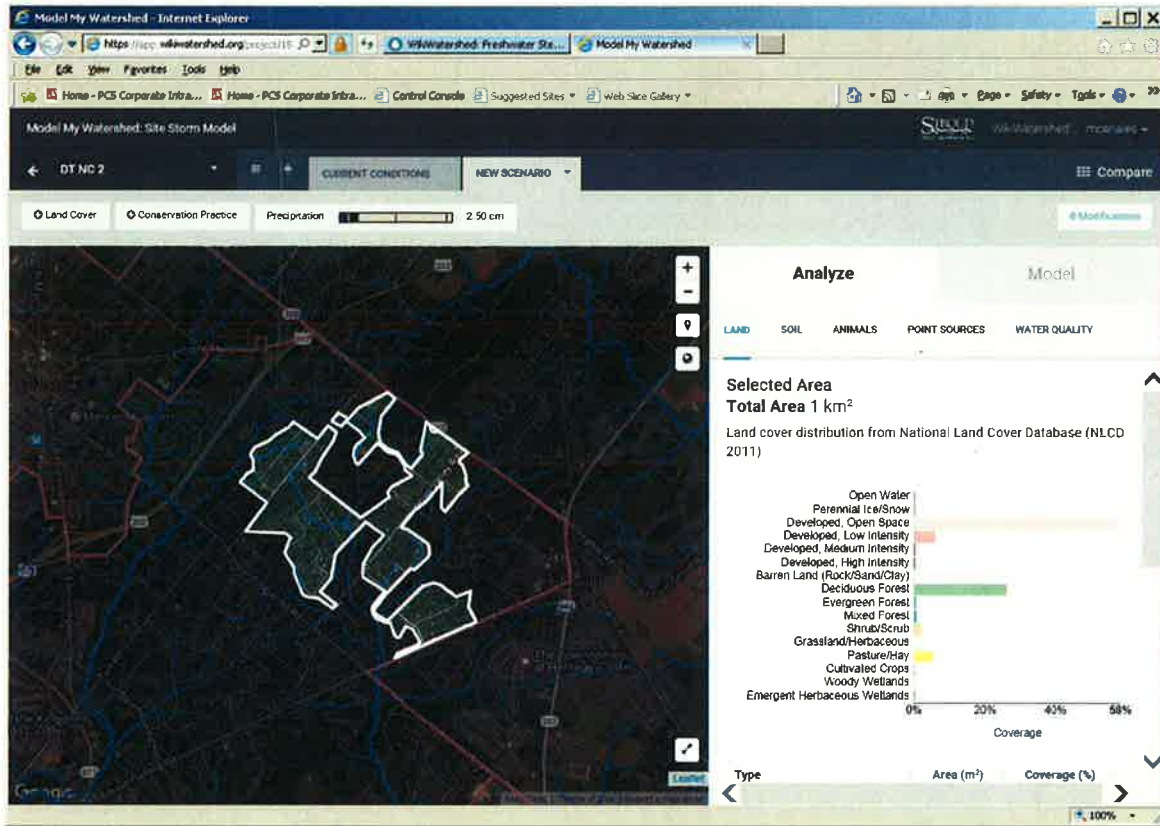
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 1

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	130,991.99	75.26	32.37
Developed, Low Intensity	15,252.49	8.76	3.77
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	15,252.49	8.76	3.77
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	4,489.03	2.58	1.11
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	8,074.85	4.64	2.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	174,060.85	100.00	43.01



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 2

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	820,944.17	58.32	202.86
Developed, Low Intensity	86,131.85	6.12	21.28
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	370,546.38	26.32	91.56
Evergreen Forest	8,074.86	0.57	2.00
Mixed Forest	10,766.48	0.76	2.66
Shrub/Scrub	33,196.65	2.36	8.20
Grassland/Herbaceous	2,691.62	0.19	0.67
Pasture/Hay	75,365.37	5.35	18.62
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	1,407,717.38	100.00	347.85



Model My Watershed - Internet Explorer

https://app.watershed.org/arcgis/115... Model My Watershed

Model My Watershed: Site Storm Model

DT NC 2

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

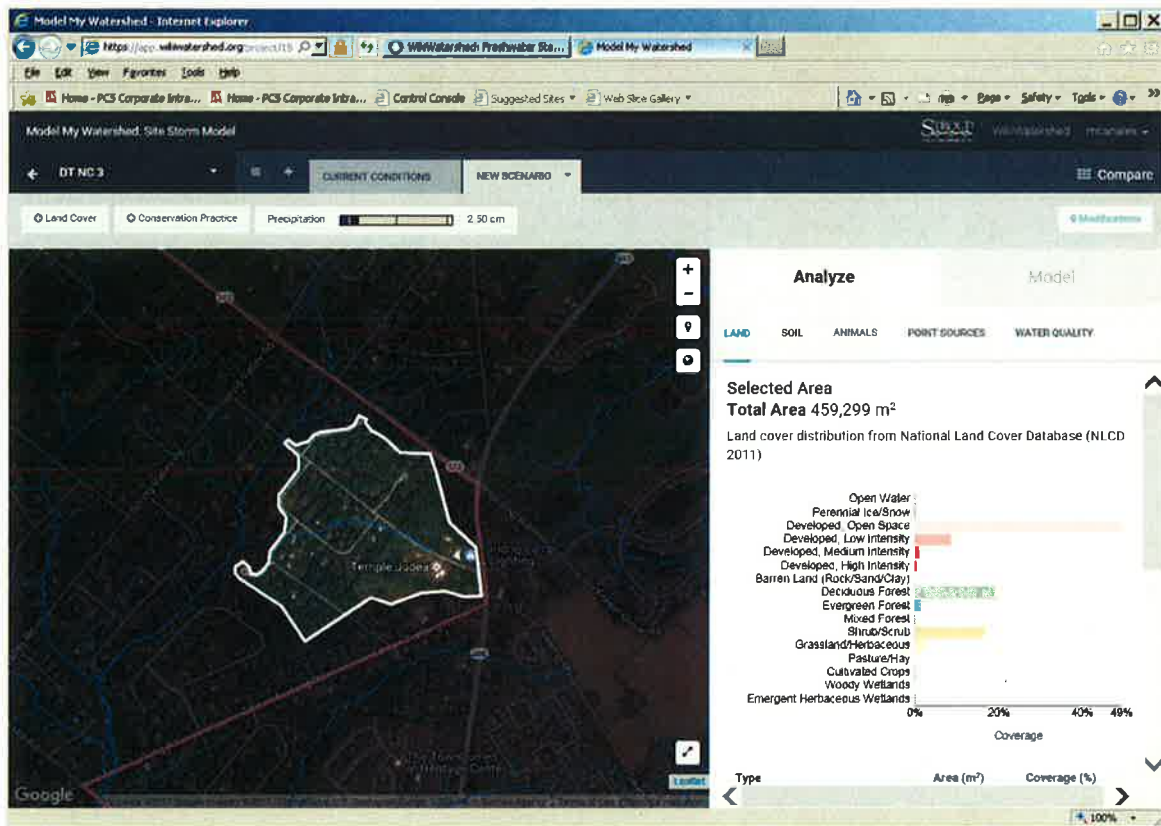
Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	820,944.17	58.3
Developed, Low Intensity	86,131.85	6.1
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	370,546.38	26.3
Evergreen Forest	8,074.86	0.6
Mixed Forest	10,766.48	0.8
Shrub/Scrub	33,196.65	2.4
Grassland/Herbaceous	2,691.62	0.2
Pasture/Hay	75,365.37	5.4
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 3

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	225,198.93	49.41	55.65
Developed, Low Intensity	40,374.31	8.86	9.98
Developed, Medium Intensity	5,383.24	1.18	1.33
Developed, High Intensity	1,794.41	0.39	0.44
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	87,926.27	19.29	21.73
Evergreen Forest	8,074.86	1.77	2.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	76,262.59	16.73	18.84
Grassland/Herbaceous	10,766.48	2.36	2.66
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	455,781.09	100.00	112.62



Model My Watershed - Internet Explorer

https://app.watershed.org/control/118

Model My Watershed: Site Storm Model

DT NC 3

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

Analyze Model

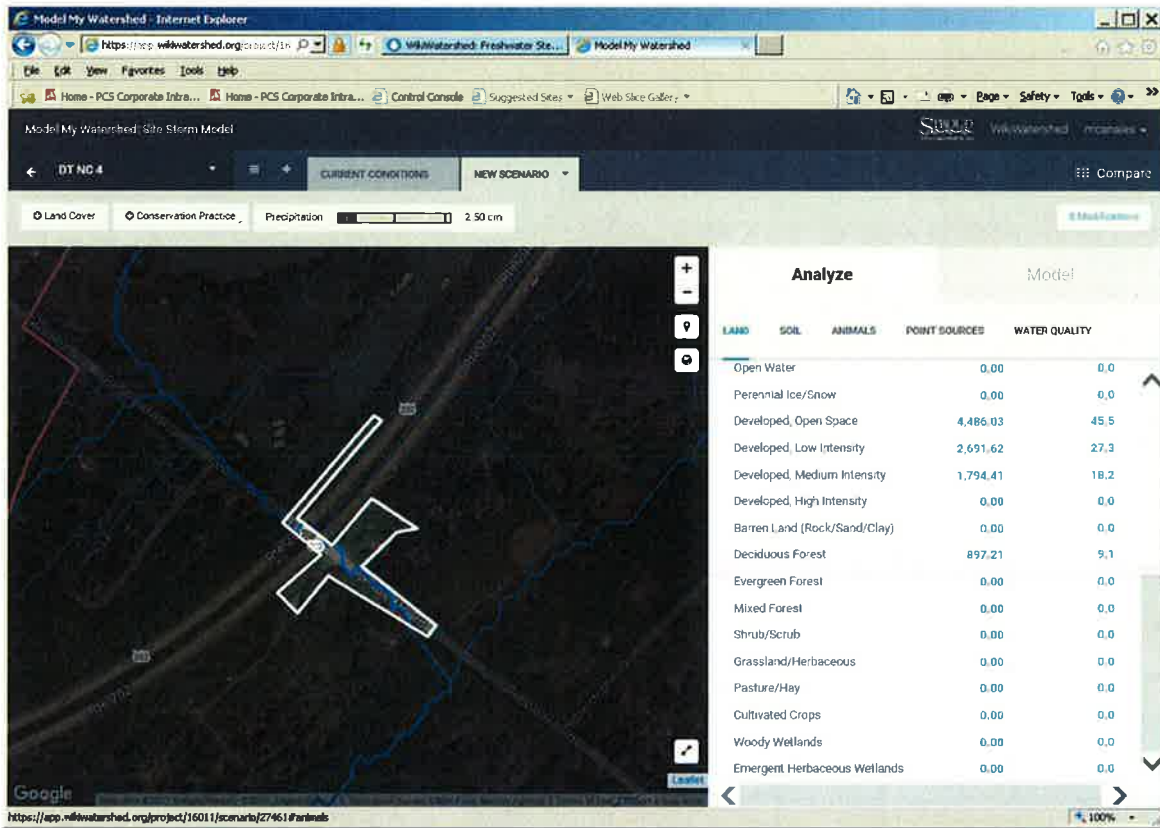
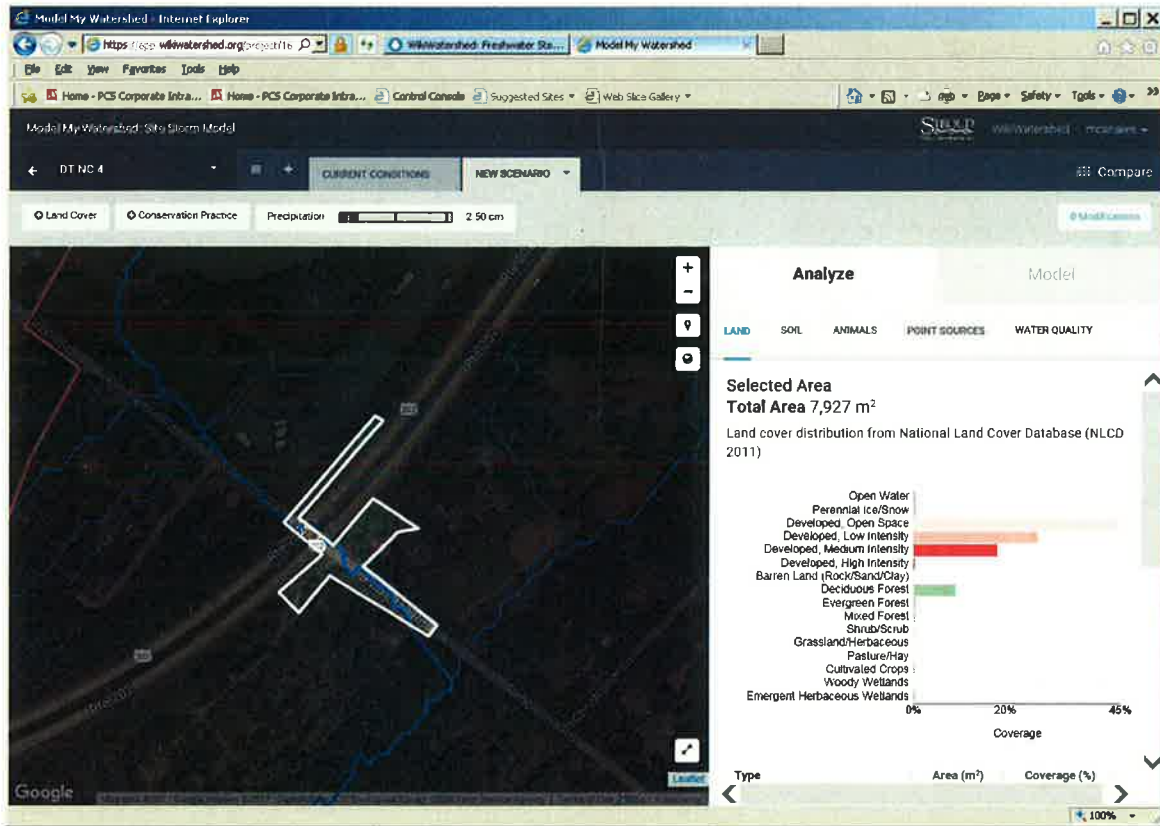
LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	225,198.93	49.4
Developed, Low Intensity	40,374.31	8.9
Developed, Medium Intensity	5,383.24	1.2
Developed, High Intensity	1,794.41	0.4
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	87,926.27	19.3
Evergreen Forest	8,074.86	1.8
Mixed Forest	0.00	0.0
Shrub/Scrub	76,262.59	16.7
Grassland/Herbaceous	10,766.48	2.4
Pasture/Hay	0.00	0.0
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

100%

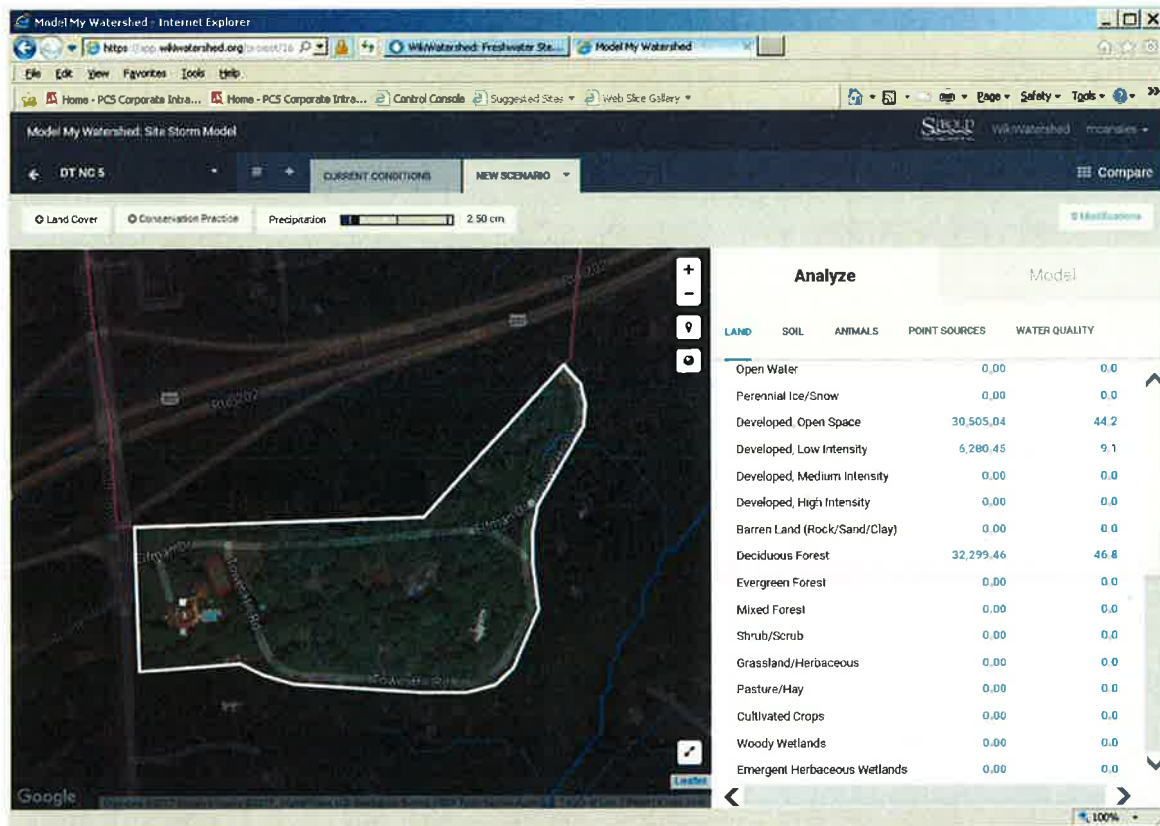
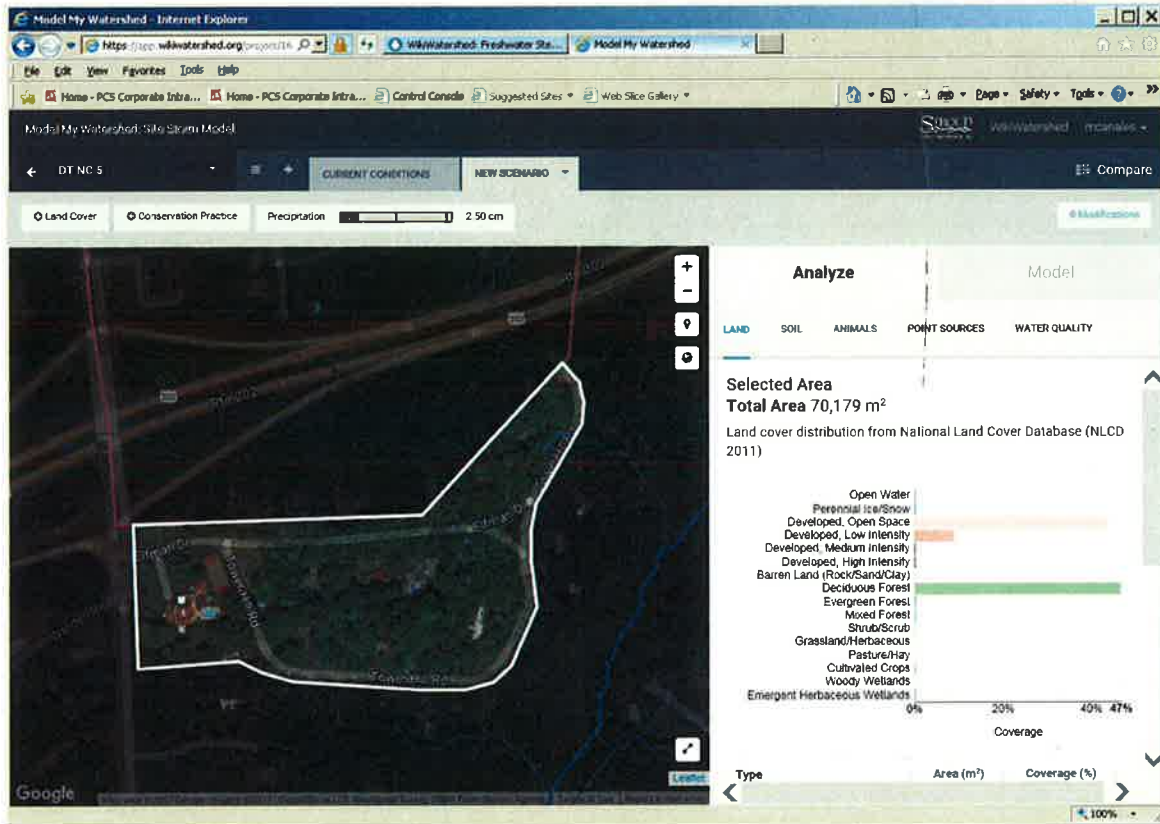
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 4

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	4,486.03	45.45	1.11
Developed, Low Intensity	2,691.62	27.27	0.67
Developed, Medium Intensity	1,794.41	18.18	0.44
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	9.09	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	9,869.27	100.00	2.44



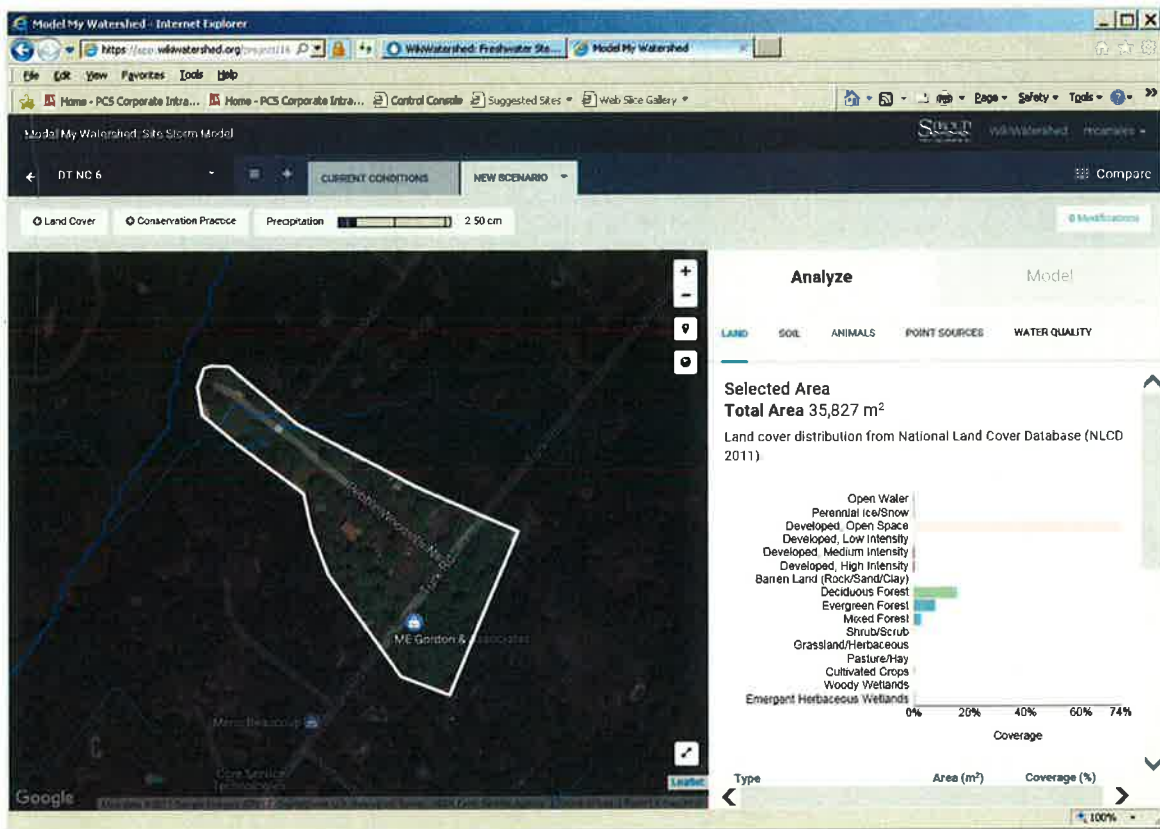
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 5

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	30,505.04	44.16	7.54
Developed, Low Intensity	6,280.45	9.09	1.55
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	32,299.46	46.75	7.98
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	69,084.95	100.00	17.07



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 6

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	26,019.02	74.36	6.43
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	5,383.24	15.38	1.33
Evergreen Forest	2,691.62	7.69	0.67
Mixed Forest	897.21	2.56	0.22
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	34,991.09	100.00	8.65



Model My Watershed - Internet Explorer

https://www.watershed.org/... Model My Watershed

Model My Watershed: Site Storm Model

DT NC 6

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

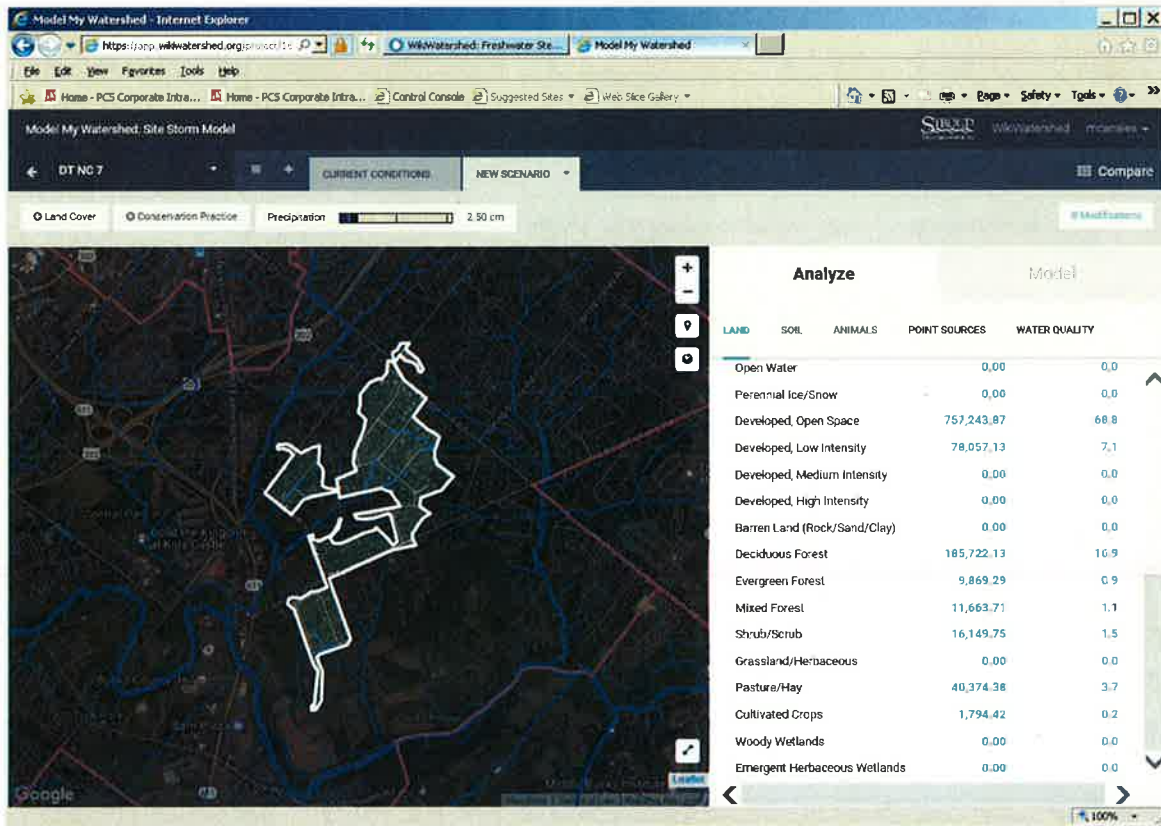
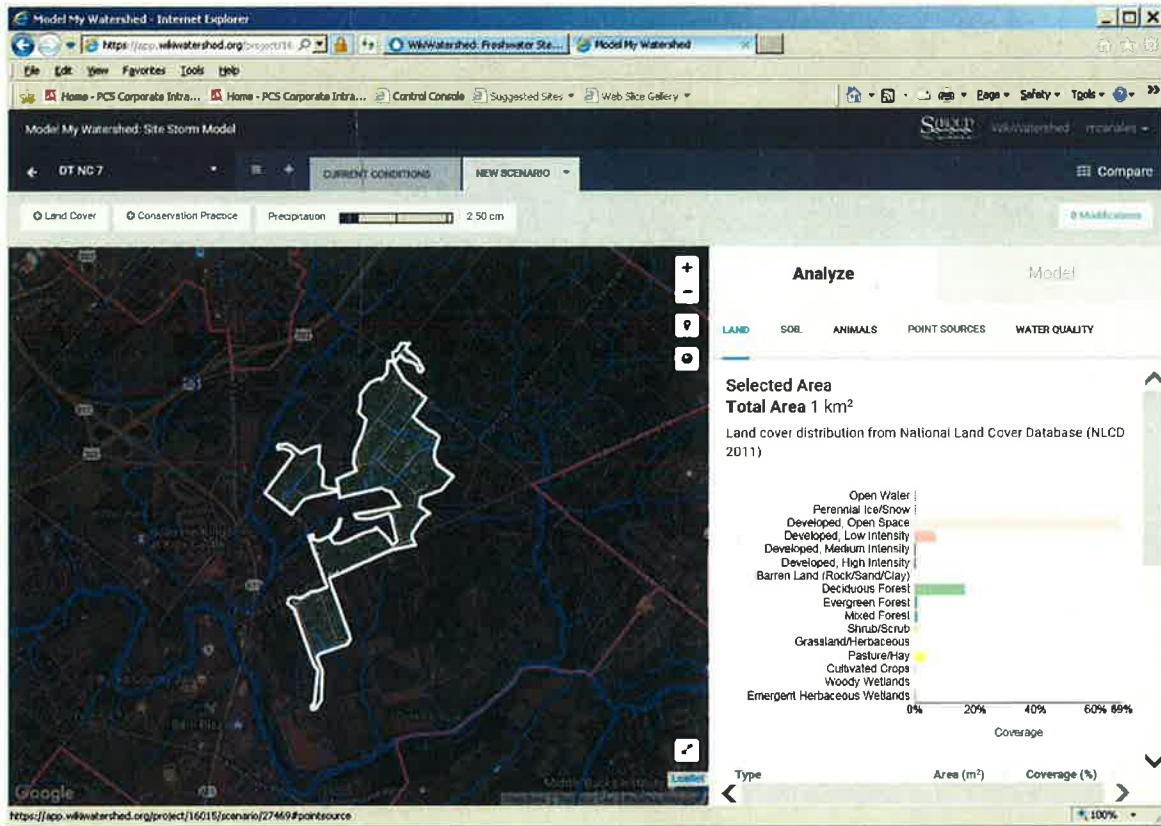
Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	26,019.02	74.4
Developed, Low Intensity	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	5,383.24	15.4
Evergreen Forest	2,691.62	7.7
Mixed Forest	897.21	2.6
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	0.00	0.0
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

Type Area (m²) Coverage (%)

100%

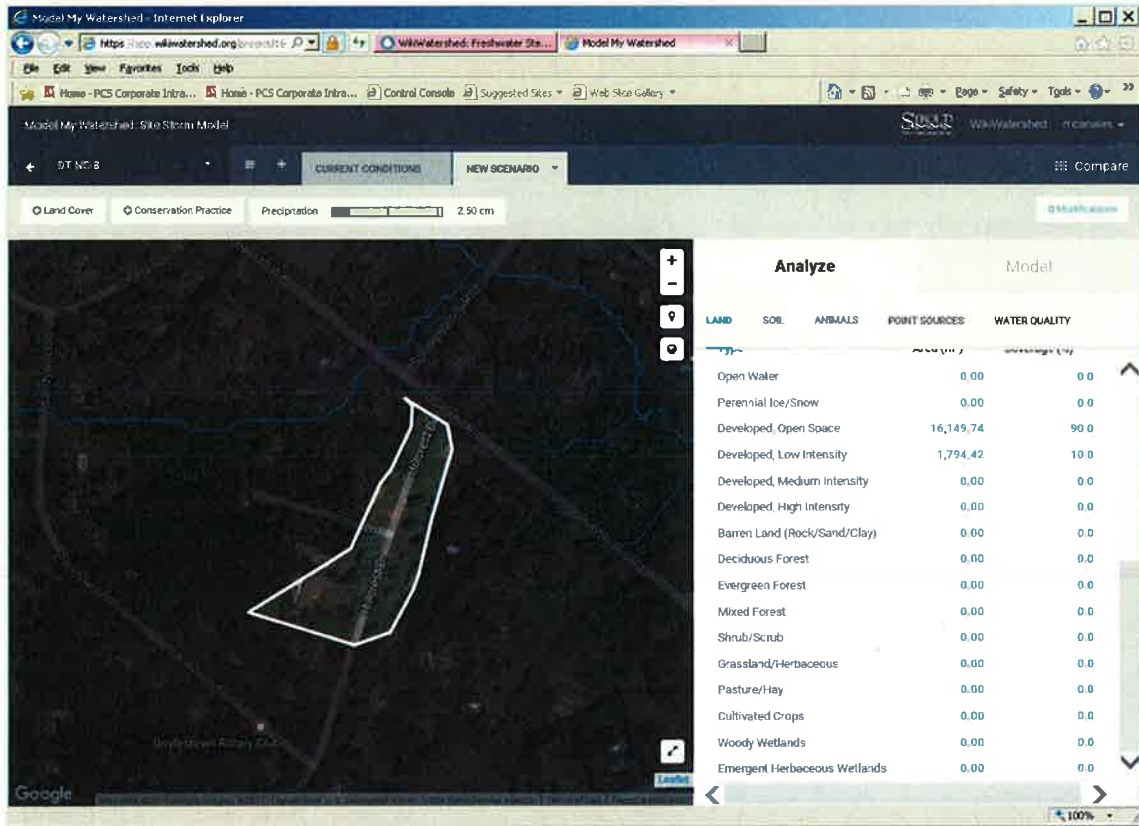
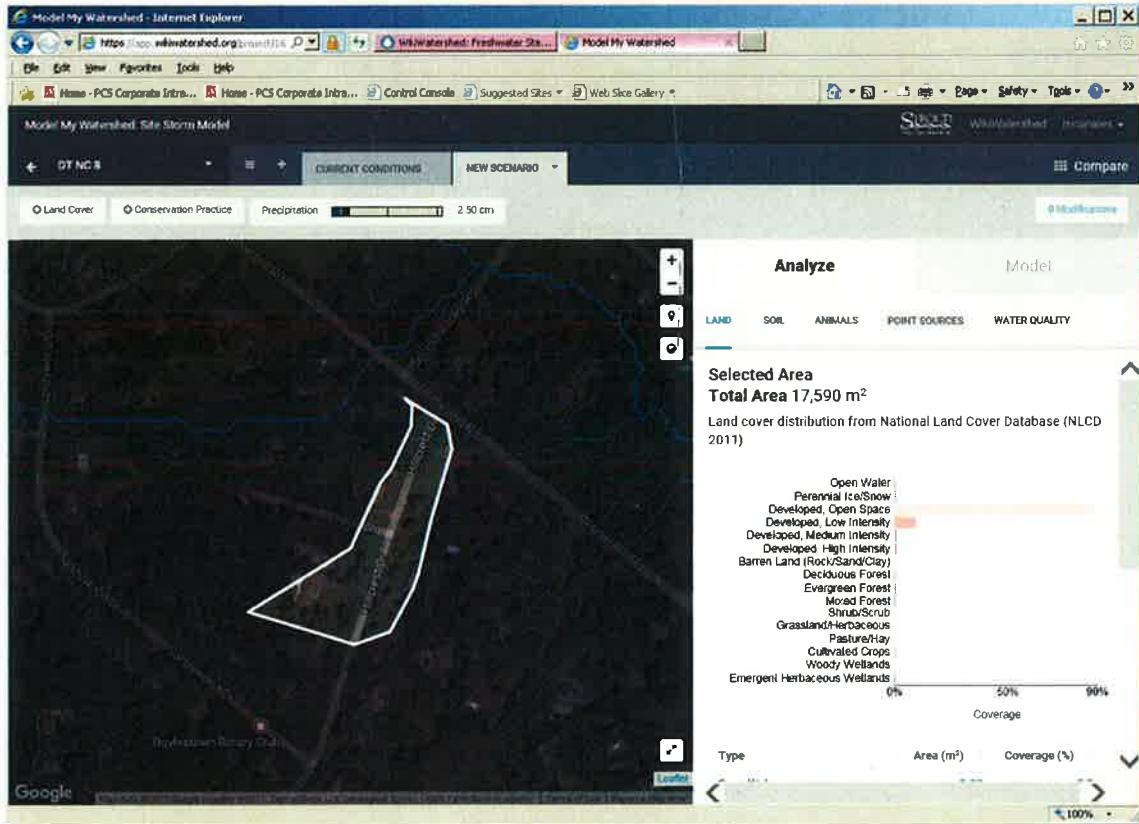
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 7

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	757,243.87	68.79	187.11
Developed, Low Intensity	78,057.13	7.09	19.29
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	185,722.13	16.87	45.89
Evergreen Forest	9,869.29	0.90	2.44
Mixed Forest	11,663.71	1.06	2.88
Shrub/Scrub	16,149.75	1.47	3.99
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	40,374.38	3.67	9.98
Cultivated Crops	1,794.42	0.16	0.44
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	1,100,874.68	100.00	272.03



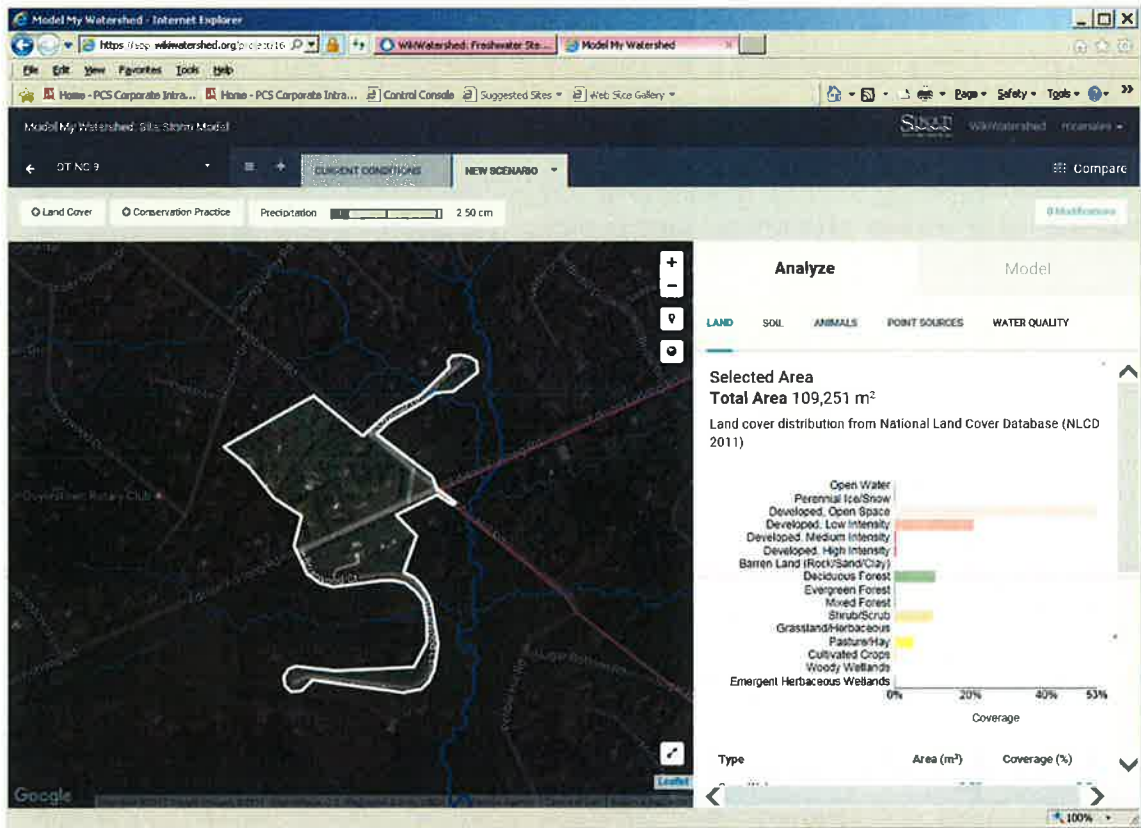
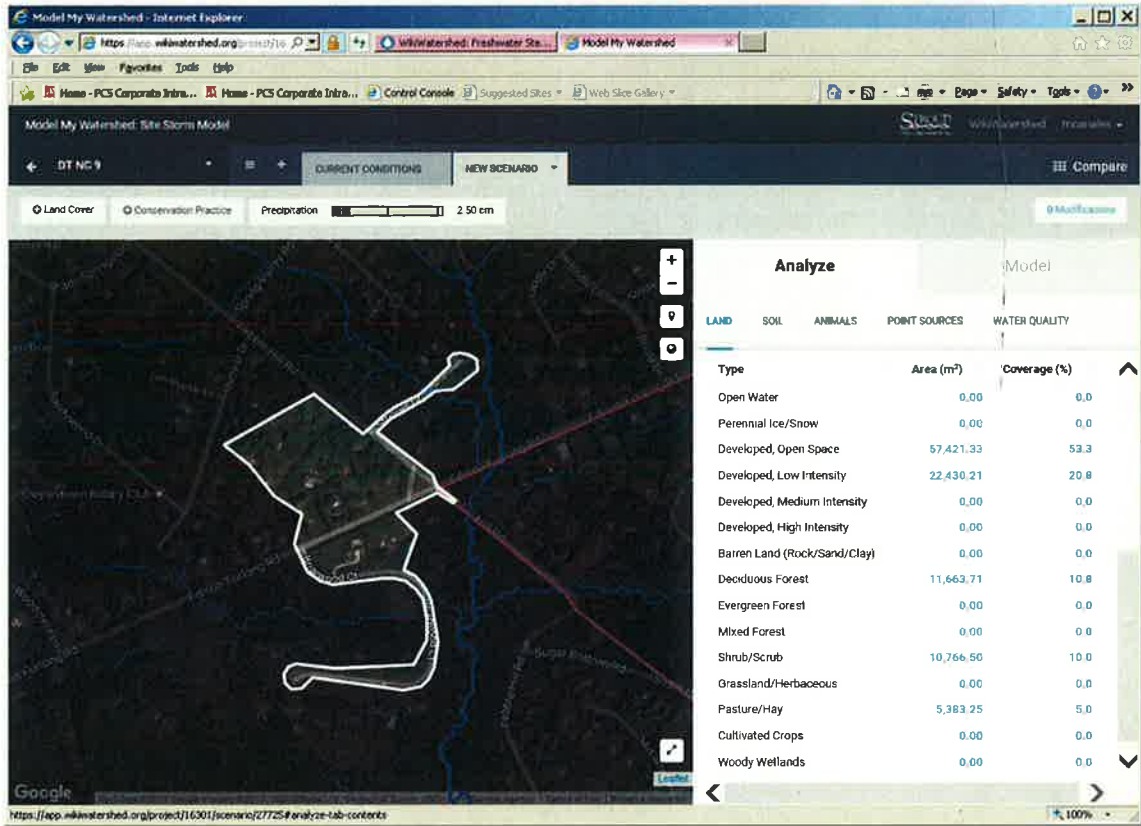
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 8

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	16,149.74	90.00	3.99
Developed, Low Intensity	1,794.42	10.00	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	17,944.16	100.00	4.43



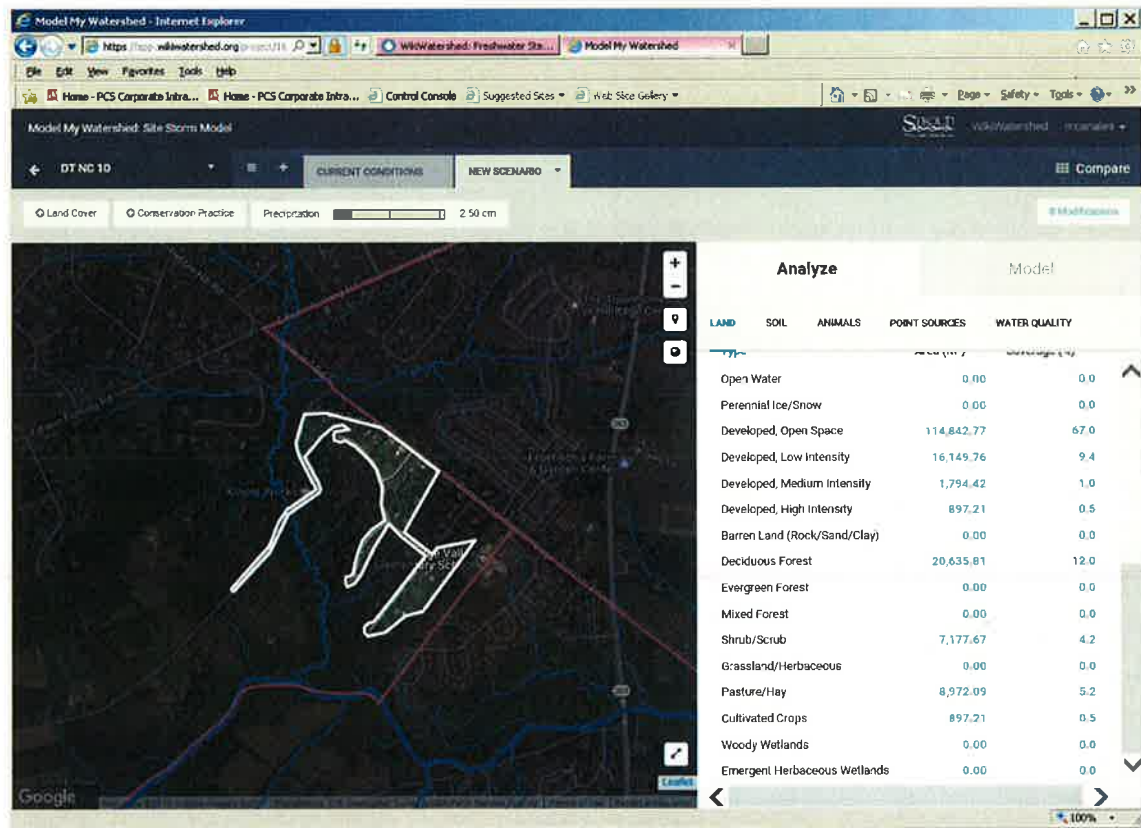
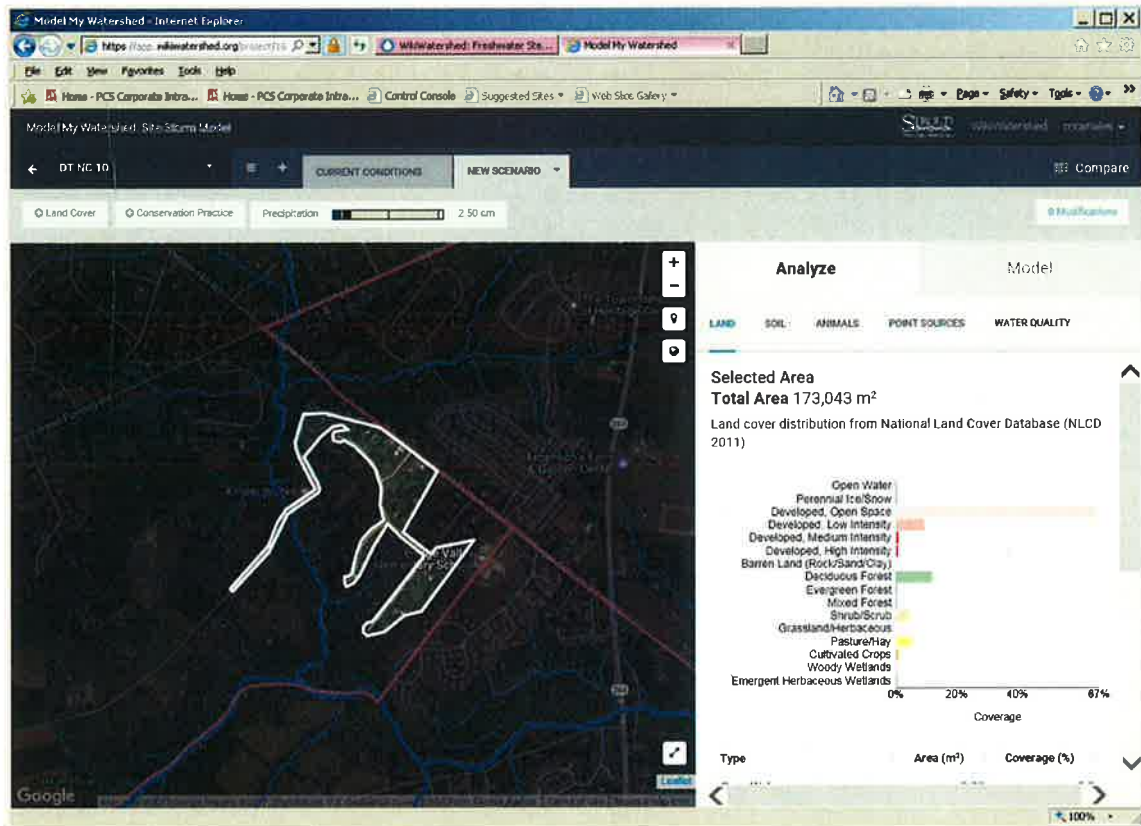
**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 9**

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	57,421.33	53.33	14.19
Developed, Low Intensity	22,430.21	20.83	5.54
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	11,663.71	10.83	2.88
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	10,766.50	10.00	2.66
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	5,383.25	5.00	1.33
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	107,665.00	100.00	26.60



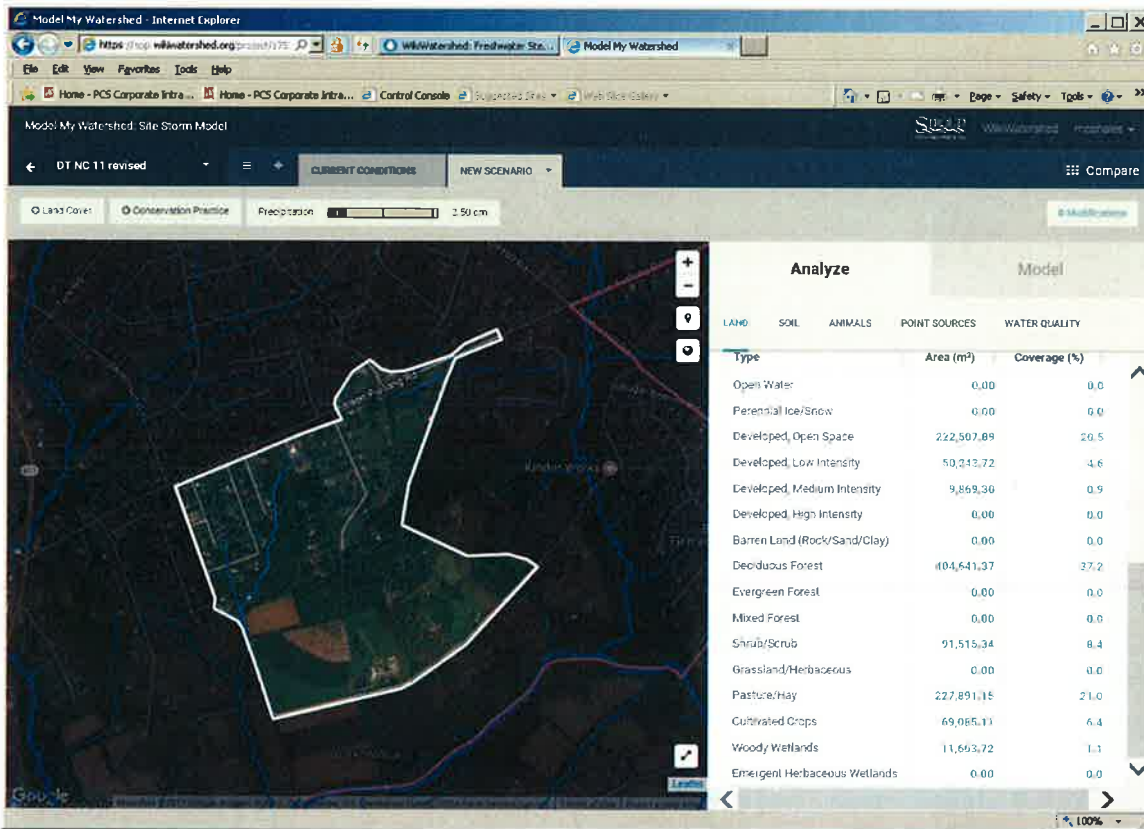
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 10

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	114,842.77	67.02	28.38
Developed, Low Intensity	16,149.76	9.42	3.99
Developed, Medium Intensity	1,794.42	1.05	0.44
Developed, High Intensity	897.21	0.52	0.22
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	20,635.81	12.04	5.10
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	7,177.67	4.19	1.77
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	8,972.09	5.24	2.22
Cultivated Crops	897.21	0.52	0.22
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	171,366.94	100.00	42.34



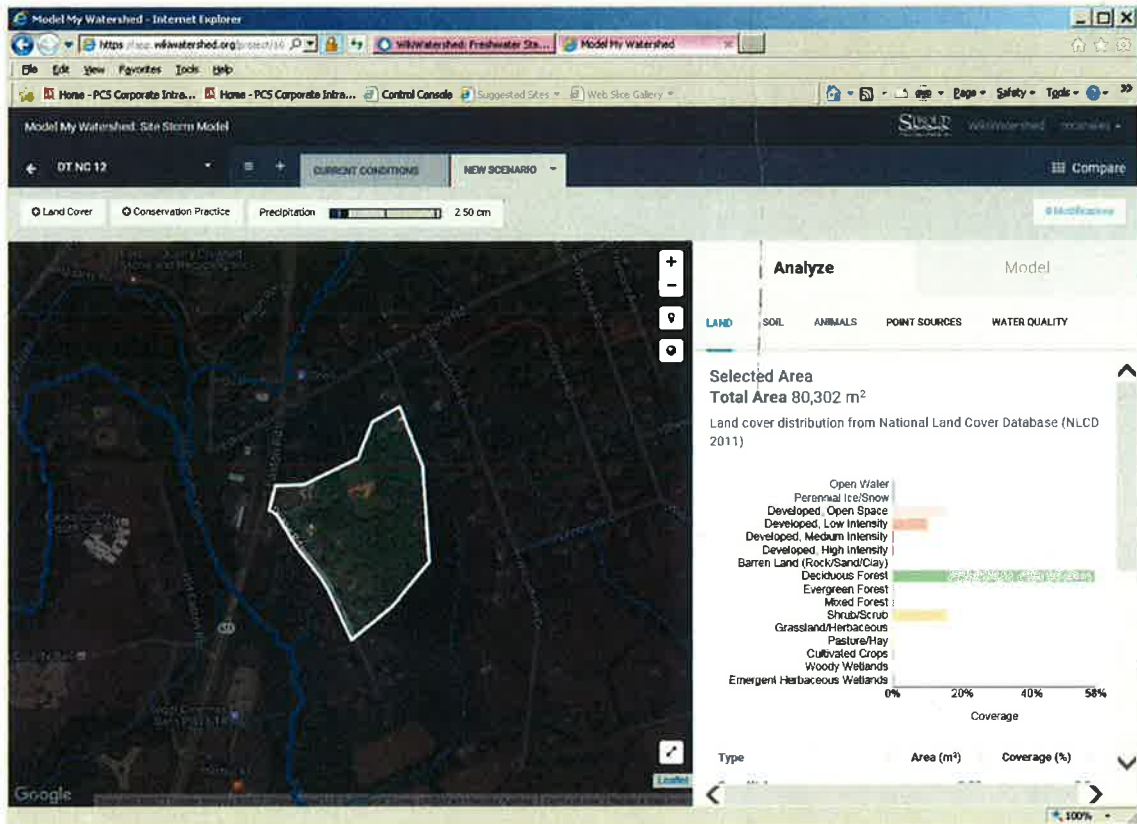
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 11

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	222,507.89	20.46	54.98
Developed, Low Intensity	50,243.72	4.62	12.42
Developed, Medium Intensity	9,869.30	0.91	2.44
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	404,641.37	37.21	99.99
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	91,515.34	8.42	22.61
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	227,891.15	20.96	56.31
Cultivated Crops	69,085.11	6.35	17.07
Woody Woodlands	11,663.72	1.07	2.88
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	1,087,417.60	100.00	268.70



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 12

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	12,560.94	15.73	3.10
Developed, Low Intensity	8,074.89	10.11	2.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	46,654.91	58.43	11.53
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	12,560.94	15.73	3.10
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	79,851.68	100.00	19.73

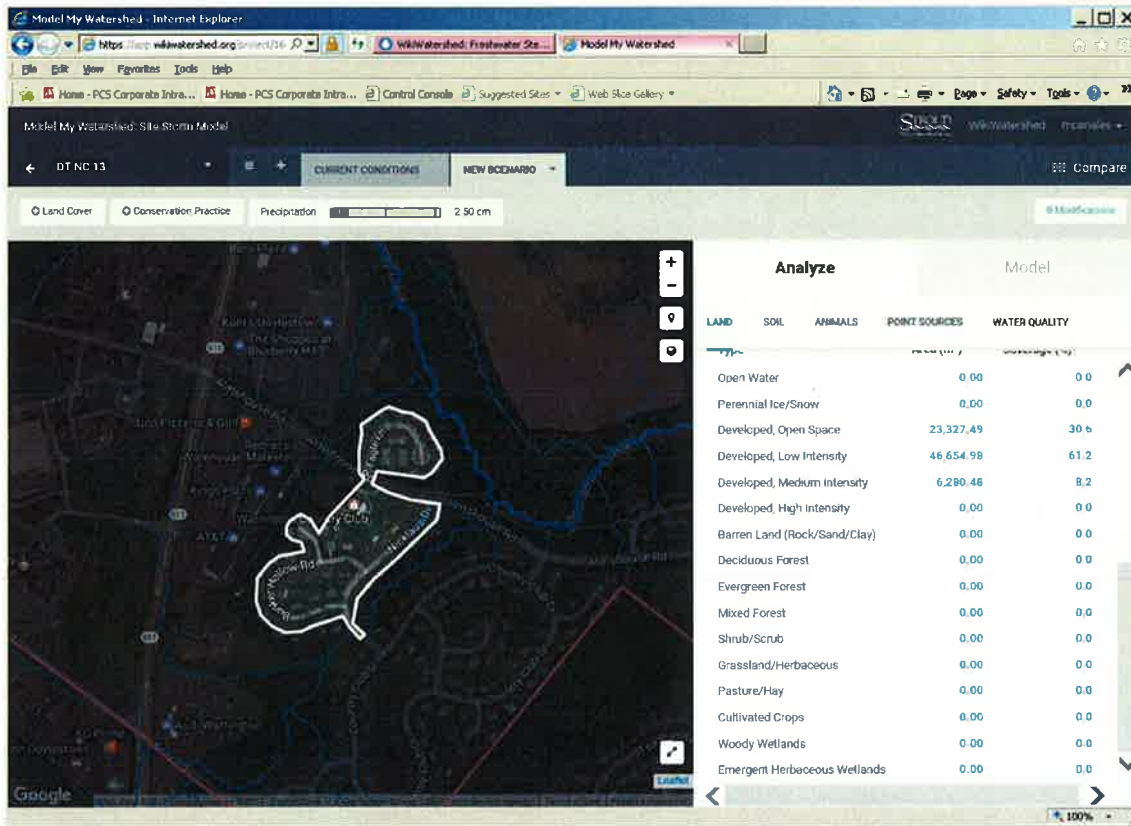
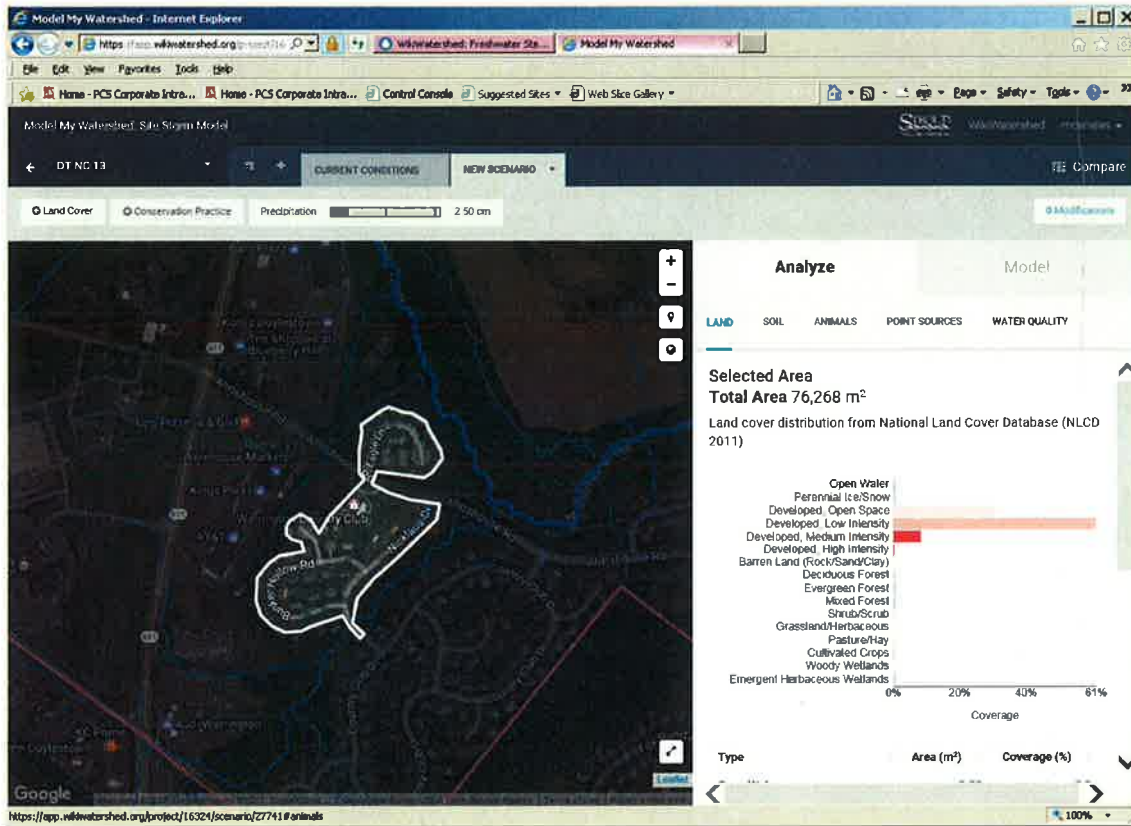


Analyze

Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	12,560.94	15.7
Developed, Low Intensity	8,074.89	10.1
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	46,654.91	58.4
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	12,560.94	15.7
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	0.00	0.0
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

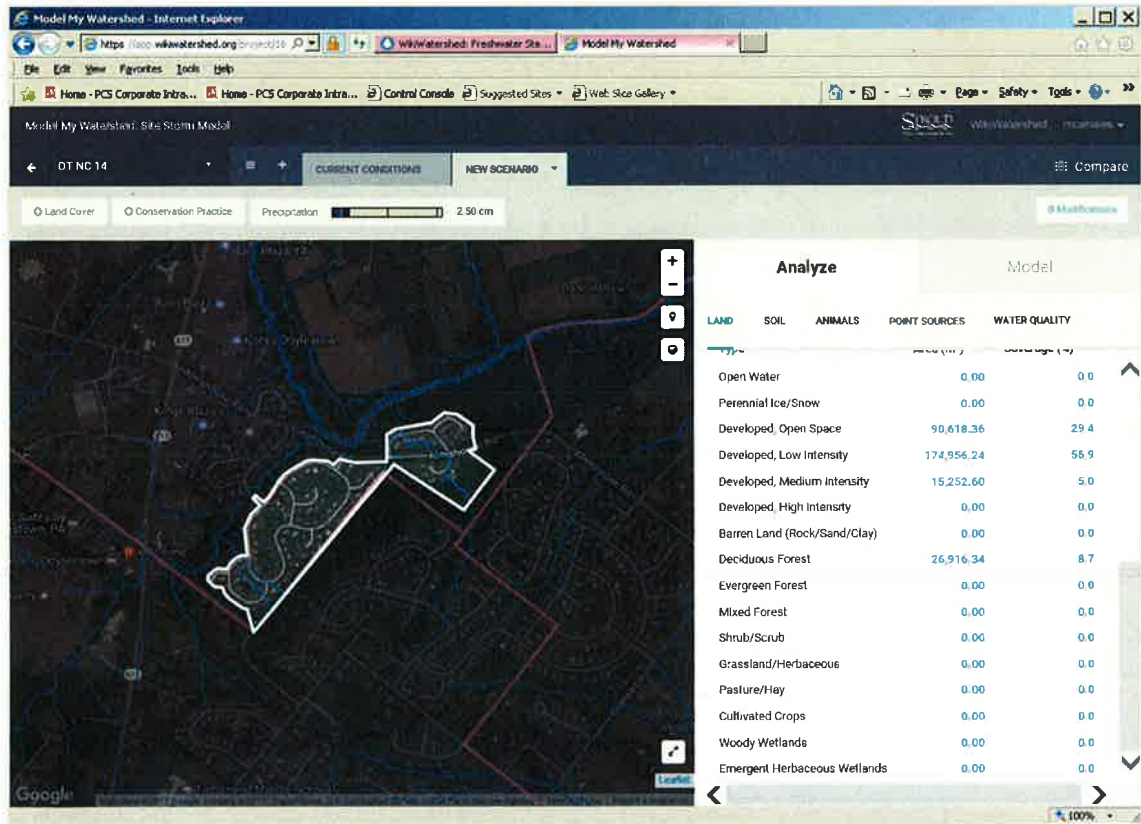
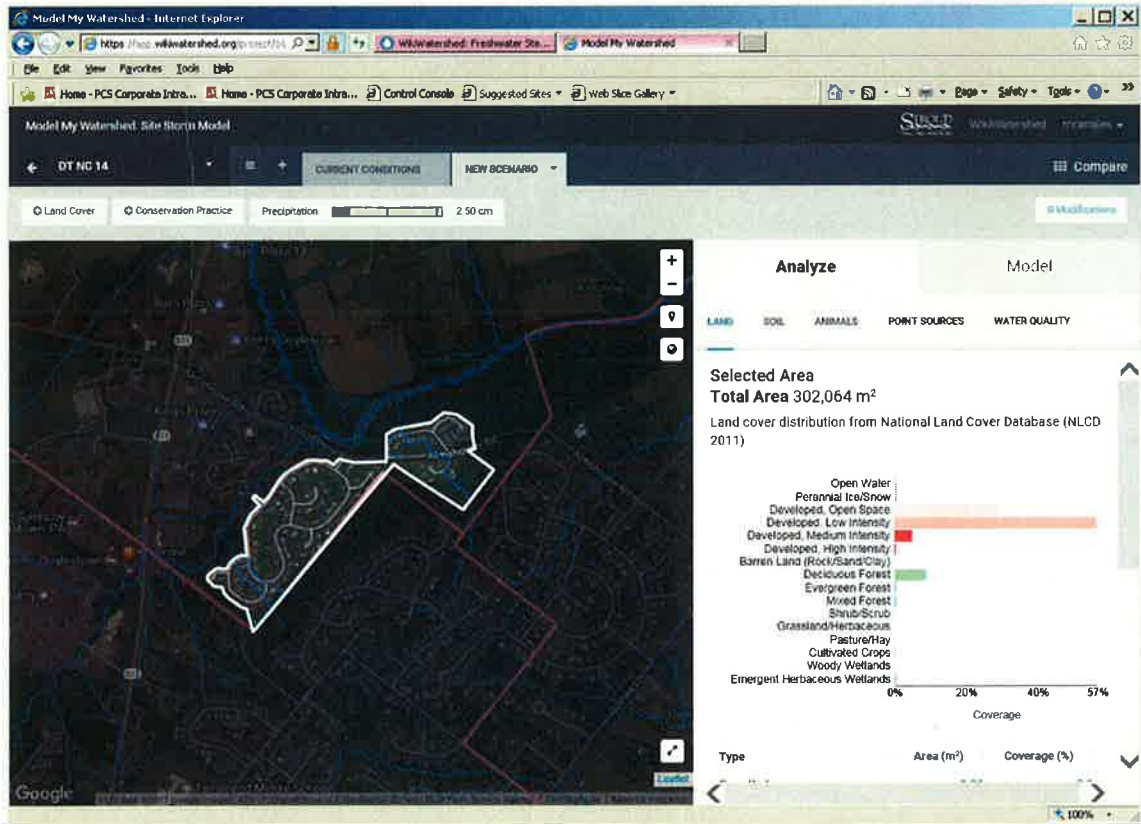
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 13

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	23,327.49	30.59	5.76
Developed, Low Intensity	46,654.98	61.18	11.53
Developed, Medium Intensity	6,280.48	8.24	1.55
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	76,262.95	100.00	18.84



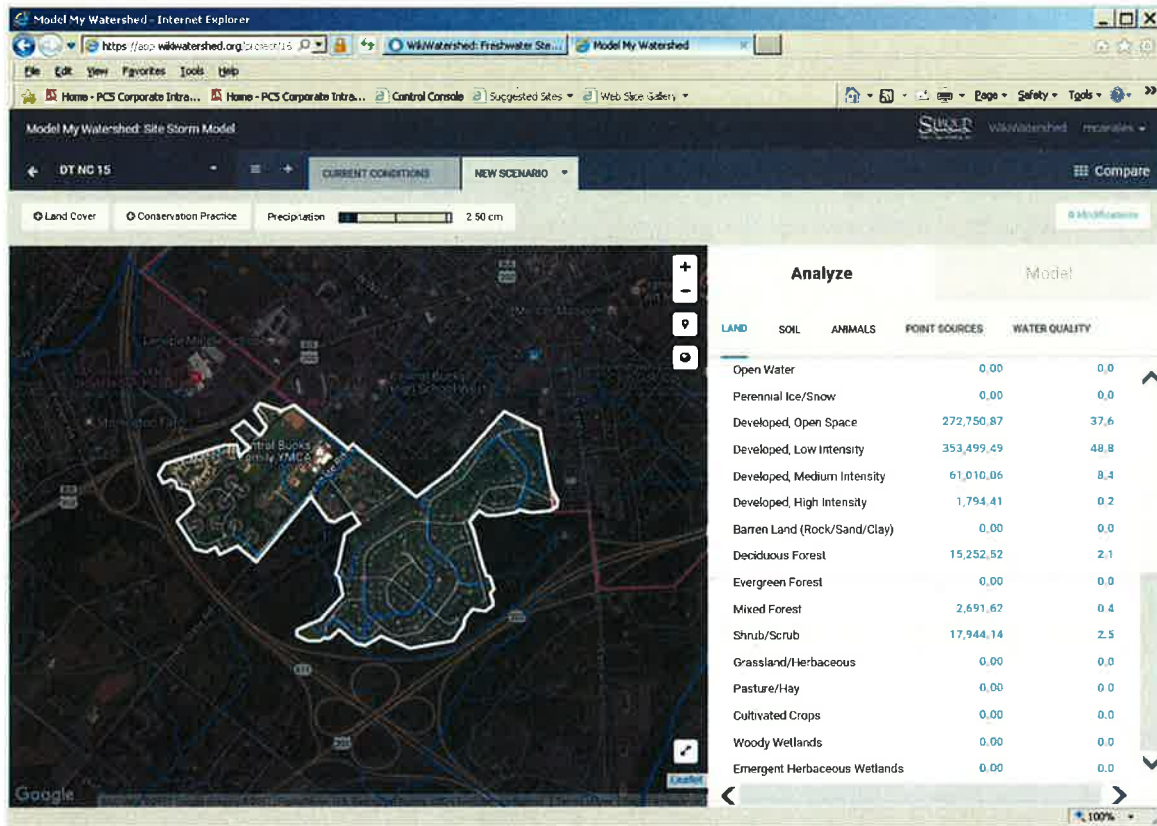
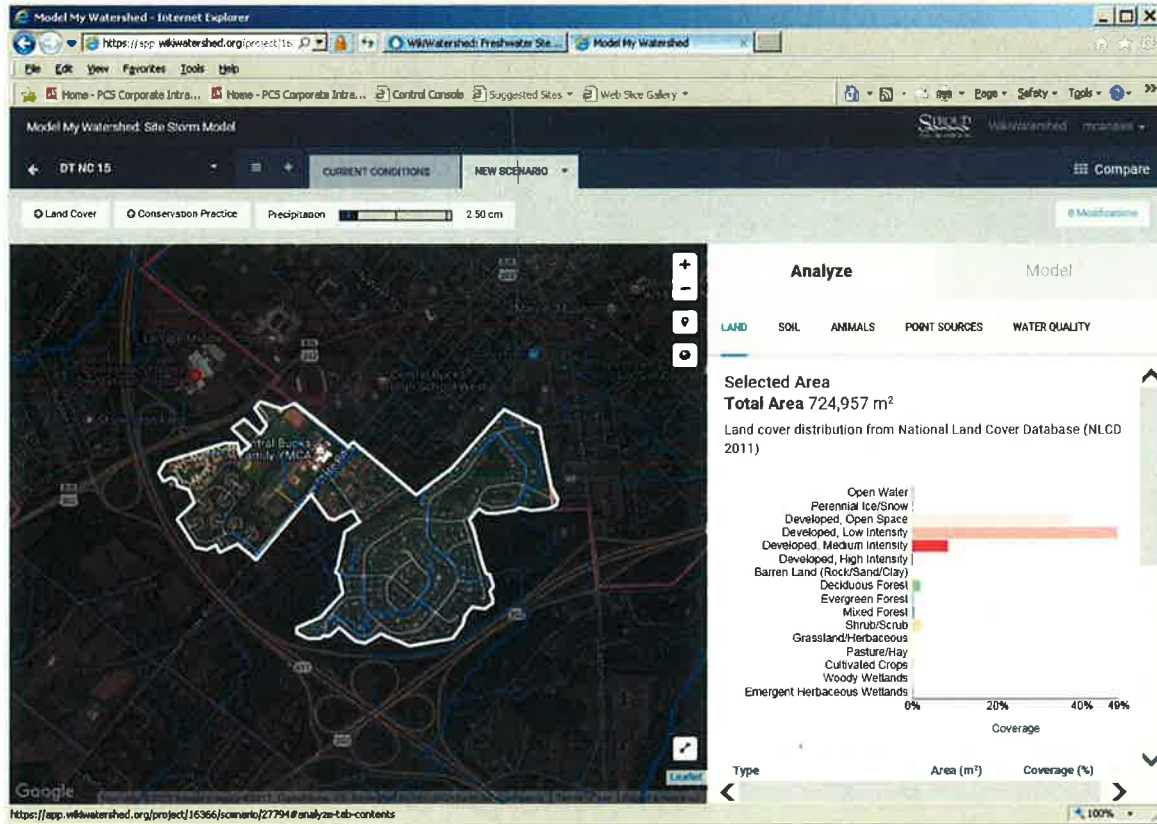
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 14

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	90,618.36	29.45	22.39
Developed, Low Intensity	174,956.24	56.85	43.23
Developed, Medium Intensity	15,252.60	4.96	3.77
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	26,916.34	8.75	6.65
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	307,743.54	100.00	76.04



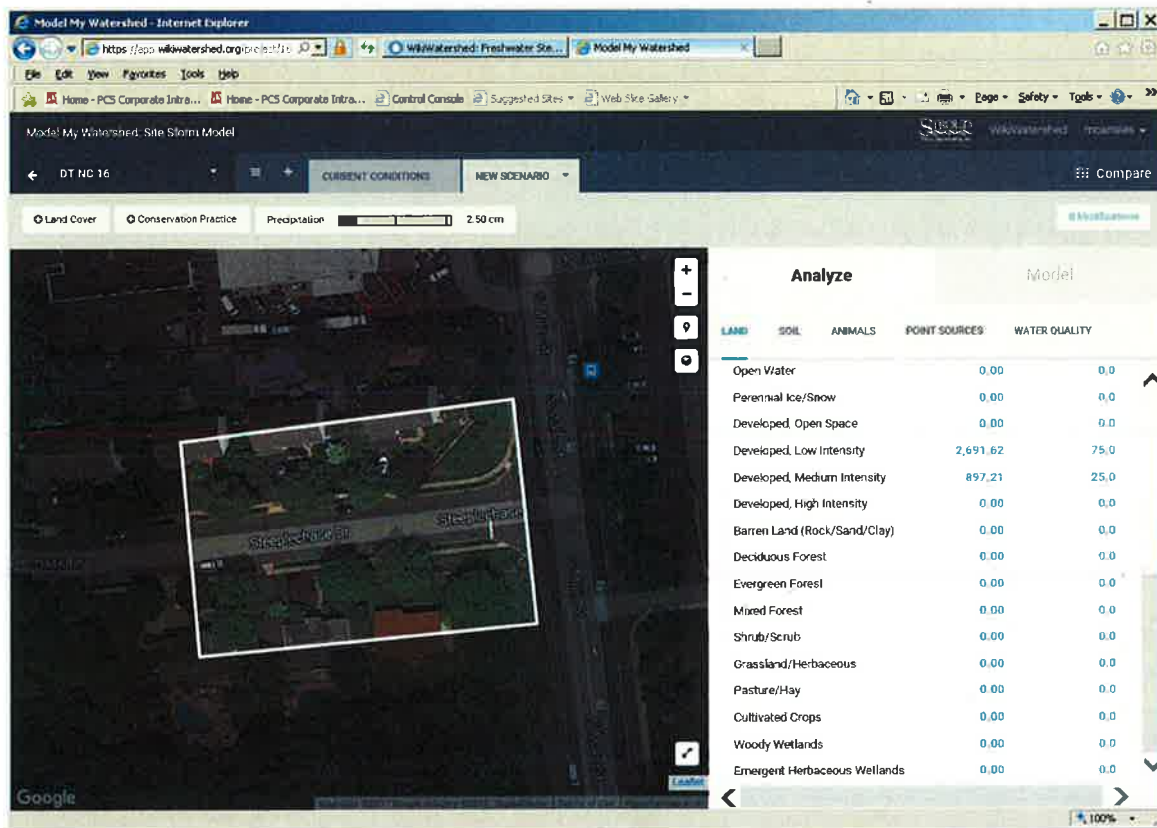
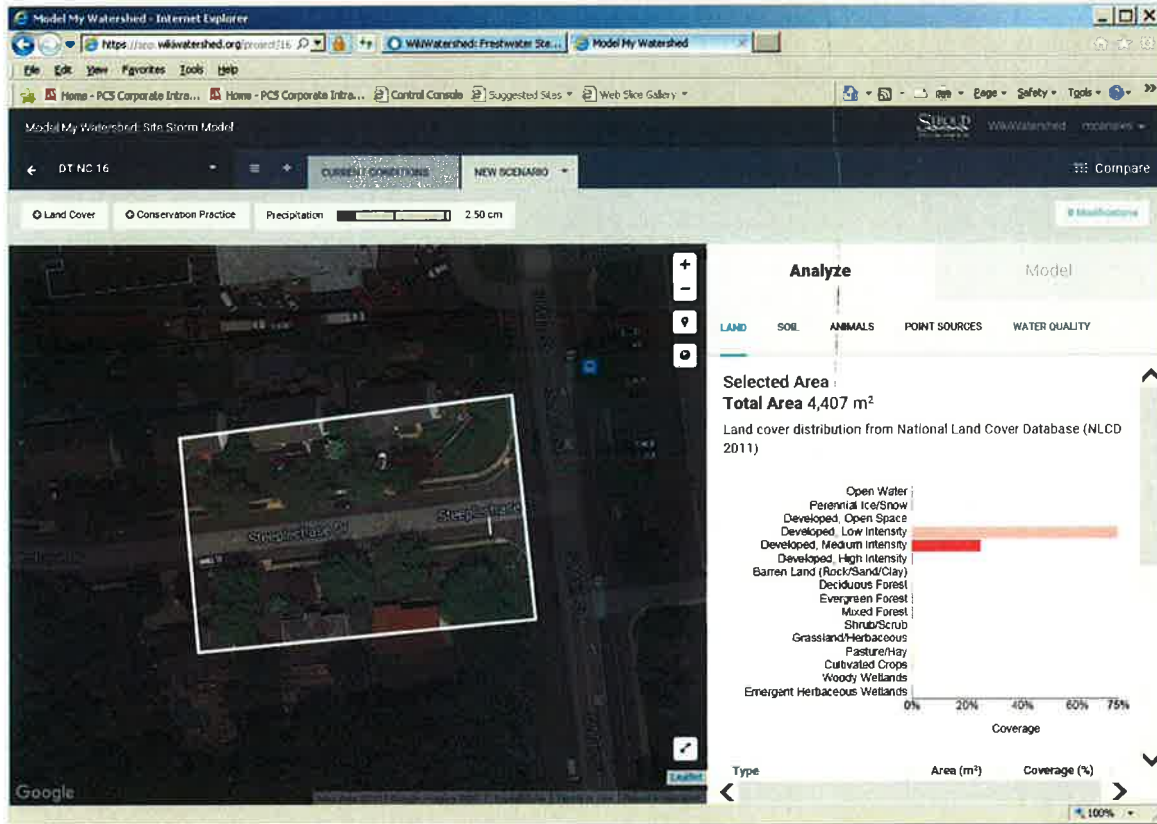
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 15

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	272,750.87	37.62	67.40
Developed, Low Intensity	353,499.49	48.76	87.35
Developed, Medium Intensity	61,010.06	8.42	15.08
Developed, High Intensity	1,794.41	0.25	0.44
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	15,252.52	2.10	3.77
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	2,691.62	0.37	0.67
Shrub/Scrub	17,944.14	2.48	4.43
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	724,943.11	100.00	179.13



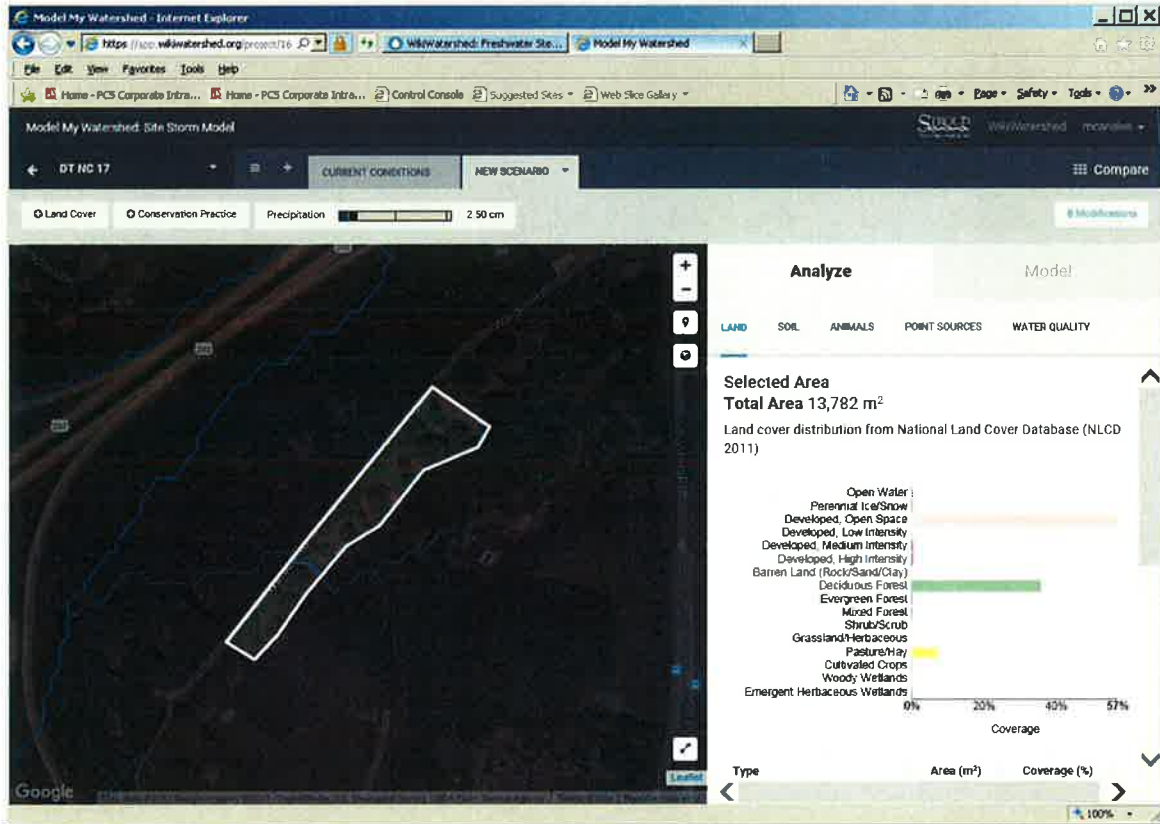
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 16

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	0.00	0.00	0.00
Developed, Low Intensity	2,691.62	75.00	0.67
Developed, Medium Intensity	897.21	25.00	0.22
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	3,588.83	100.00	0.89



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 17

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	0.00	0.00	0.00
Developed, Low Intensity	7,177.66	57.14	1.77
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	4,486.04	35.71	1.11
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.21	7.14	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	12,560.91	100.00	3.10



Model My Watershed - Internet Explorer

https://arc.watershed.org/projects/16... Model My Watershed

Model My Watershed: Site Storm Model

DT NC 17

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

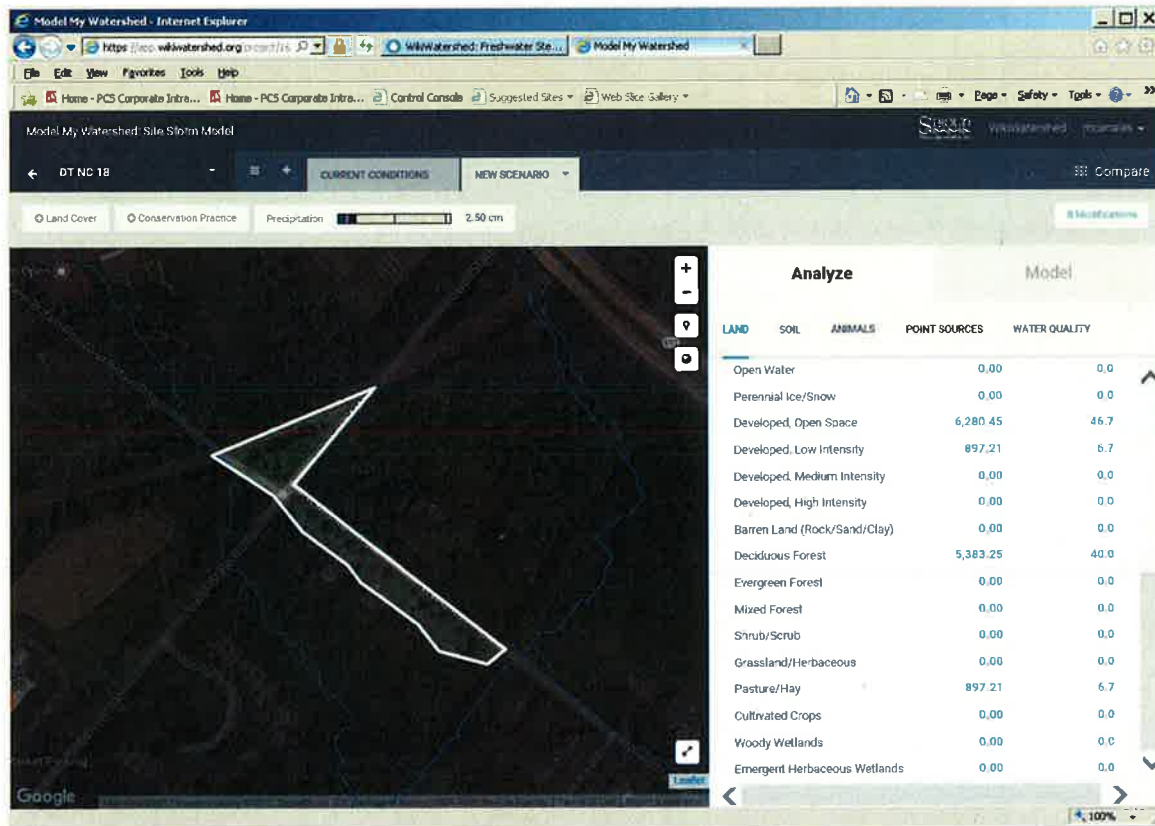
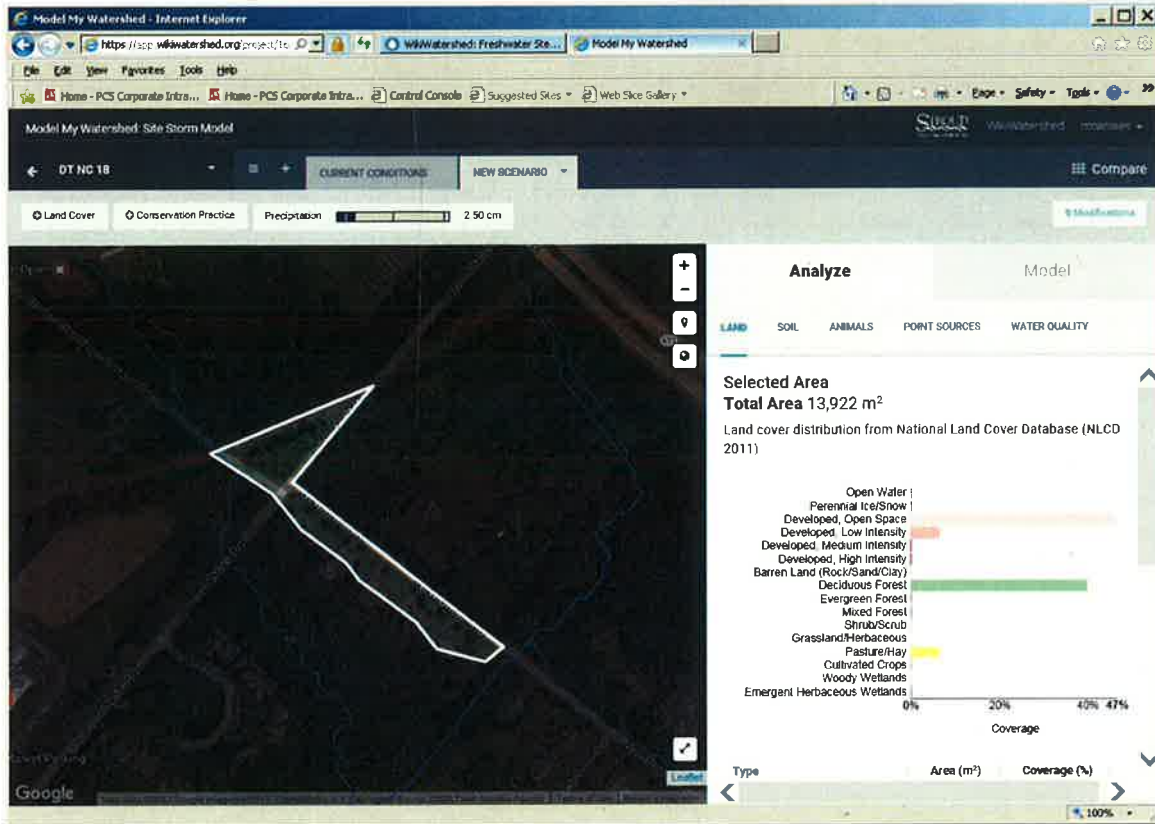
Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	7,177.66	57.1
Developed, Low Intensity	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	4,486.04	35.7
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	897.21	7.1
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

Type Area (m²) Coverage (%)

100%

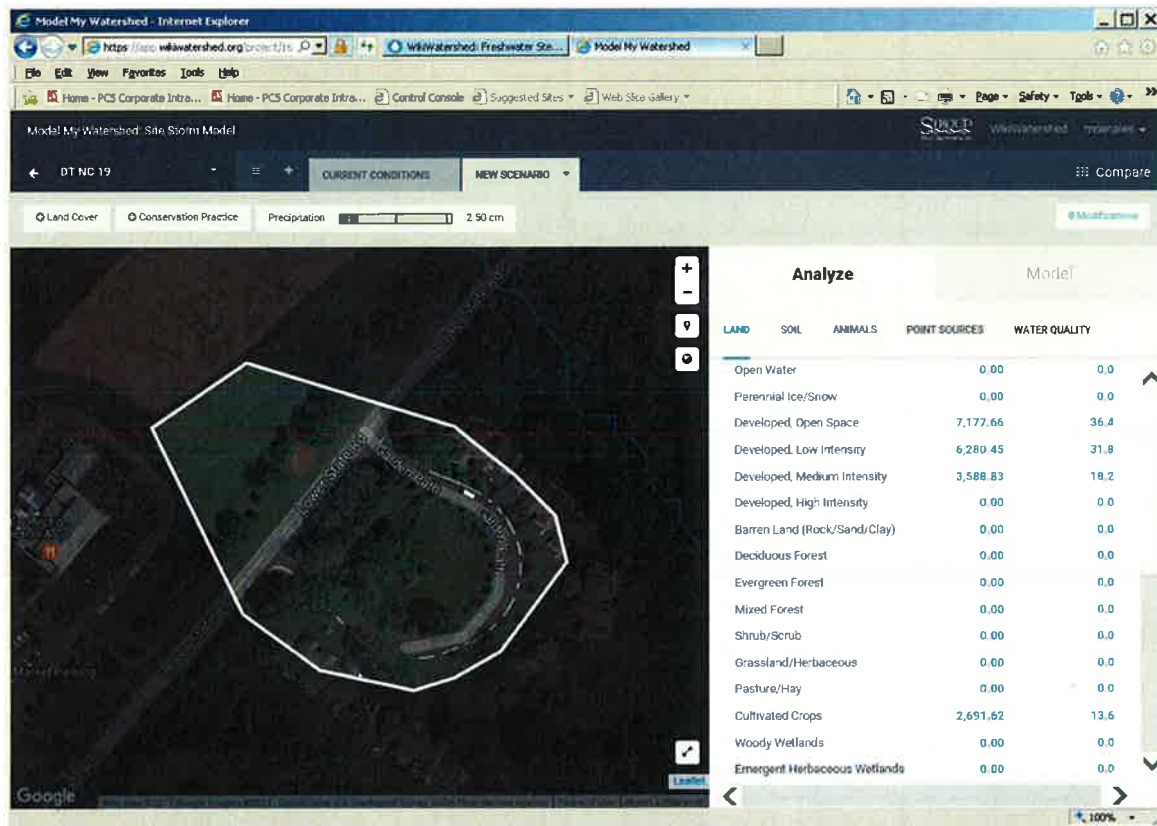
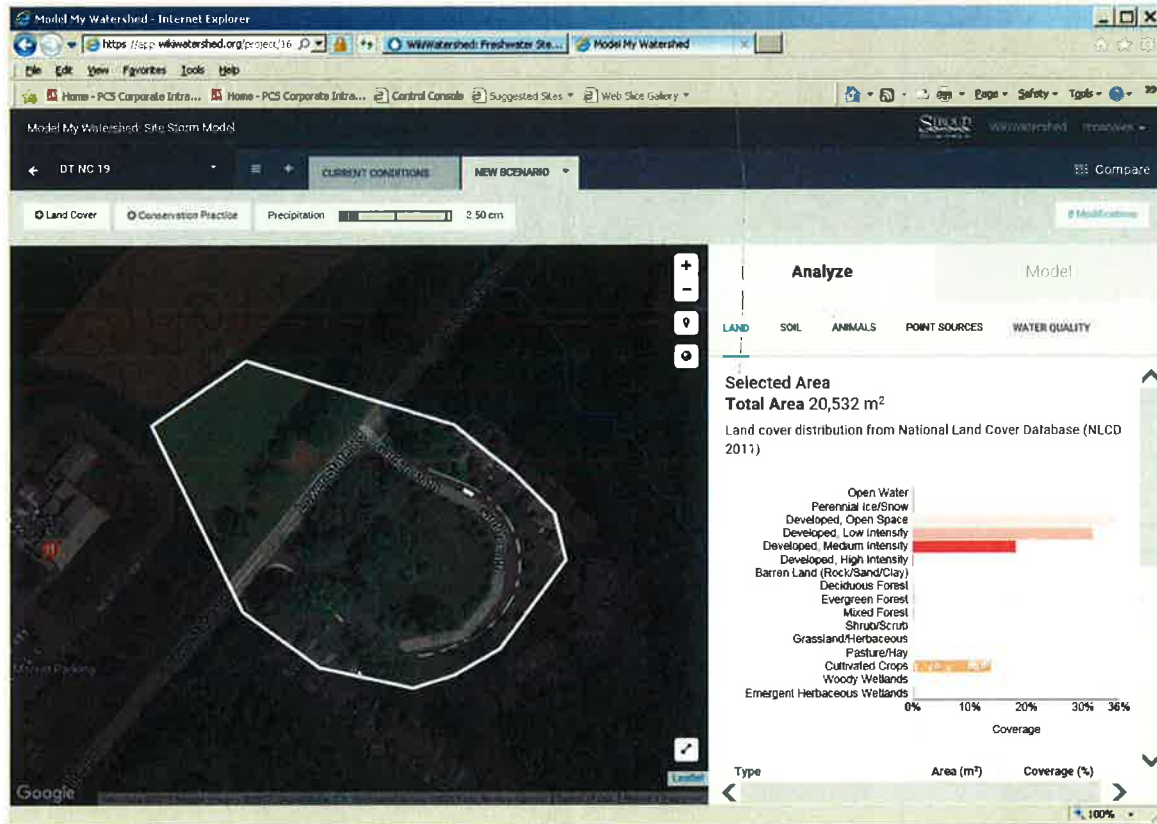
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 18

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	6,280.45	46.67	1.55
Developed, Low Intensity	897.21	6.67	0.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	5,383.25	40.00	1.33
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.21	6.67	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	13,458.12	100.00	3.33



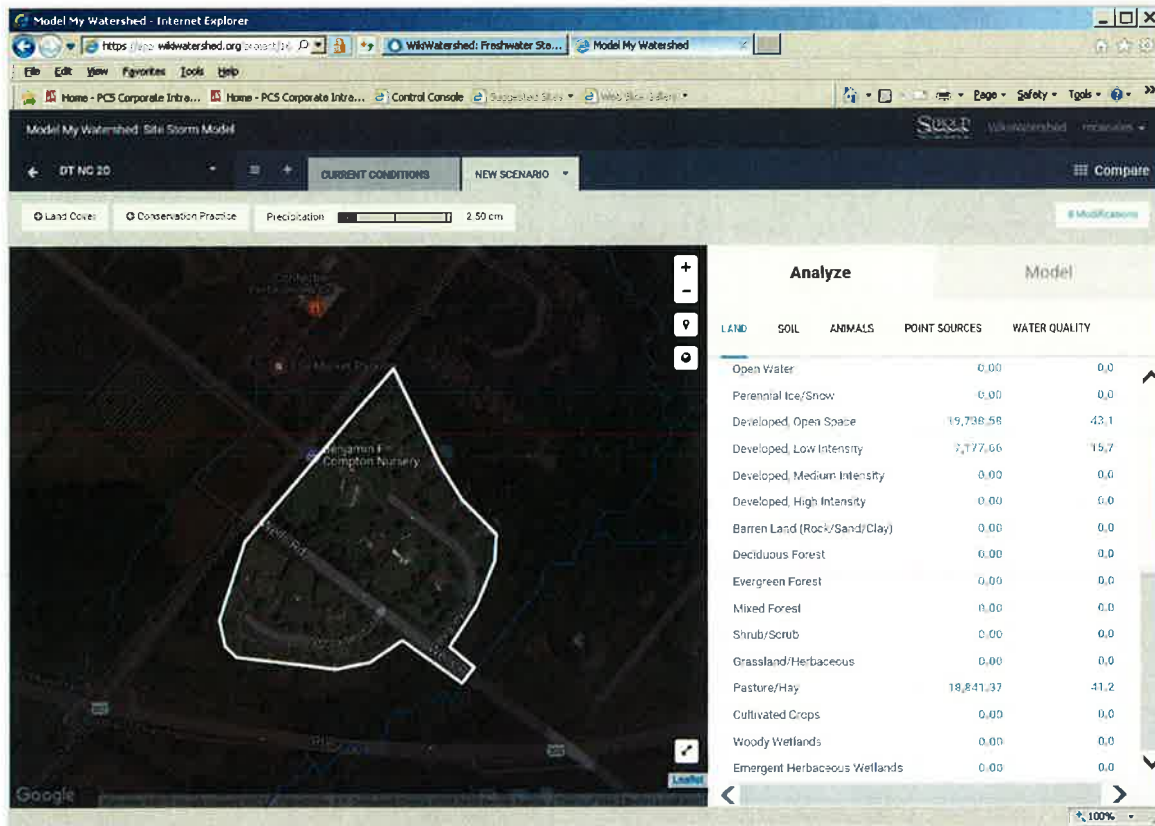
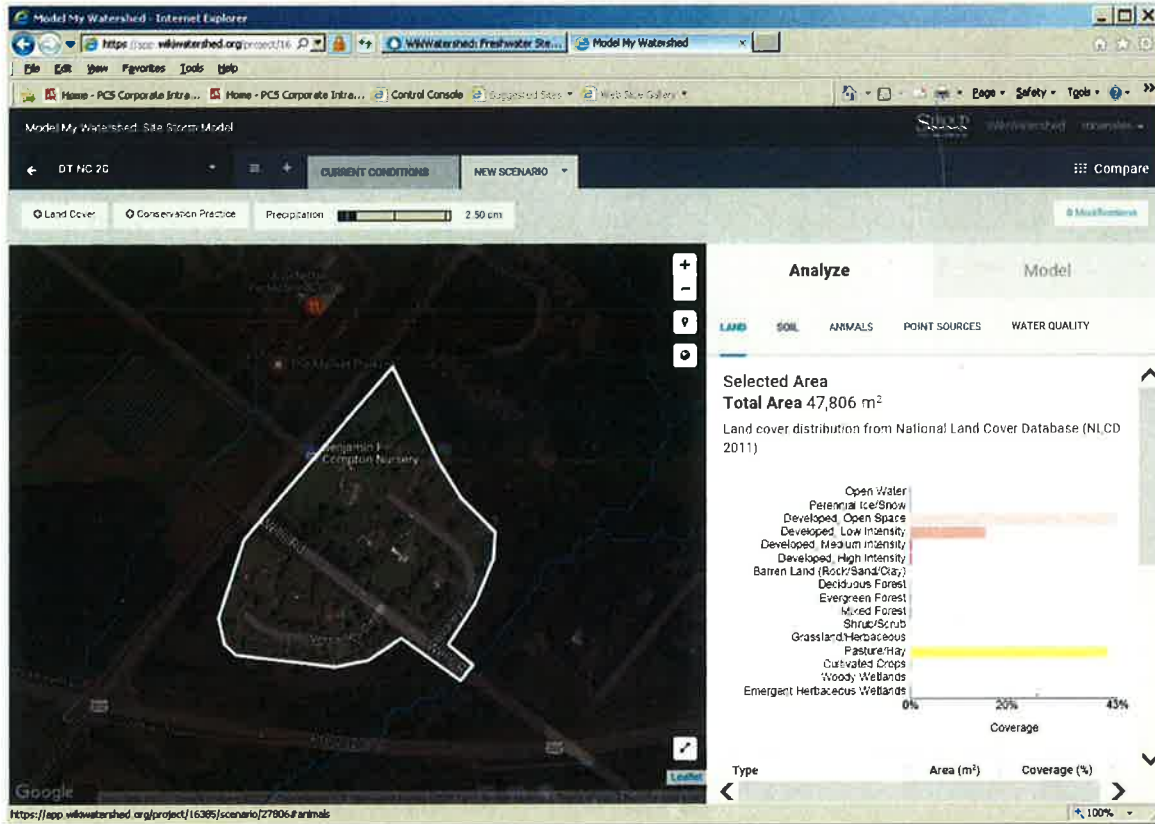
**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 19**

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	7,177.66	36.36	1.77
Developed, Low Intensity	6,280.45	31.82	1.55
Developed, Medium Intensity	3,588.83	18.18	0.89
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	2,691.62	13.64	0.67
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	19,738.56	100.00	4.88



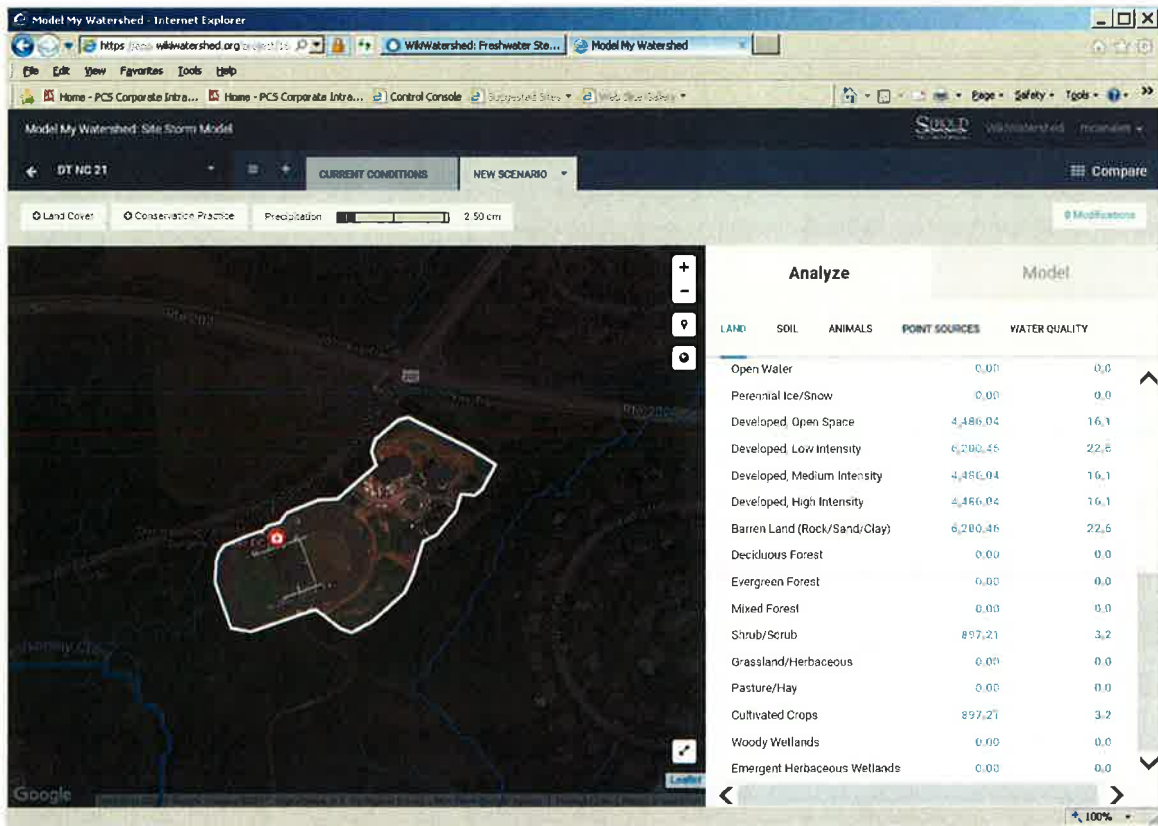
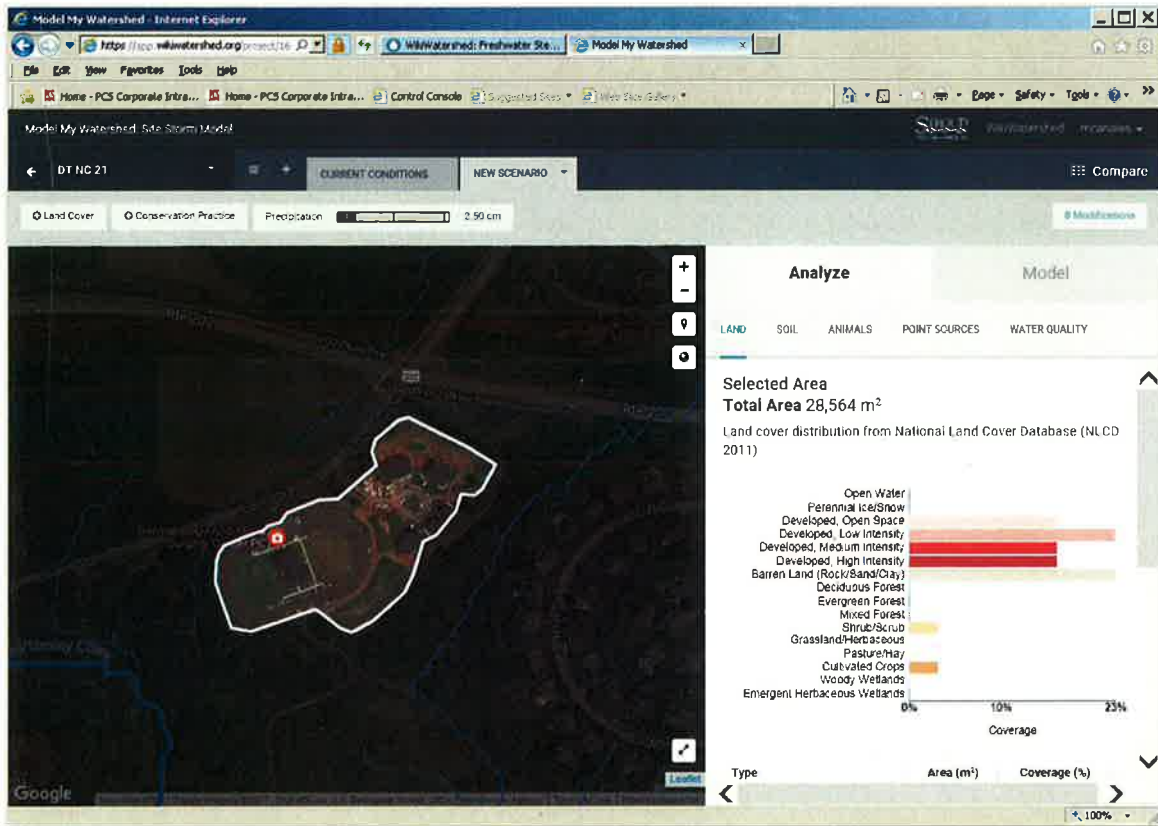
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 20

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	19,738.58	43.14	4.88
Developed, Low Intensity	7,177.66	15.69	1.77
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	18,841.37	41.18	4.66
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	45,757.61	100.00	11.31



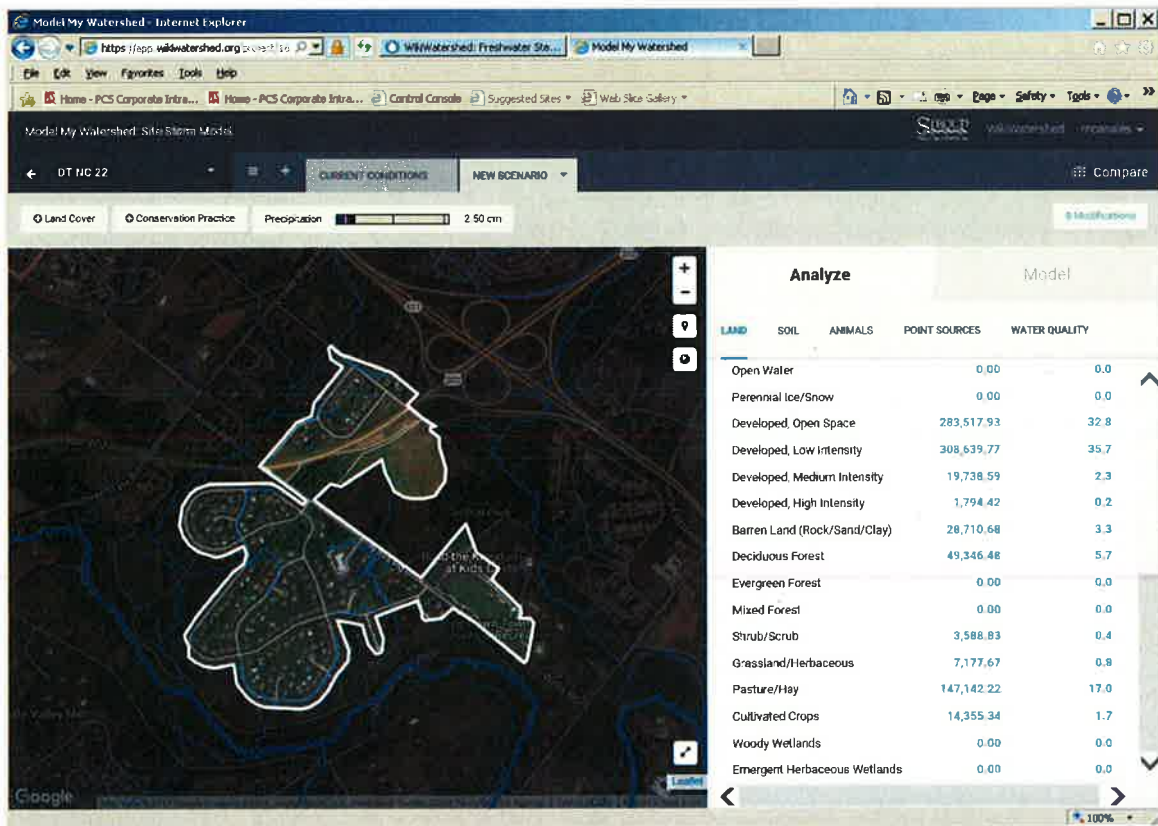
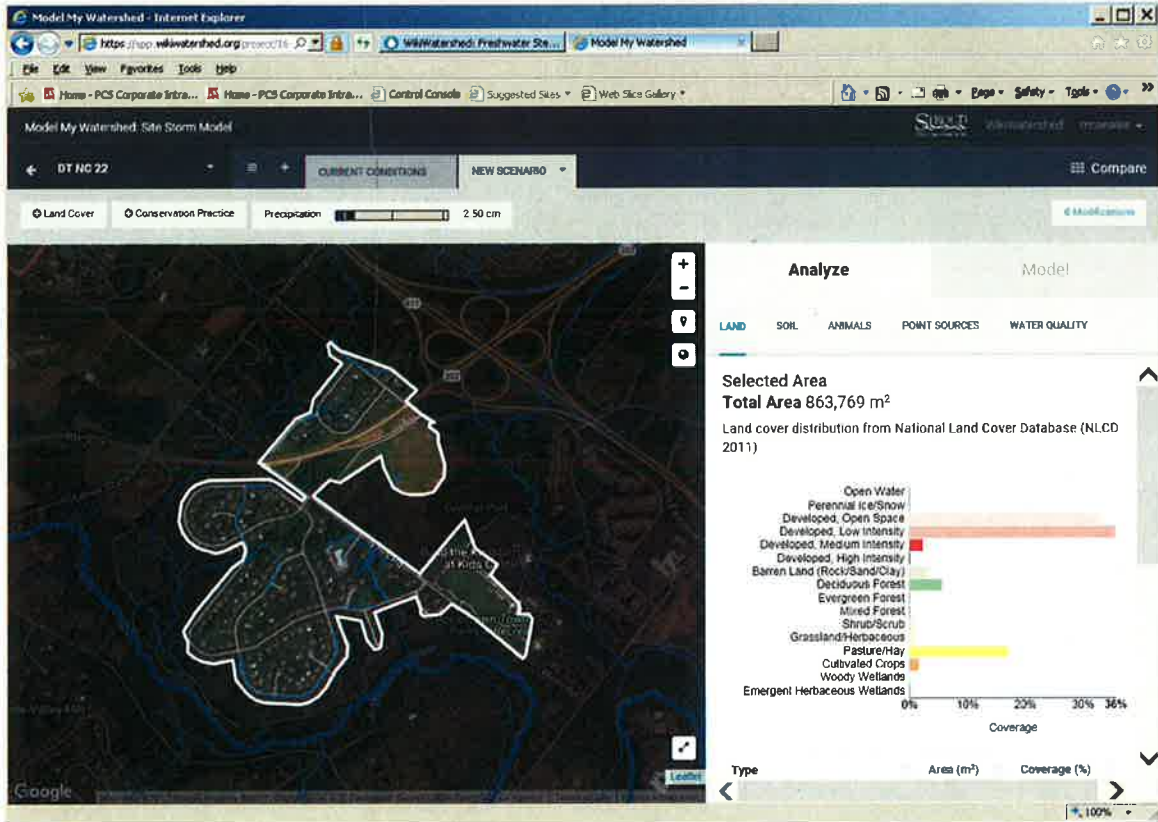
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 21

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	4,486.04	16.13	1.11
Developed, Low Intensity	6,280.46	22.58	1.55
Developed, Medium Intensity	4,486.04	16.13	1.11
Developed, High Intensity	4,486.04	16.13	1.11
Barren Land (Rock/Sand/Clay)	6,280.46	22.58	1.55
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	897.21	3.23	0.22
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	897.21	3.23	0.22
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	27,813.46	100.00	6.87



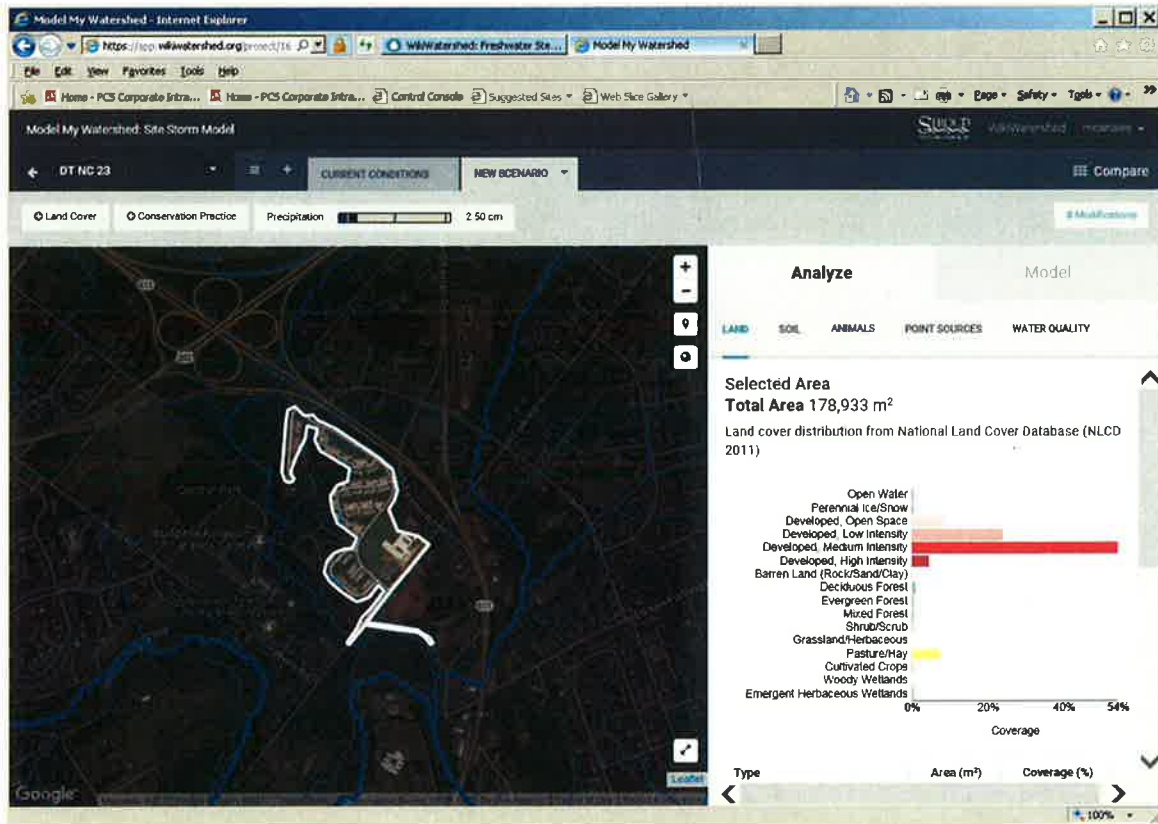
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 22

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	283,517.93	32.81	70.06
Developed, Low Intensity	308,639.77	35.72	76.26
Developed, Medium Intensity	19,738.59	2.28	4.88
Developed, High Intensity	1,794.42	0.21	0.44
Barren Land (Rock/Sand/Clay)	28,710.68	3.32	7.09
Deciduous Forest	49,346.48	5.71	12.19
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	3,588.83	0.42	0.89
Grassland/Herbaceous	7,177.67	0.83	1.77
Pasture/Hay	147,142.22	17.03	36.36
Cultivated Crops	14,355.34	1.66	3.55
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	864,011.93	100.00	213.50



**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 23**

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	15,252.55	8.46	3.77
Developed, Low Intensity	43,066.02	23.88	10.64
Developed, Medium Intensity	97,795.75	54.23	24.17
Developed, High Intensity	8,074.88	4.48	2.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	1,797.42	1.00	0.44
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	897.21	0.50	0.22
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	13,458.13	7.46	3.33
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	180,341.96	100.00	44.56



Model My Watershed - Internet Explorer

https://ecp.watershed.org/project/16

Model My Watershed: Freshwater Sta...

Model My Watershed: Site Storm Model

DT NC 23

CURRENT CONDITIONS

NEW SCENARIO

Compare

Land Cover Conservation Practice Precipitation 2.50 cm

Analyze Model

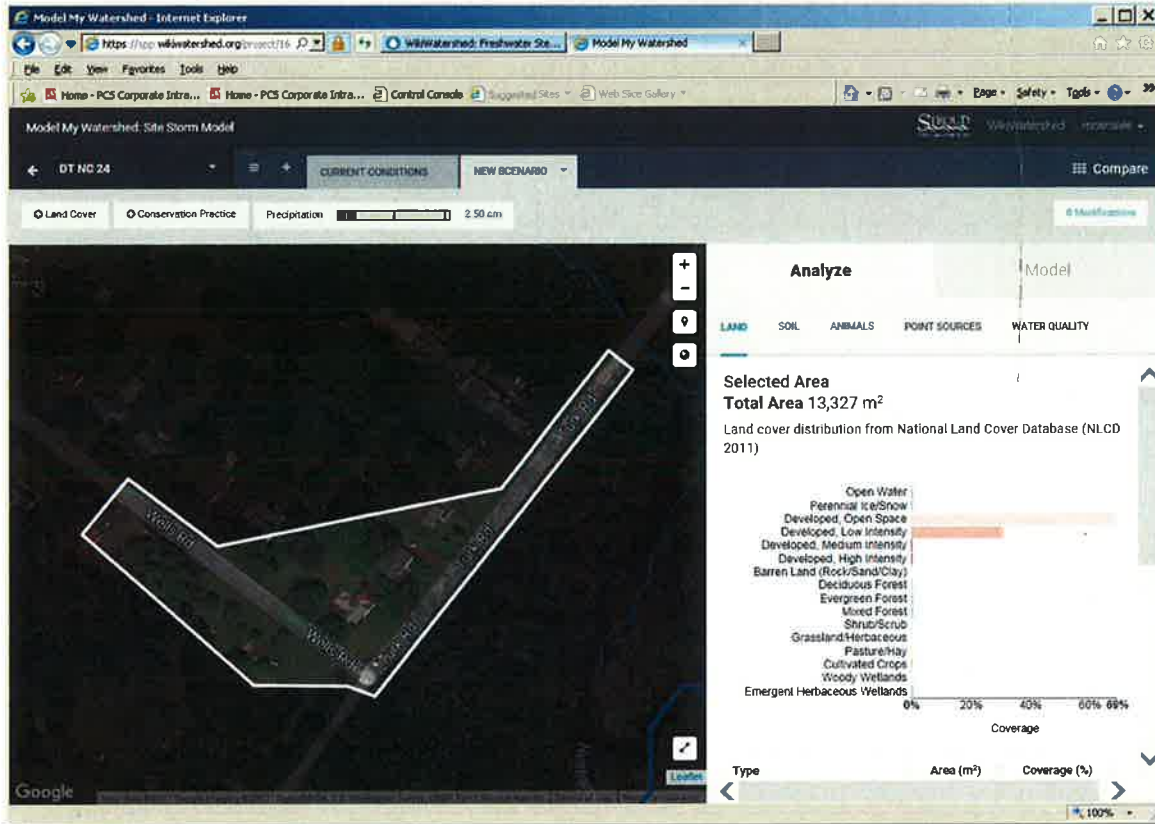
LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	15,252.55	8.5
Developed, Low Intensity	43,066.02	23.9
Developed, Medium Intensity	97,795.75	54.2
Developed, High Intensity	8,074.88	4.5
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	1,794.42	1.0
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	897.21	0.5
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	13,458.13	7.5
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

100%

**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 24**

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	8,074.88	69.23	2.00
Developed, Low Intensity	3,588.84	30.77	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	11,663.72	100.00	2.88



Model My Watershed - Internet Explorer

https://www.watershed.org/brwct/16

Model My Watershed: Site Storm Model

DT NC 24

CURRENT CONDITIONS

NEW SCENARIO

Compare

Land Cover Conservation Practice Precipitation 2.50 cm

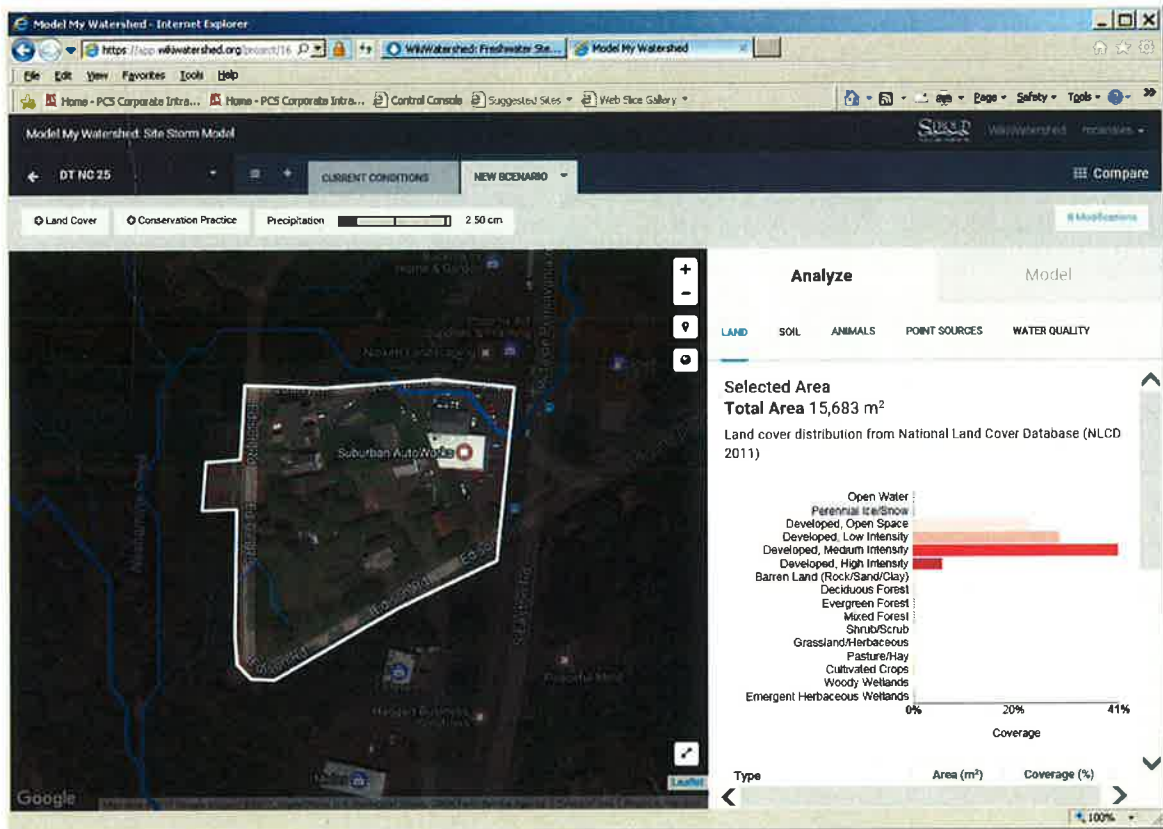
Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

LAND	SOIL	ANIMALS	POINT SOURCES	WATER QUALITY
Open Water			0.00	0.0
Perennial Ice/Snow			0.00	0.0
Developed, Open Space			8,074.88	69.2
Developed, Low Intensity			3,588.84	30.8
Developed, Medium Intensity			0.00	0.0
Developed, High Intensity			0.00	0.0
Barren Land (Rock/Sand/Clay)			0.00	0.0
Deciduous Forest			0.00	0.0
Evergreen Forest			0.00	0.0
Mixed Forest			0.00	0.0
Shrub/Scrub			0.00	0.0
Grassland/Herbaceous			0.00	0.0
Pasture/Hay			0.00	0.0
Cultivated Crops			0.00	0.0
Woody Wetlands			0.00	0.0
Emergent Herbaceous Wetlands			0.00	0.0

**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 25**

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	3,588.84	23.53	0.89
Developed, Low Intensity	4,486.05	29.41	1.11
Developed, Medium Intensity	6,280.47	41.18	1.55
Developed, High Intensity	897.21	5.88	0.22
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	15,252.57	100.00	3.77



Model My Watershed - Internet Explorer

https://app.watershed.org/scene/116

Model My Watershed: Site Storm Model

DT NC 25

PRECIPITATION 2.50 cm

Analyze

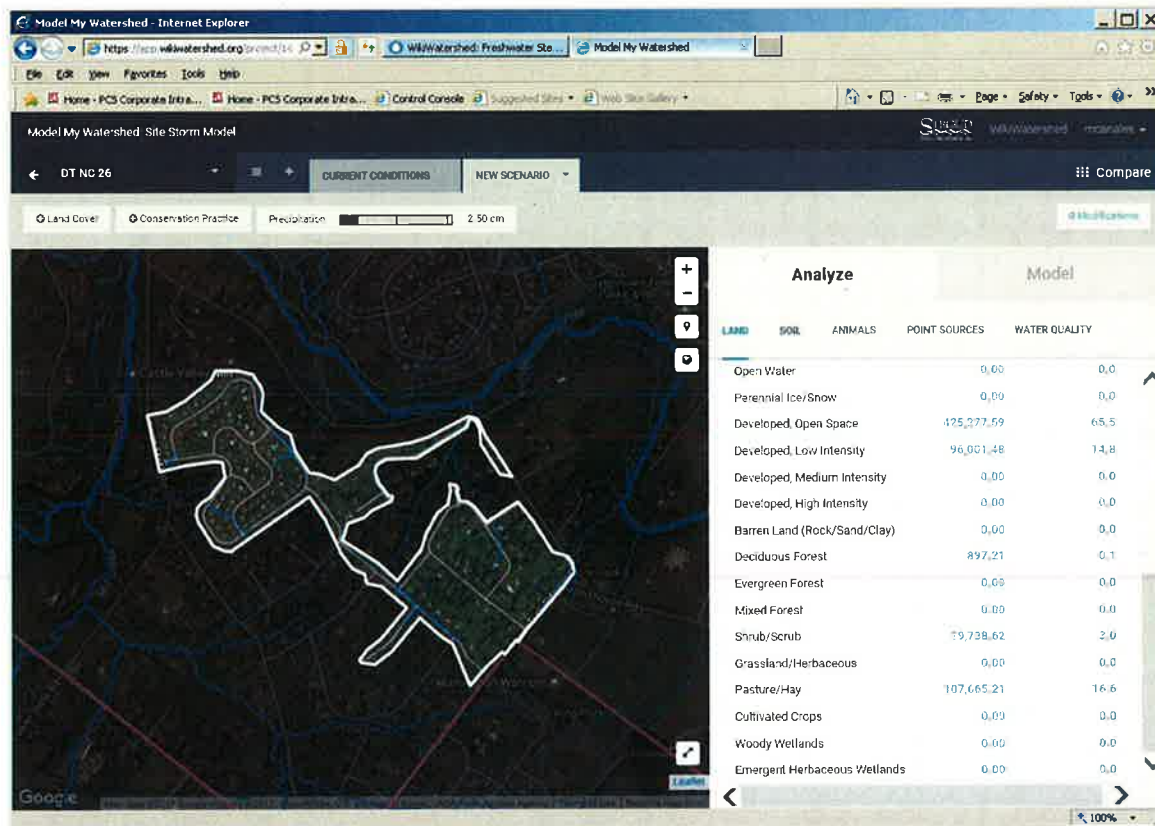
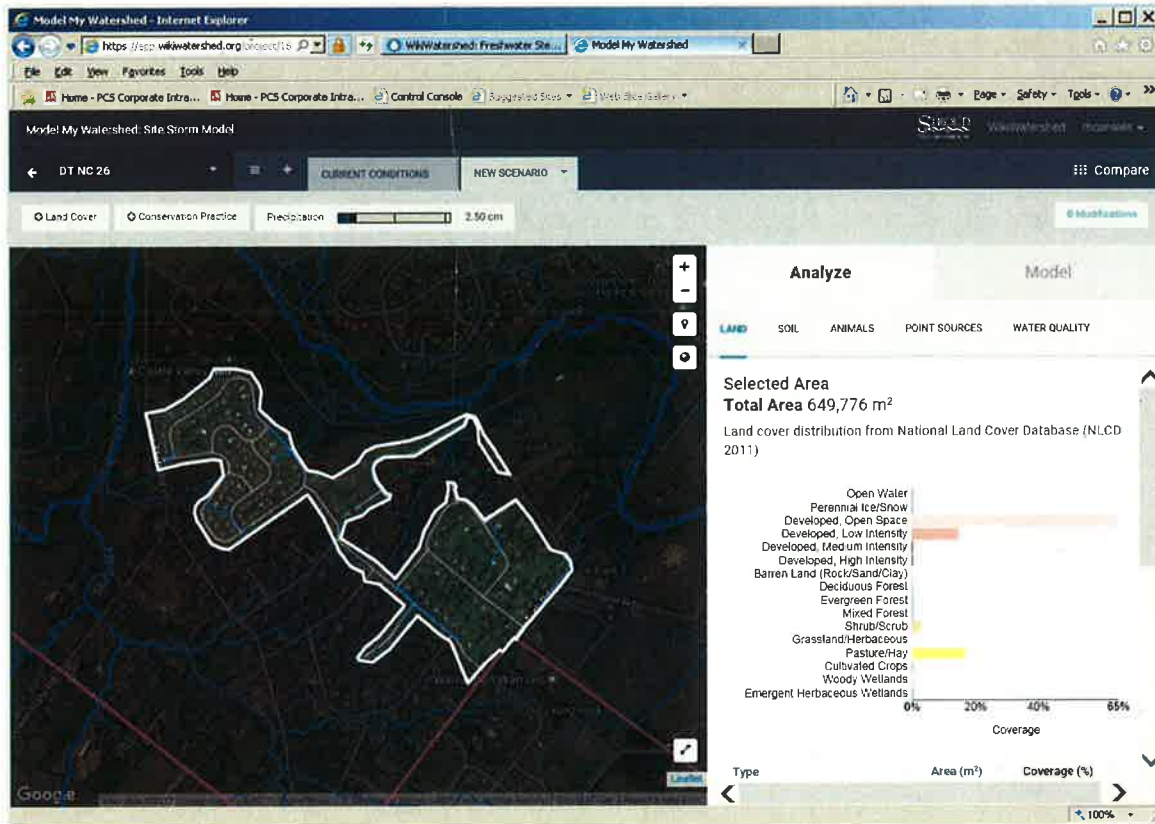
Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

LAND	SOIL	ANIMALS	POINT SOURCES	WATER QUALITY
Open Water	0.00	0.0		
Perennial Ice/Snow	0.00	0.0		
Developed, Open Space	3,588.84	23.5		
Developed, Low Intensity	4,486.05	29.4		
Developed, Medium Intensity	6,280.47	41.2		
Developed, High Intensity	897.21	5.9		
Barren Land (Rock/Sand/Clay)	0.00	0.0		
Deciduous Forest	0.00	0.0		
Evergreen Forest	0.00	0.0		
Mixed Forest	0.00	0.0		
Shrub/Scrub	0.00	0.0		
Grassland/Herbaceous	0.00	0.0		
Pasture/Hay	0.00	0.0		
Cultivated Crops	0.00	0.0		
Woody Wetlands	0.00	0.0		
Emergent Herbaceous Wetlands	0.00	0.0		

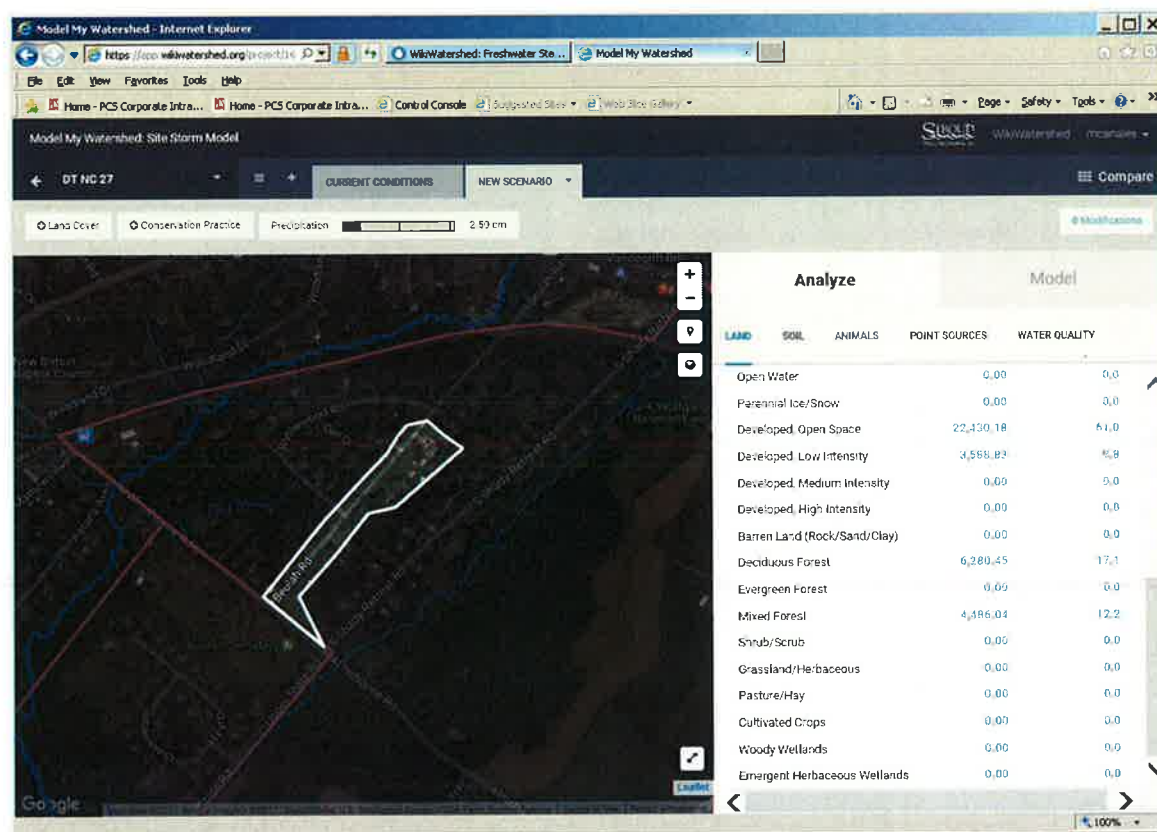
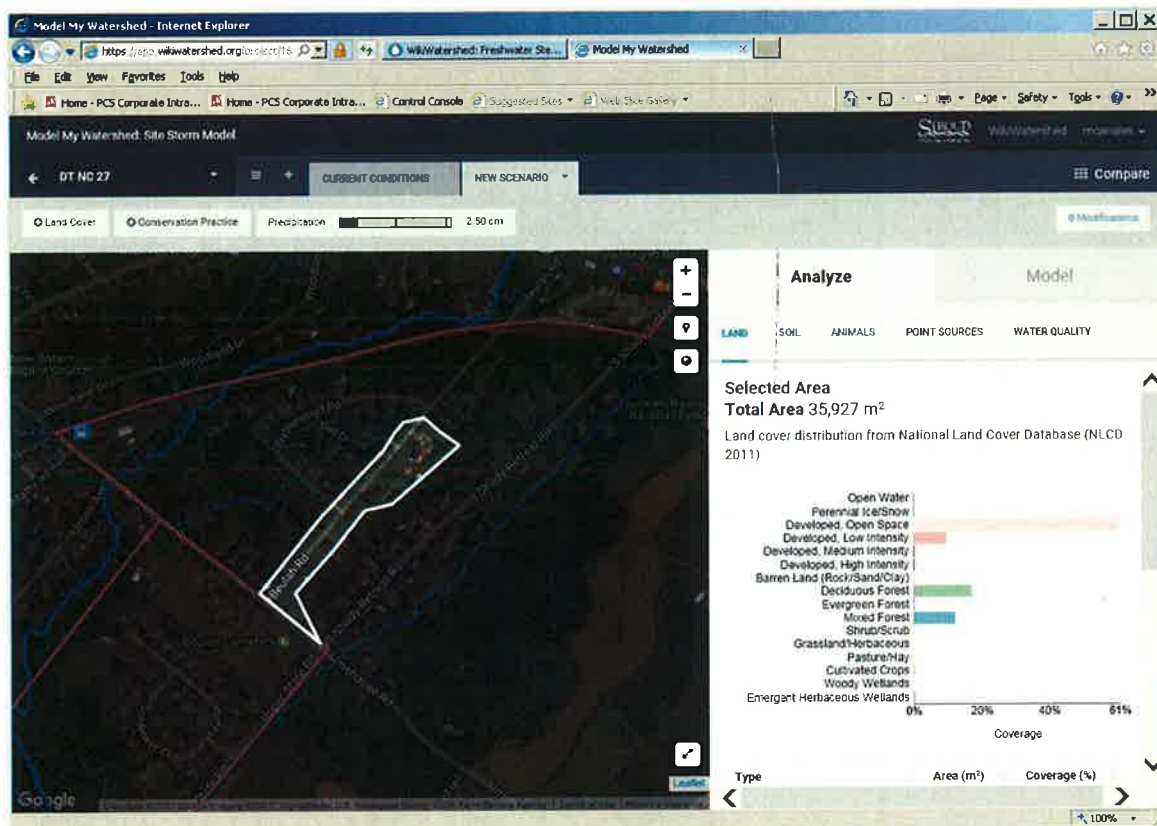
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 26

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	425,277.59	65.47	105.09
Developed, Low Intensity	96,001.48	14.78	23.72
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	0.14	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	19,738.62	3.04	4.88
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	107,665.21	16.57	26.60
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	649,580.11	100.00	160.51



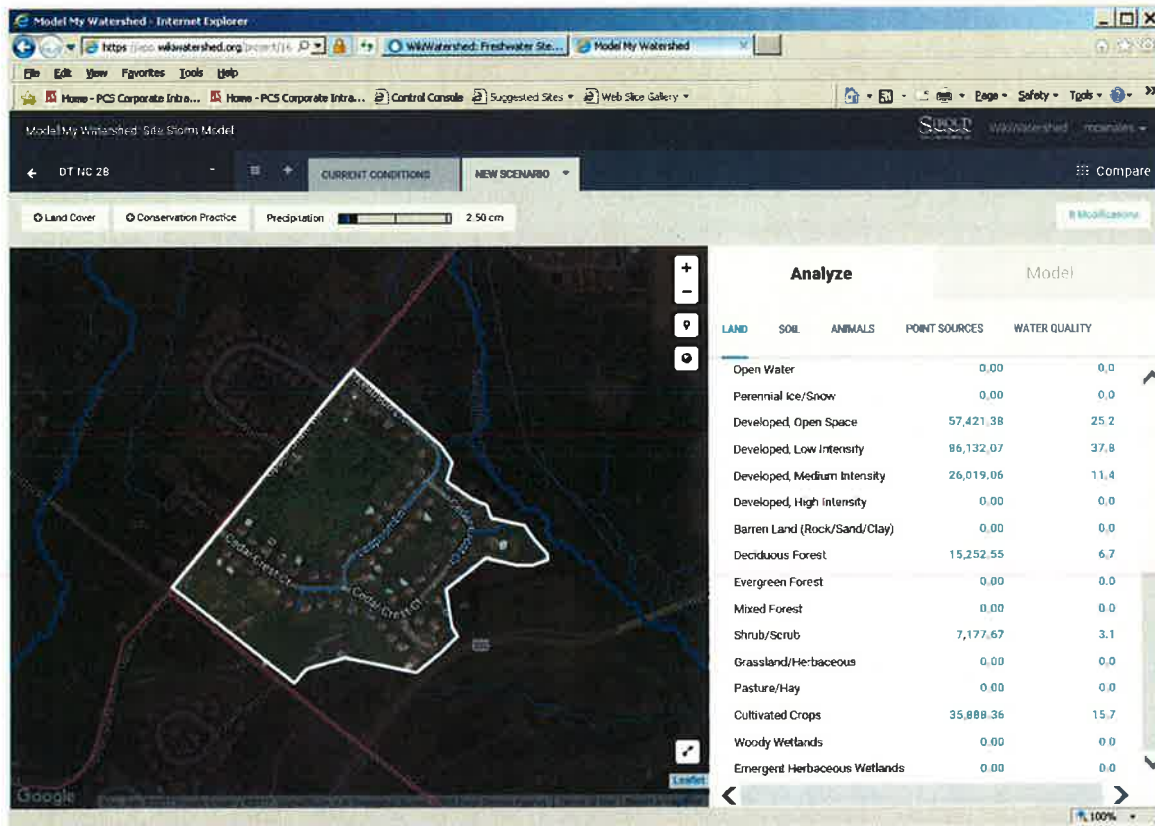
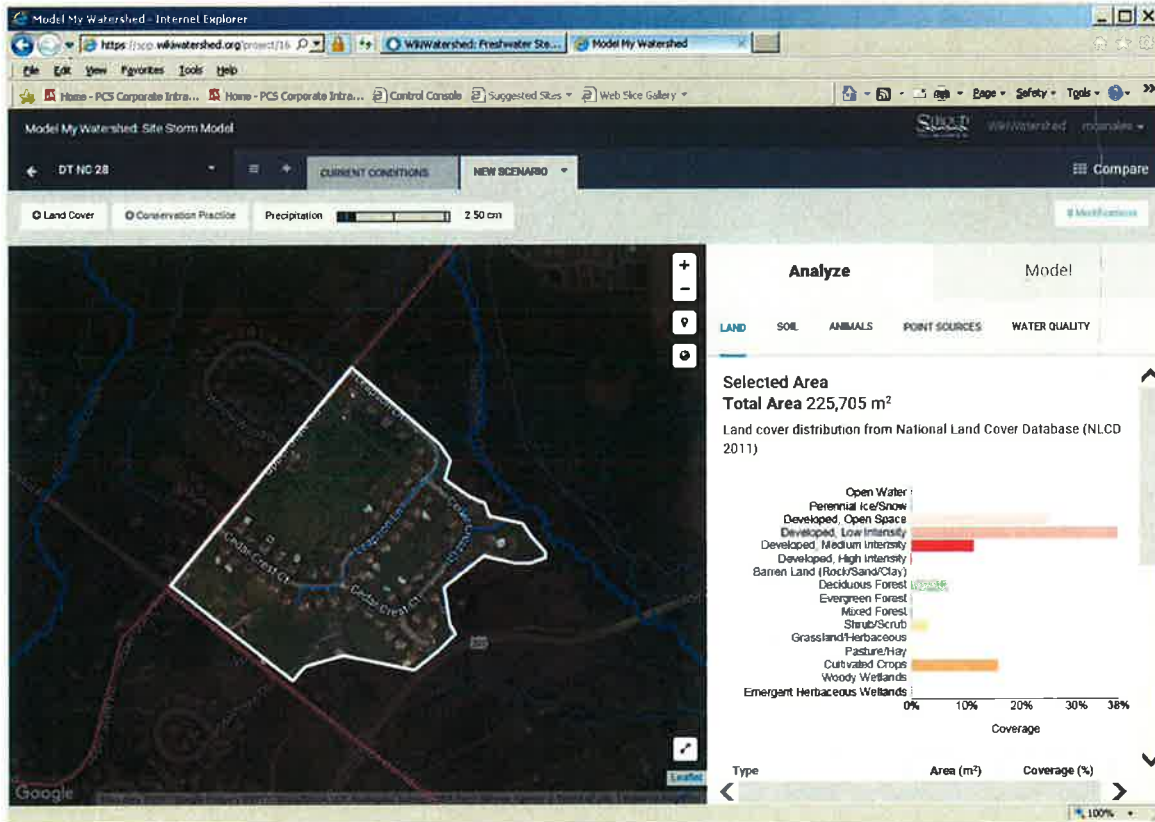
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 27

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	22,430.18	60.98	5.54
Developed, Low Intensity	3,588.83	9.76	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	6,280.45	17.07	1.55
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	4,486.04	12.20	1.11
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	36,785.50	100.00	9.09



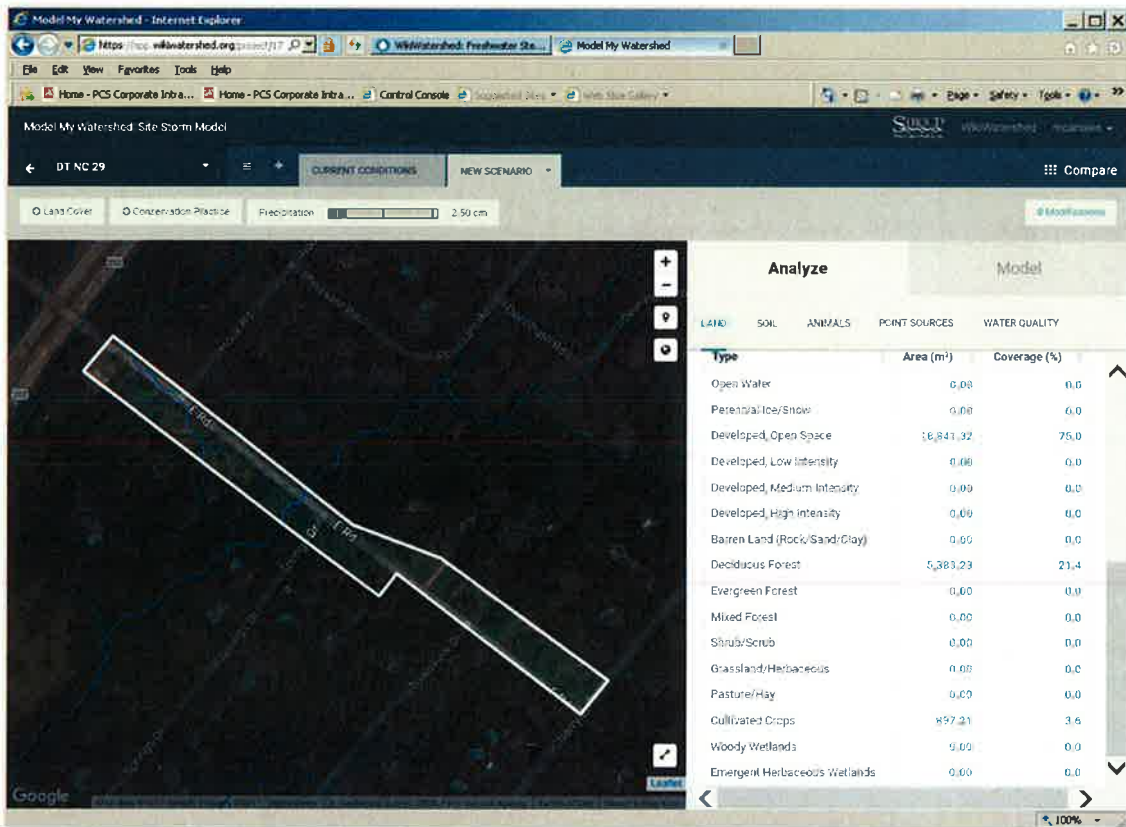
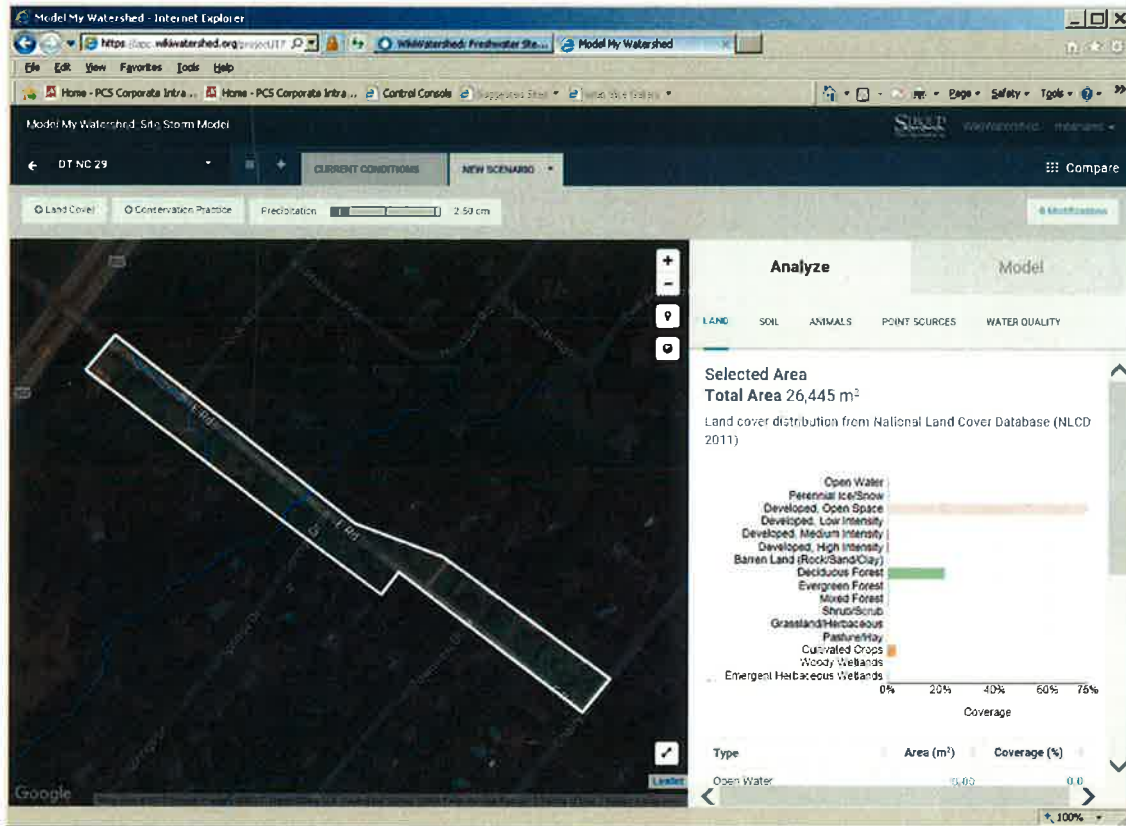
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 28

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	57,421.38	25.20	14.19
Developed, Low Intensity	86,132.07	37.80	21.28
Developed, Medium Intensity	26,019.06	11.42	6.43
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	15,252.55	6.69	3.77
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	7,177.67	3.15	1.77
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	35,888.36	15.75	8.87
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	227,891.09	100.00	56.31



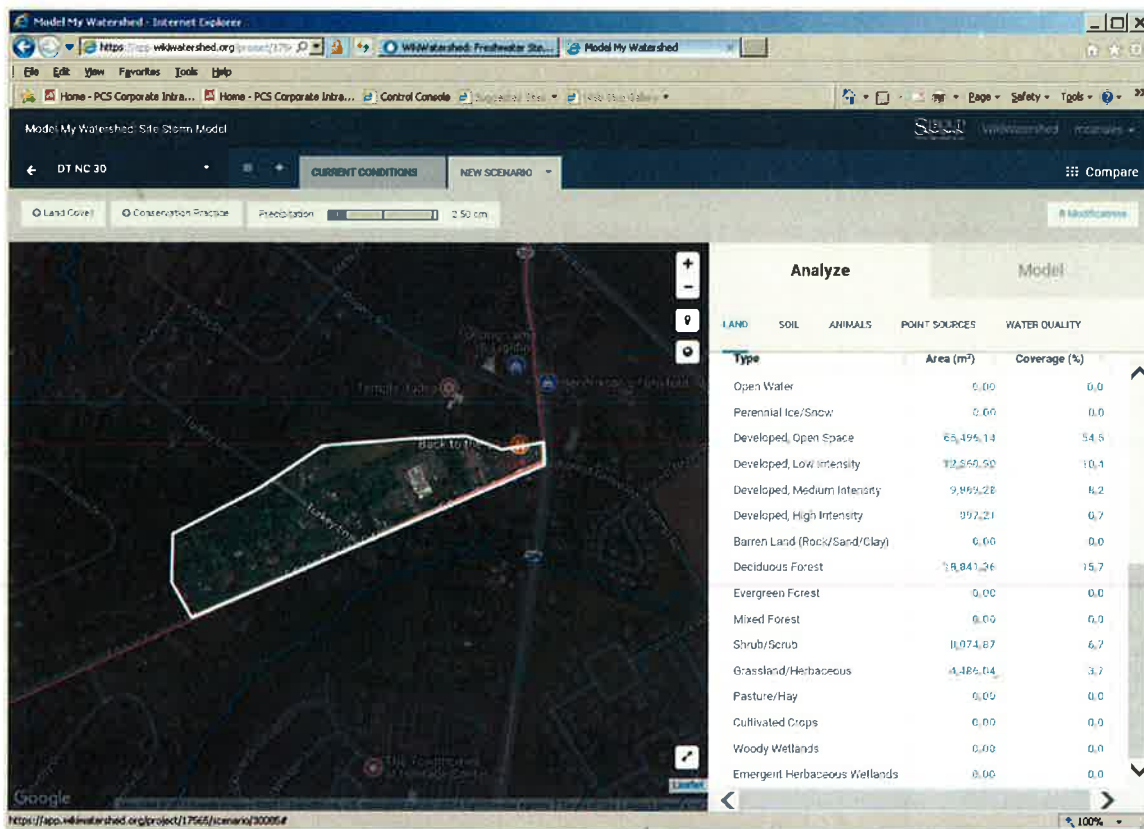
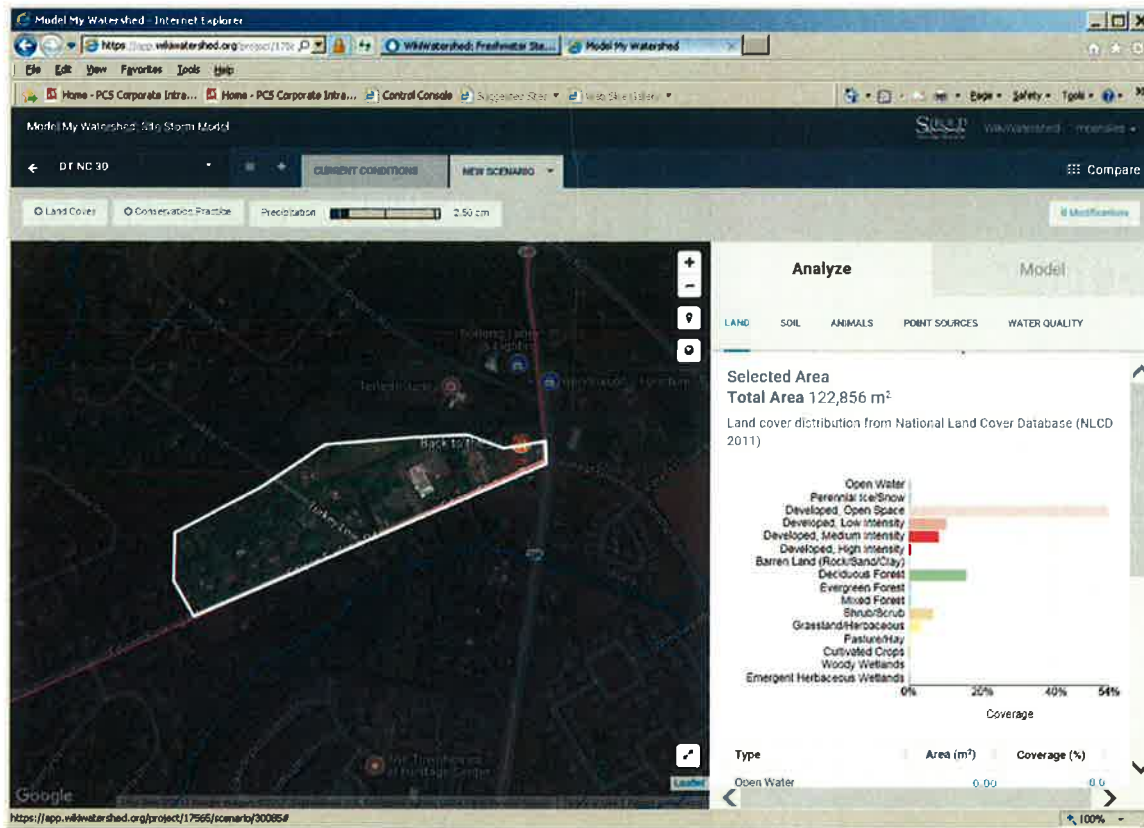
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 29

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	18,841.32	75.00	4.66
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	5,383.23	21.43	1.33
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	897.21	3.57	0.22
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	25,121.76	100.00	6.21



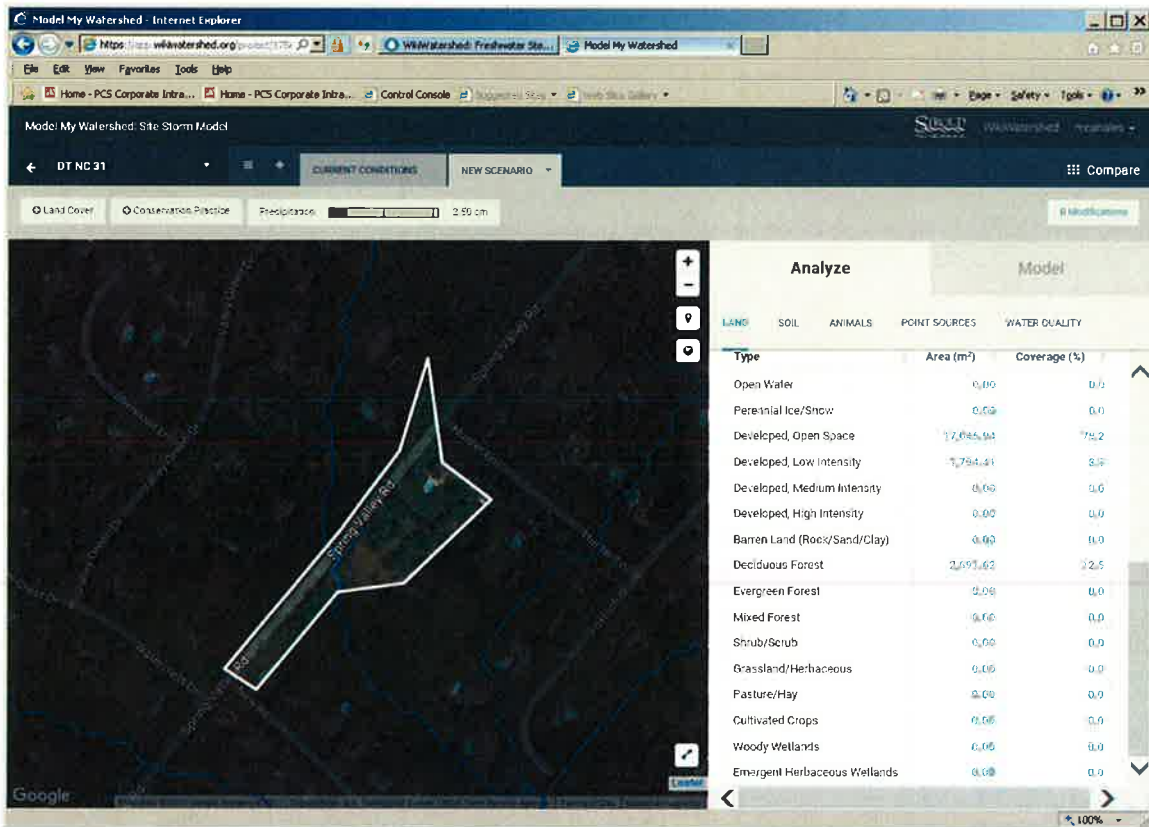
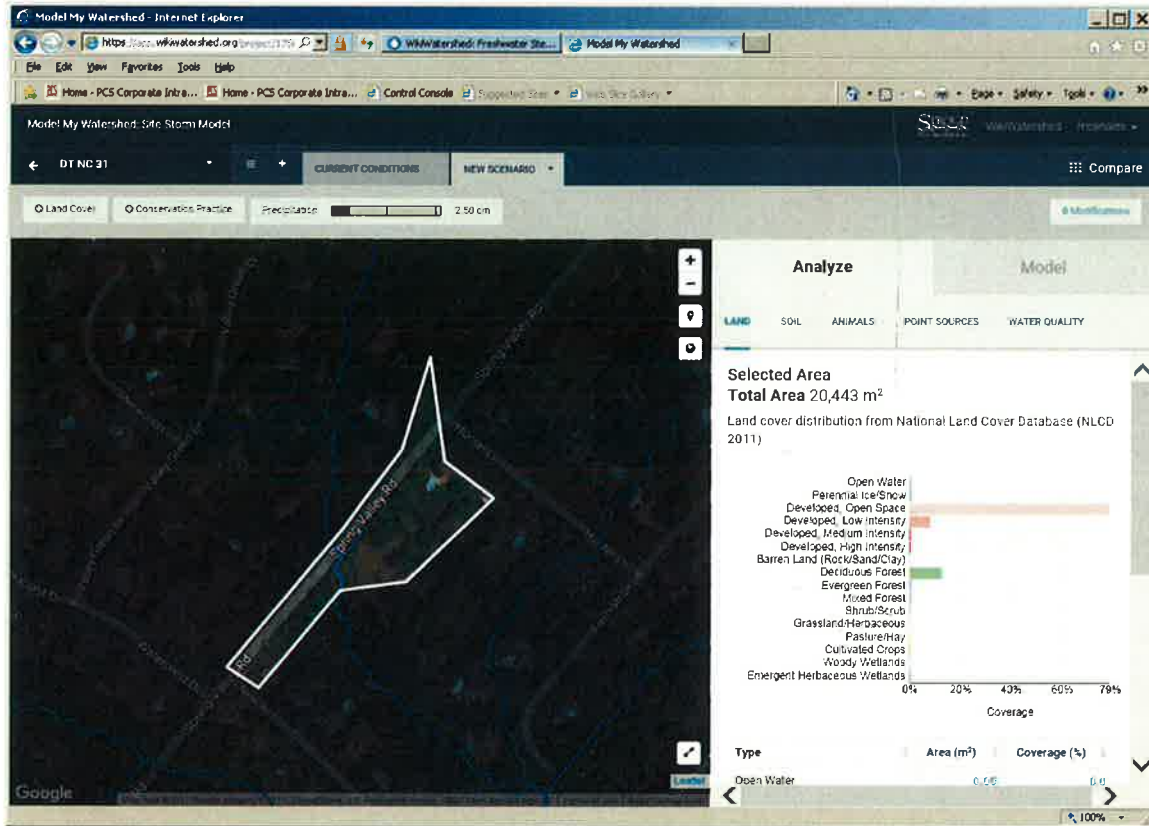
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 30

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	65,496.14	54.48	16.18
Developed, Low Intensity	12,560.90	10.45	3.10
Developed, Medium Intensity	9,869.28	8.21	2.44
Developed, High Intensity	897.21	0.75	0.22
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	18,841.36	15.67	4.66
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	8,074.87	6.72	2.00
Grassland/Herbaceous	4,486.04	3.73	1.11
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	120,225.80	100.00	29.71



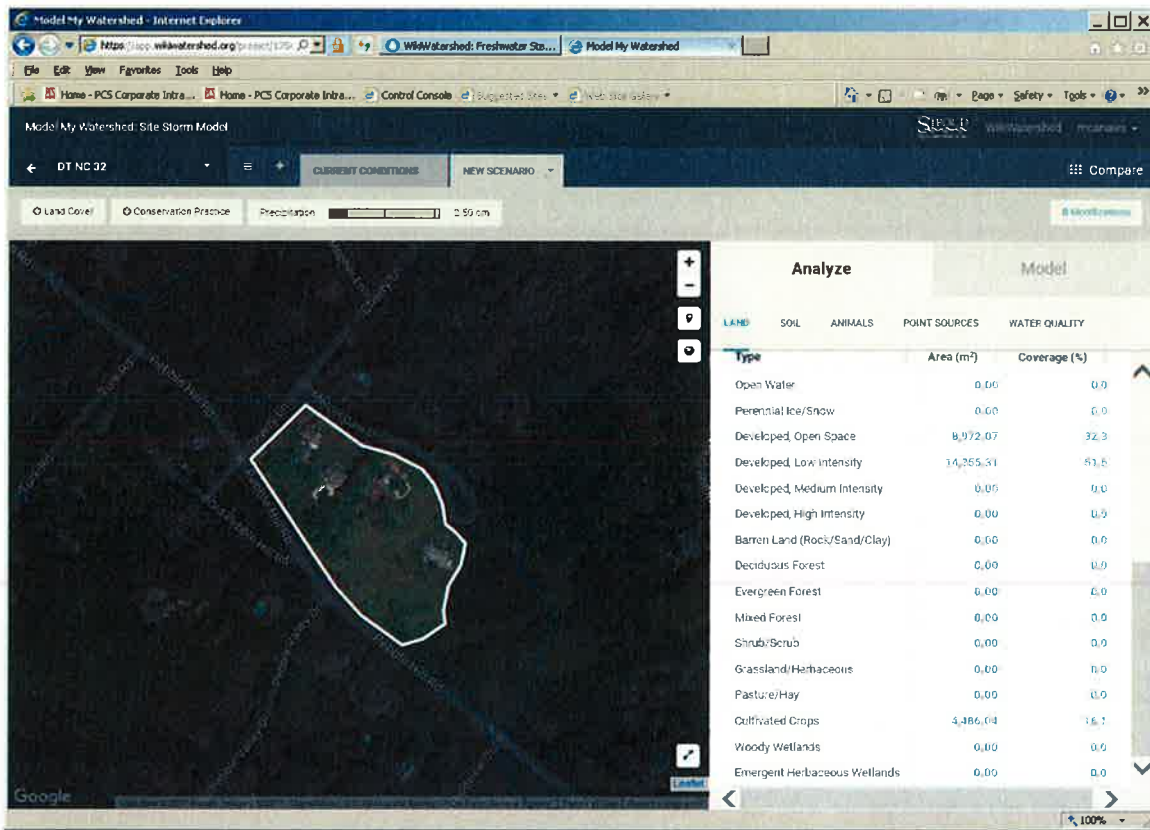
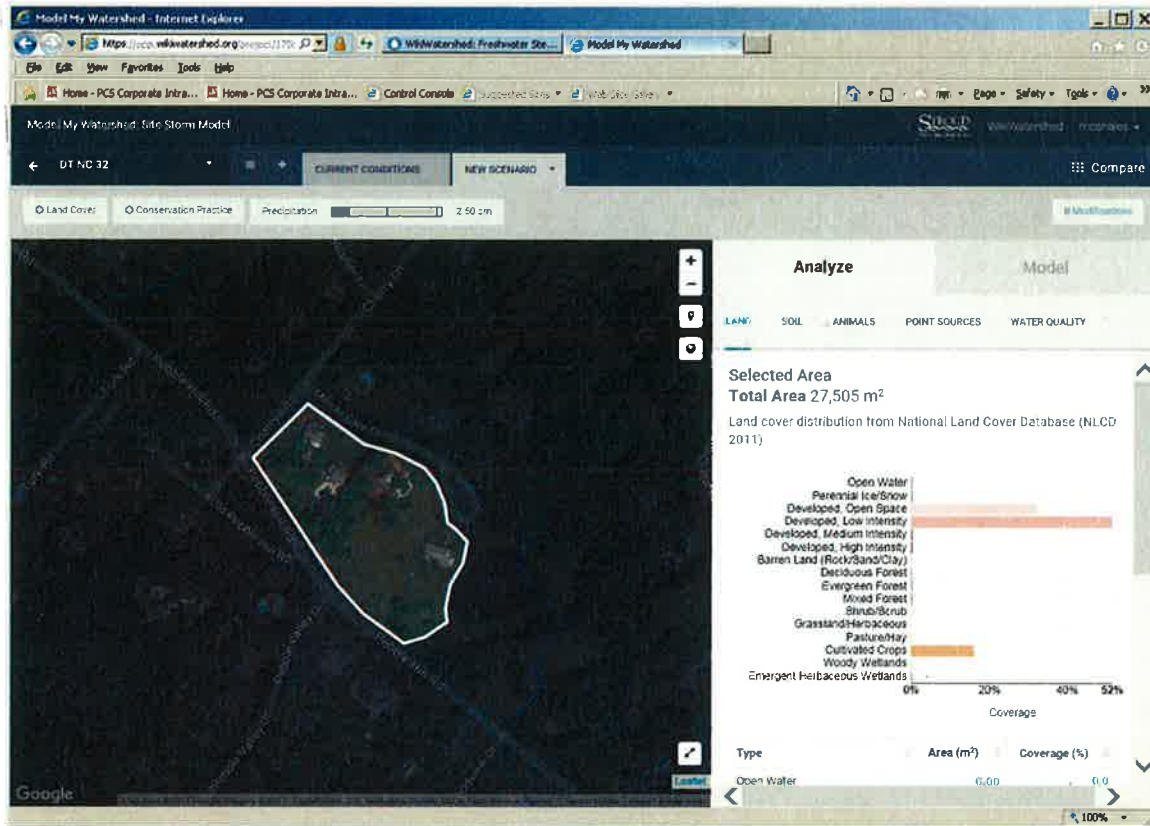
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 31

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	17,046.94	79.17	4.21
Developed, Low Intensity	1,794.41	8.33	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	2,691.62	12.50	0.67
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	21,532.97	100.00	5.32



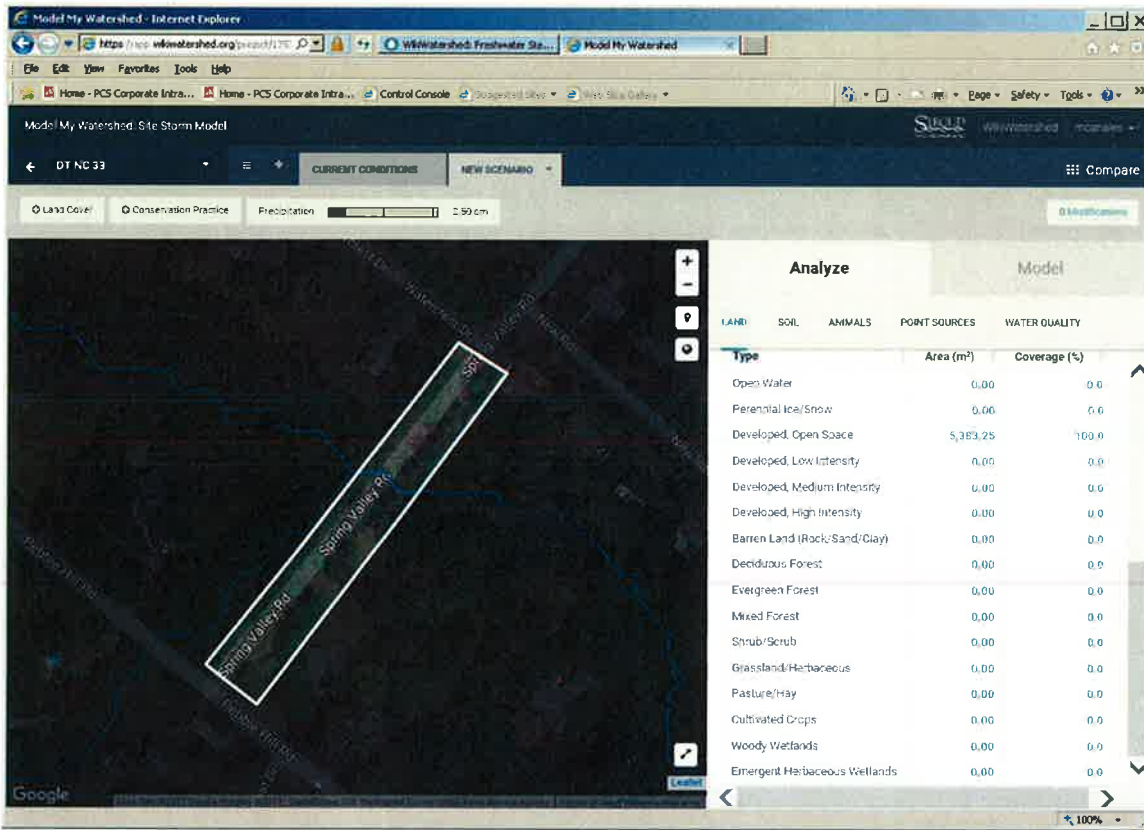
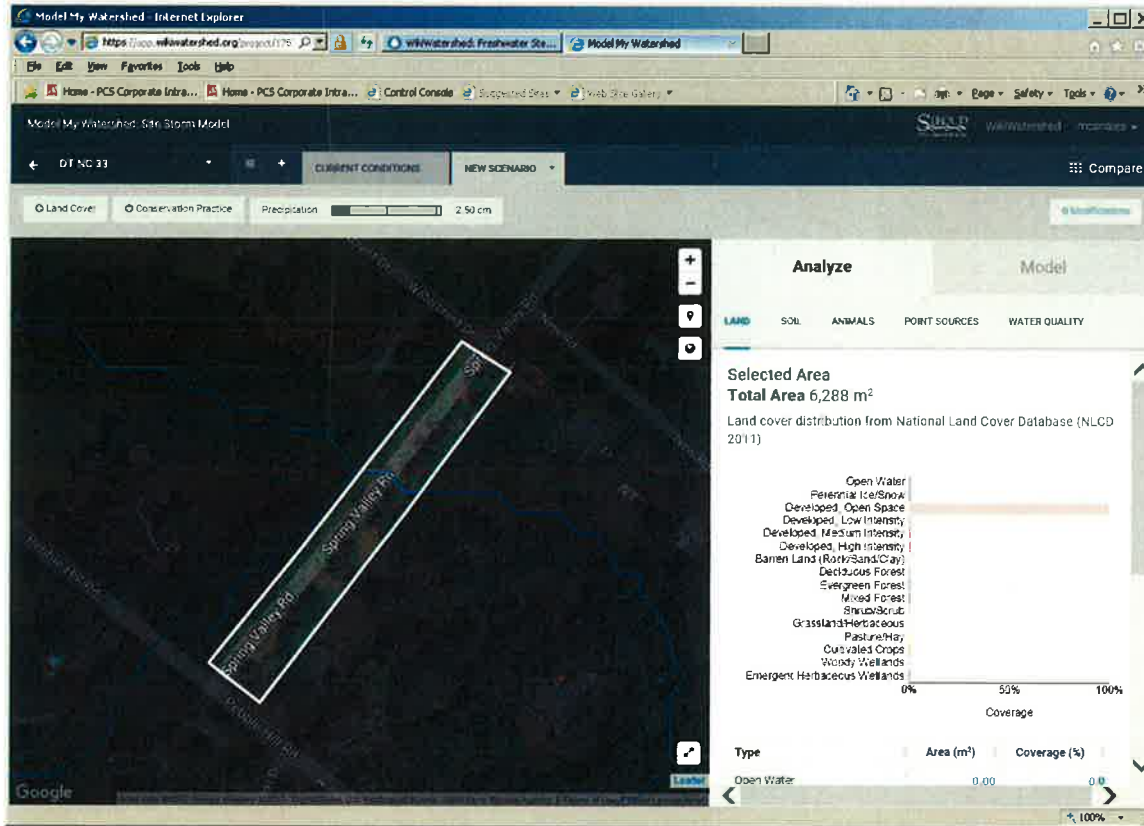
**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 32**

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	8,972.07	32.26	2.22
Developed, Low Intensity	14,355.31	51.61	3.55
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	4,486.04	16.13	1.11
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	27,813.42	100.00	6.87



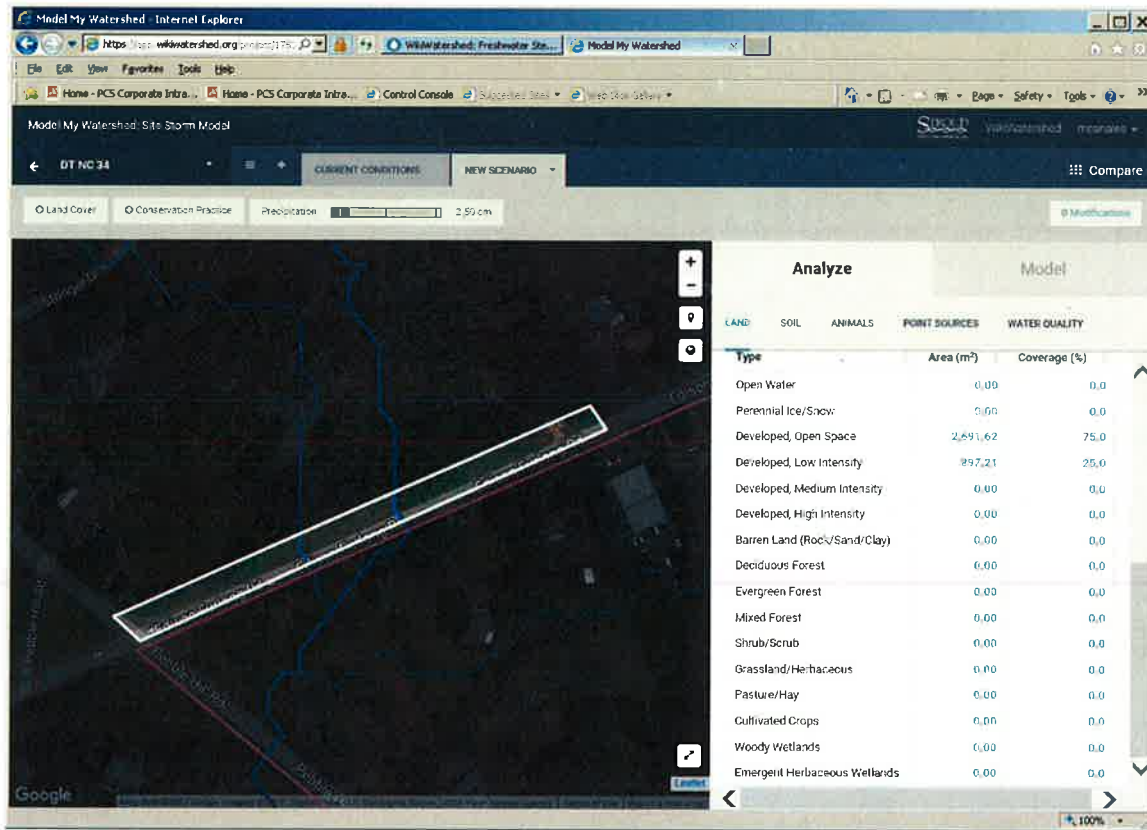
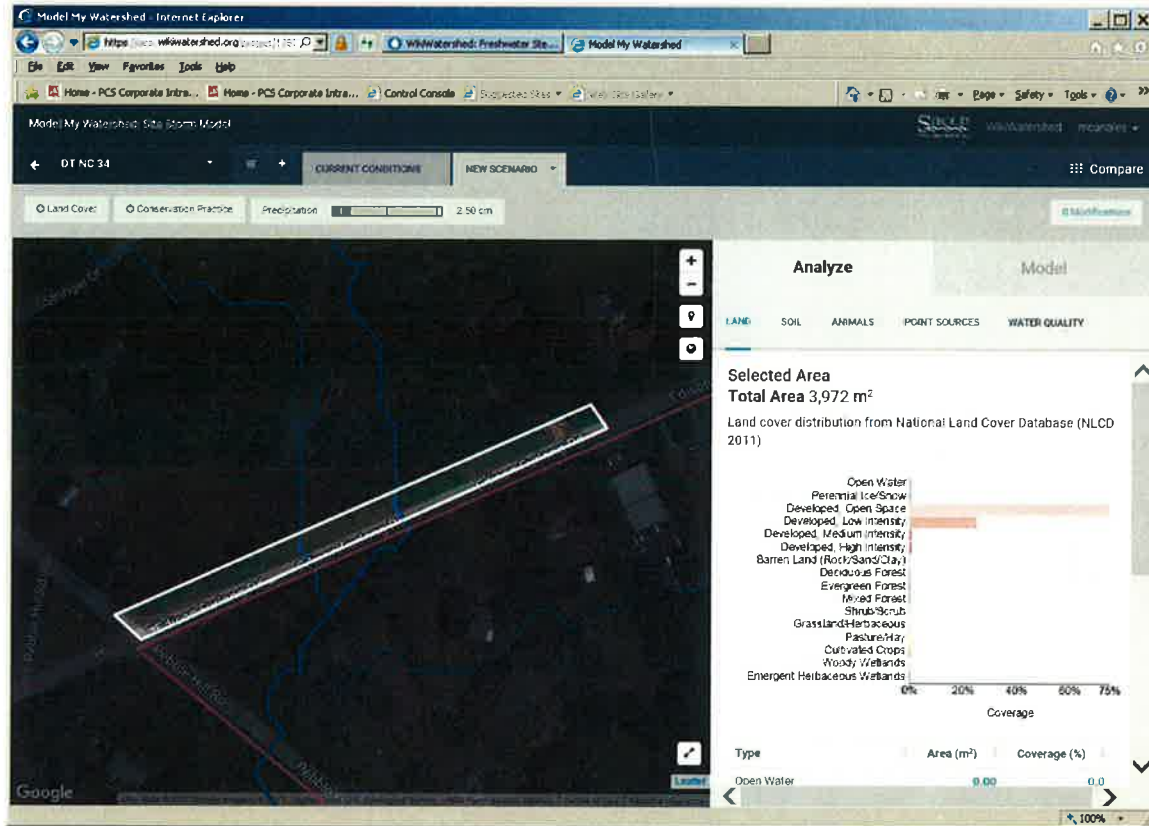
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 33

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.25	100.00	1.33
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	5,383.25	100.00	1.33



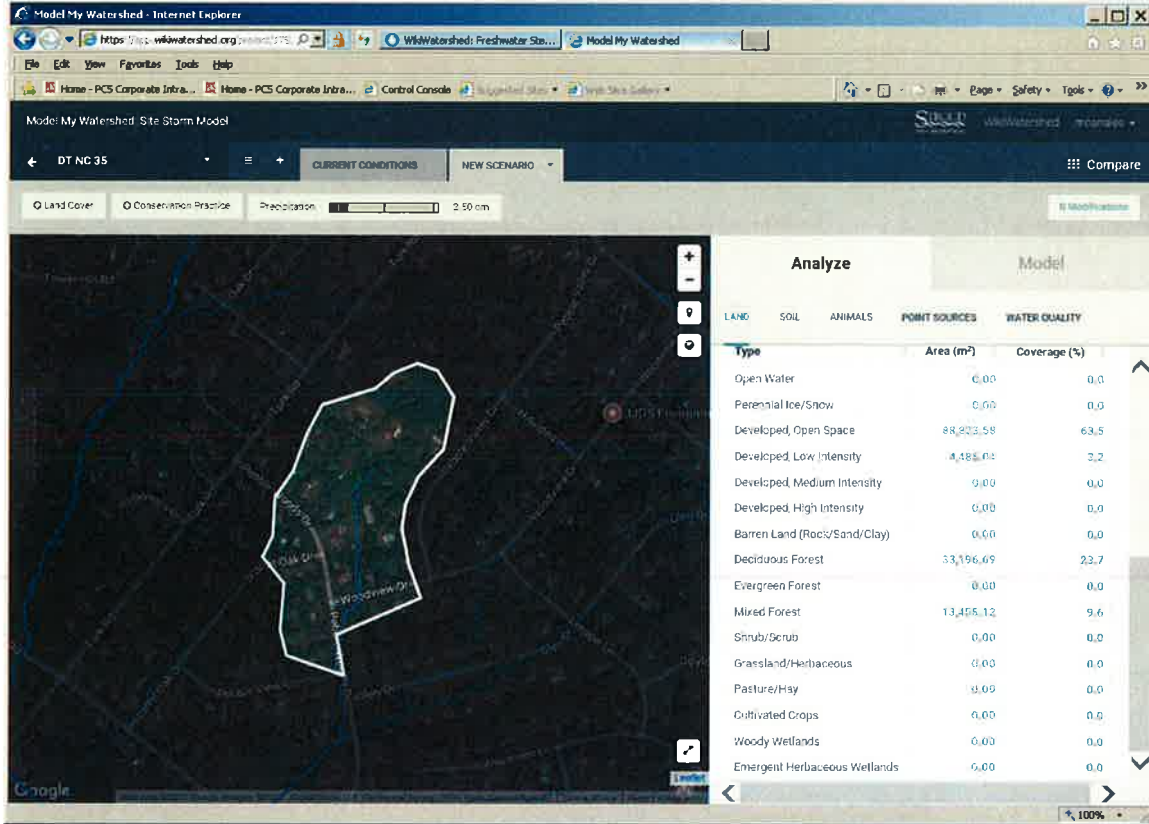
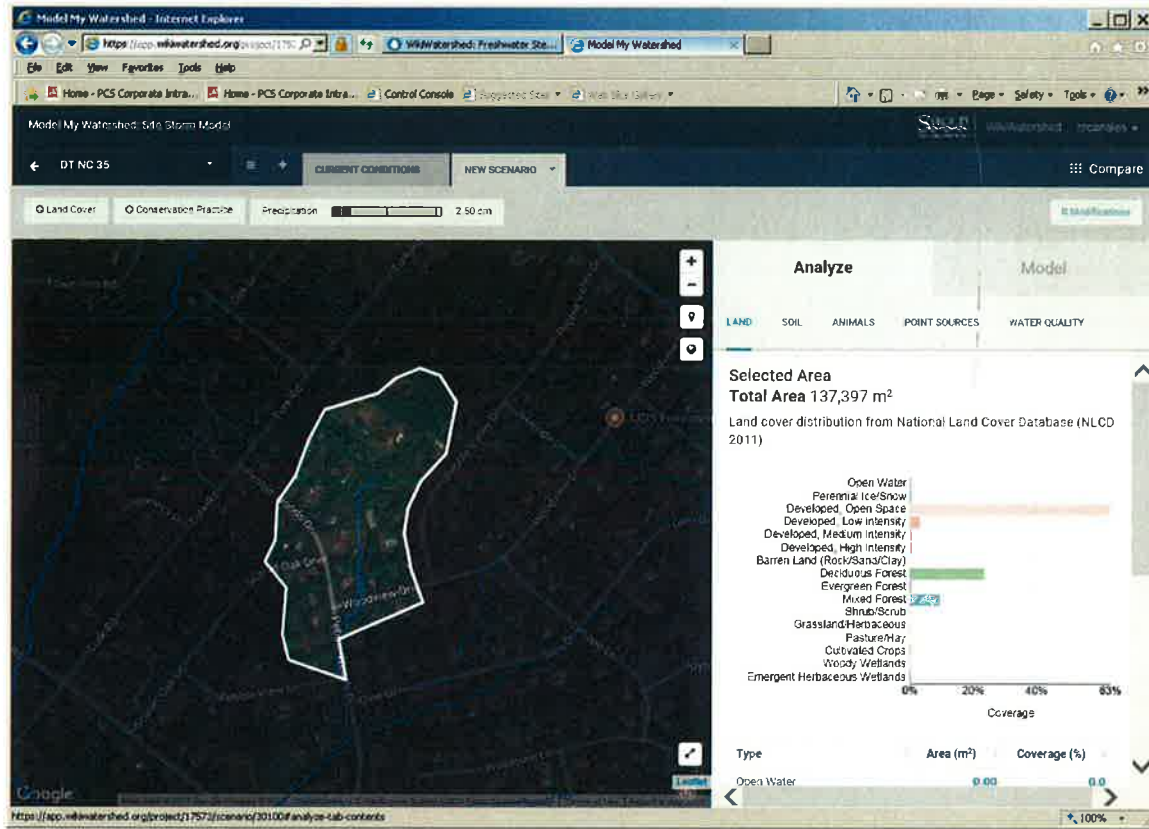
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 34

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	2,691.62	75.00	0.67
Developed, Low Intensity	897.21	25.00	0.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	3,588.83	100.00	0.89



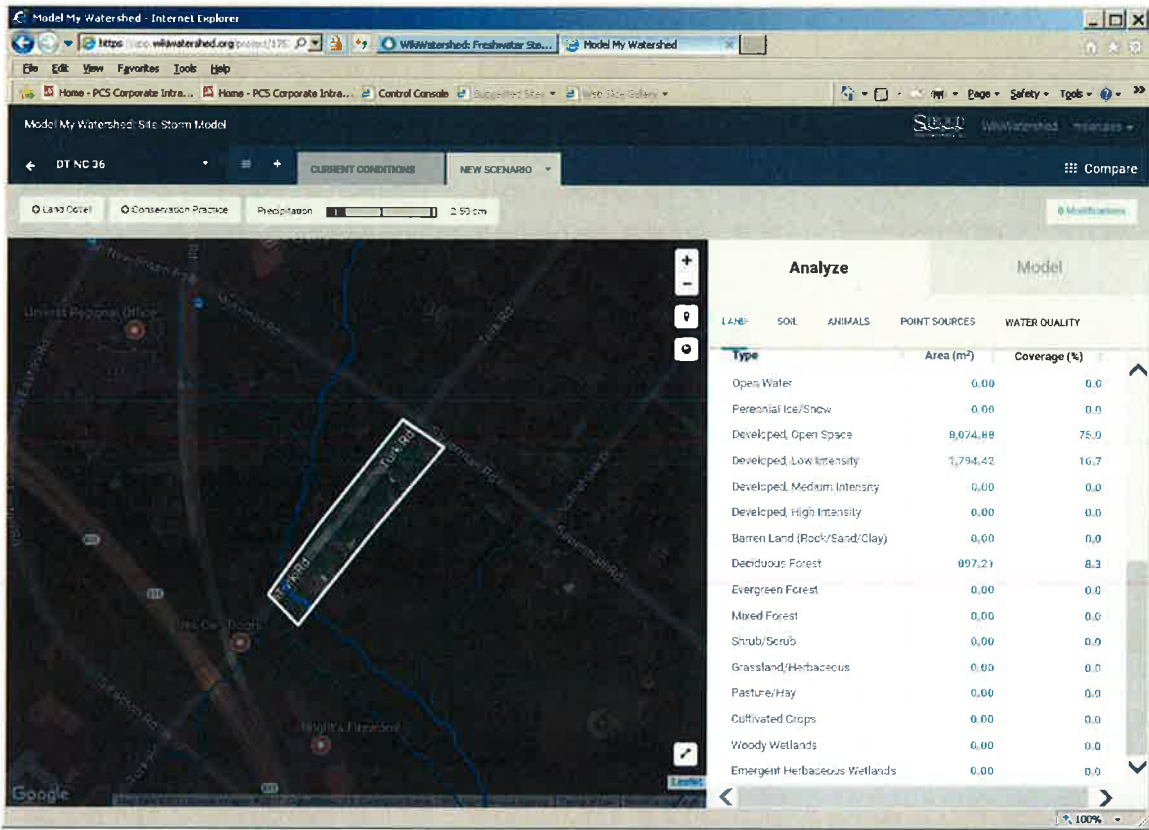
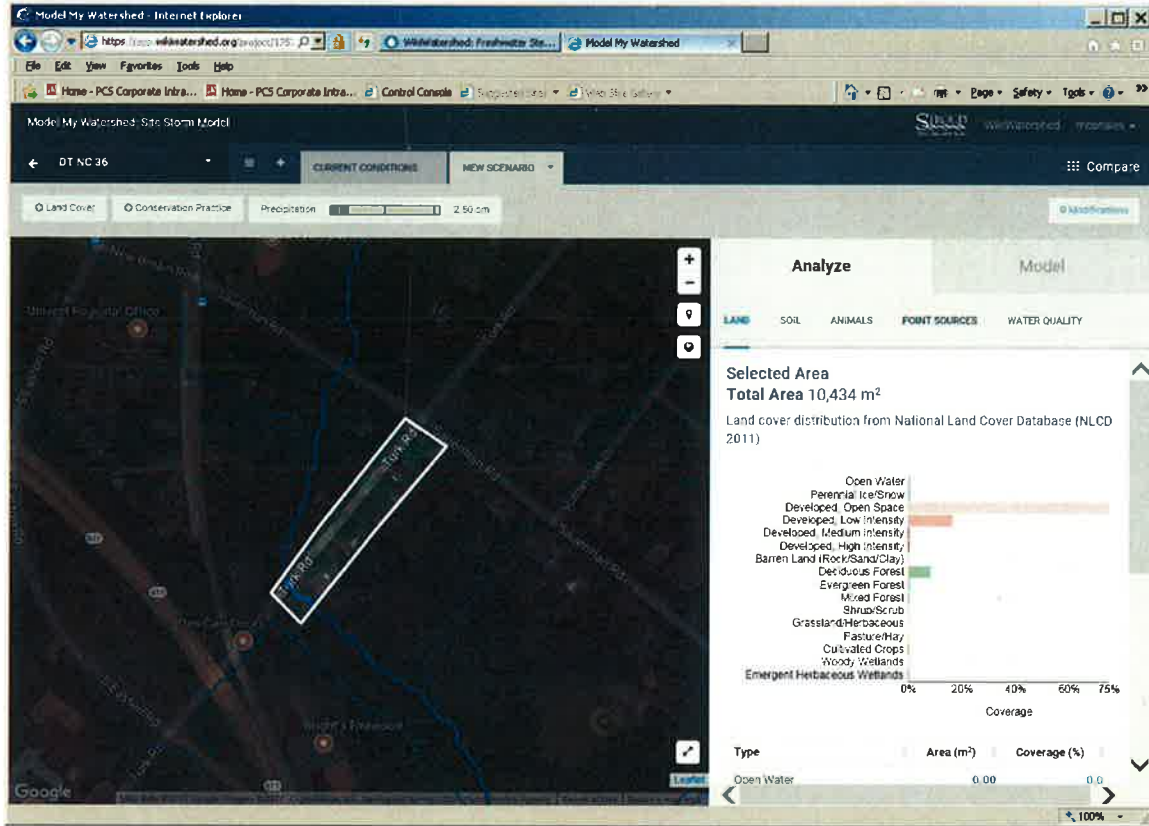
**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 35**

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	88,823.58	63.46	21.95
Developed, Low Intensity	4,486.04	3.21	1.11
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	33,196.69	23.72	8.20
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	13,458.12	9.62	3.33
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	139,964.43	100.00	34.59



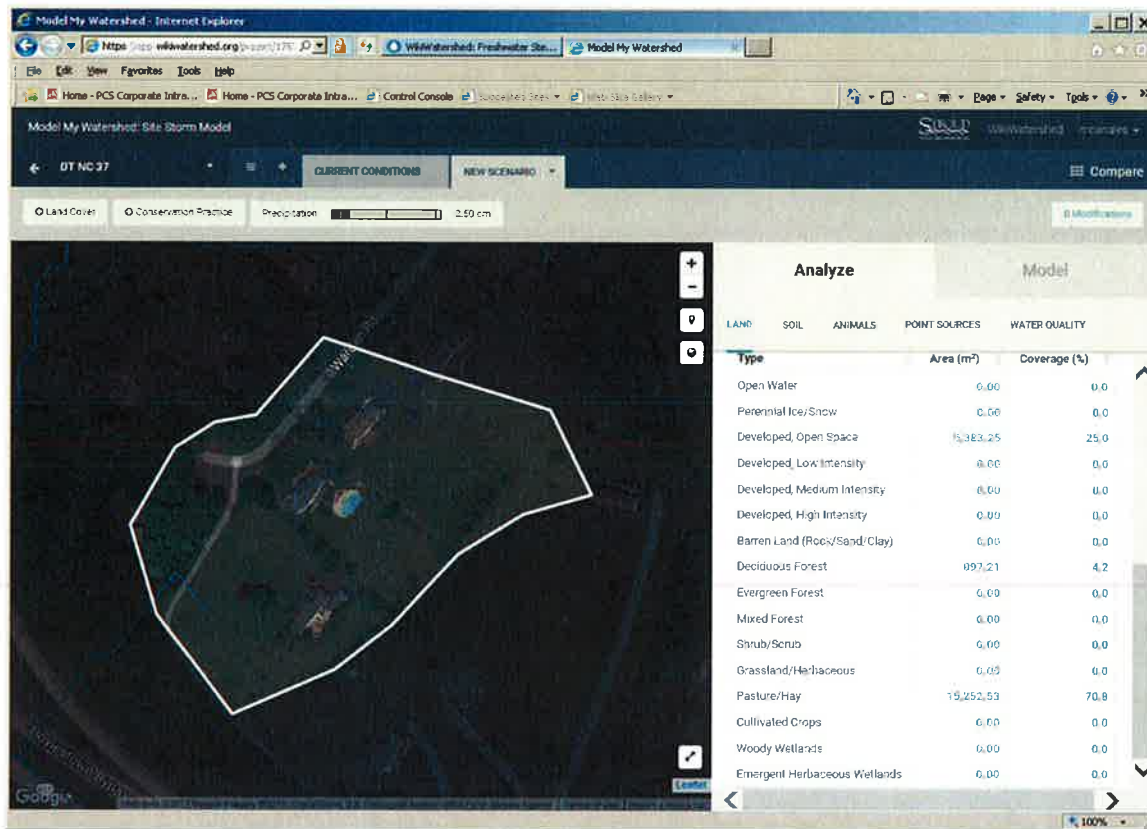
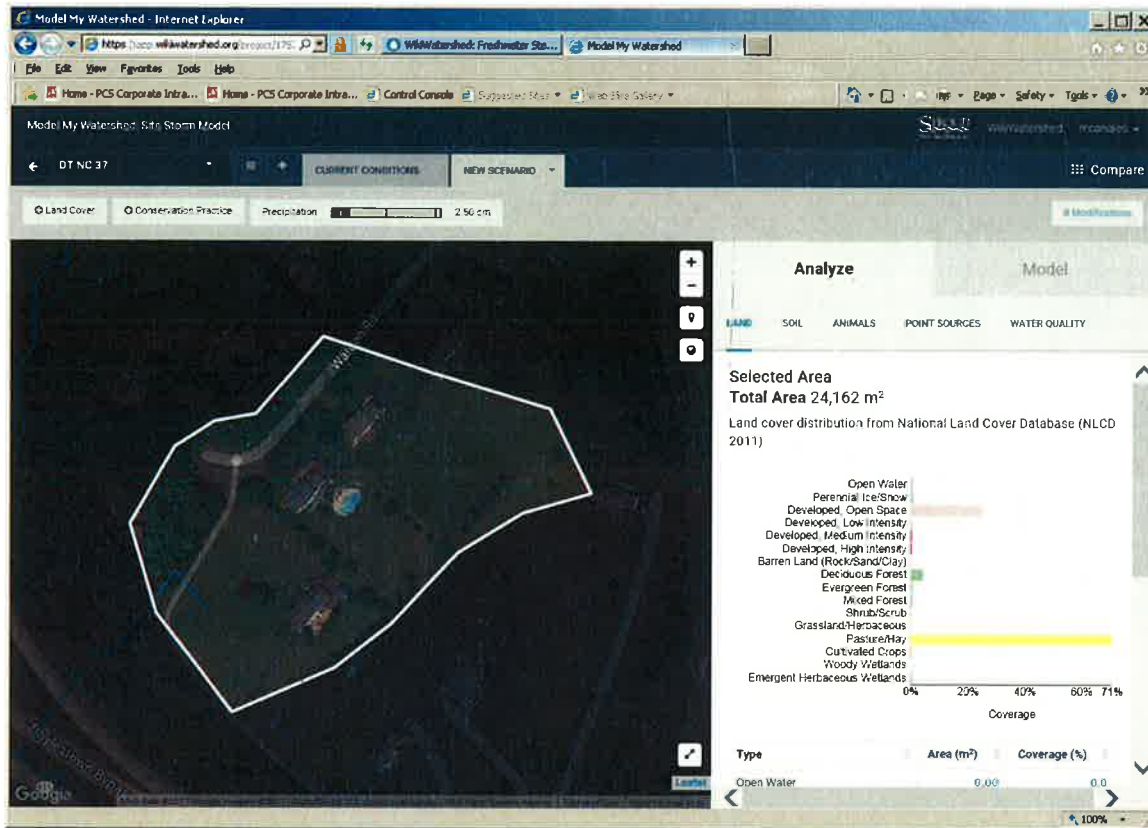
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 37

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.25	25.00	1.33
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	4.17	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	15,252.53	70.83	3.77
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	21,532.99	100.00	5.32



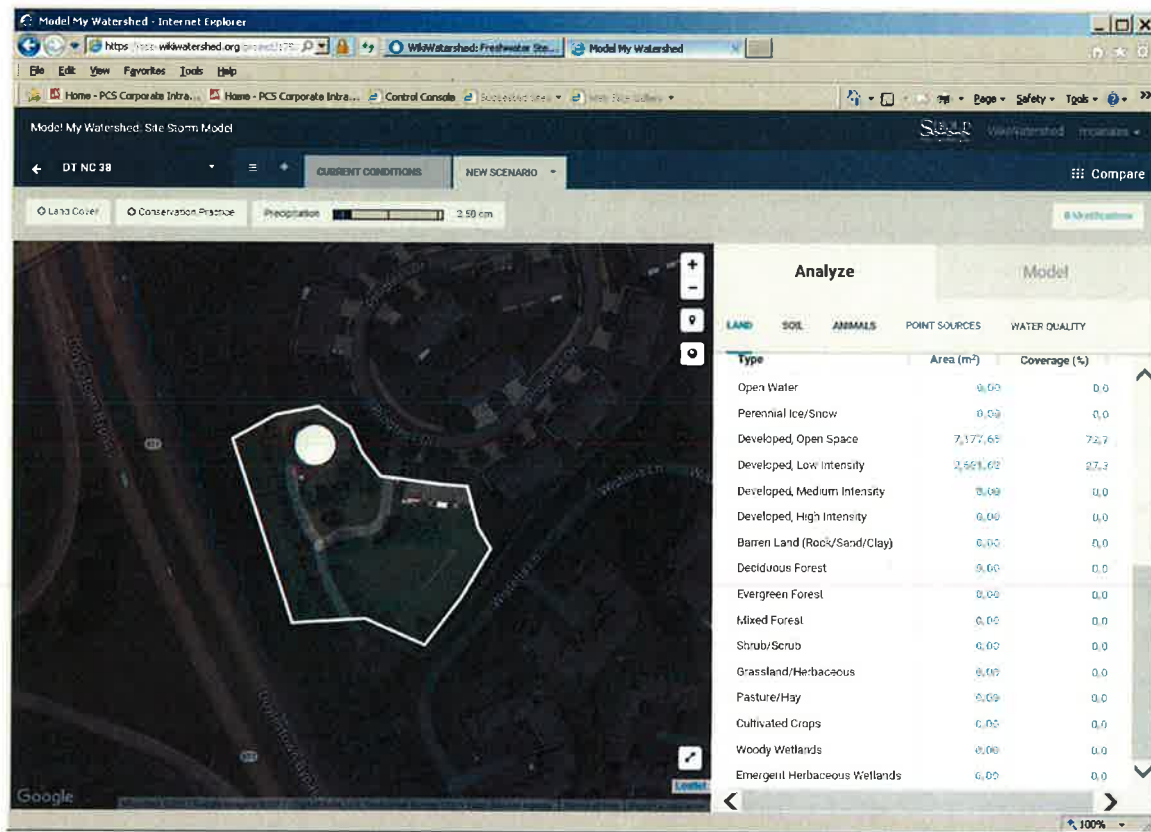
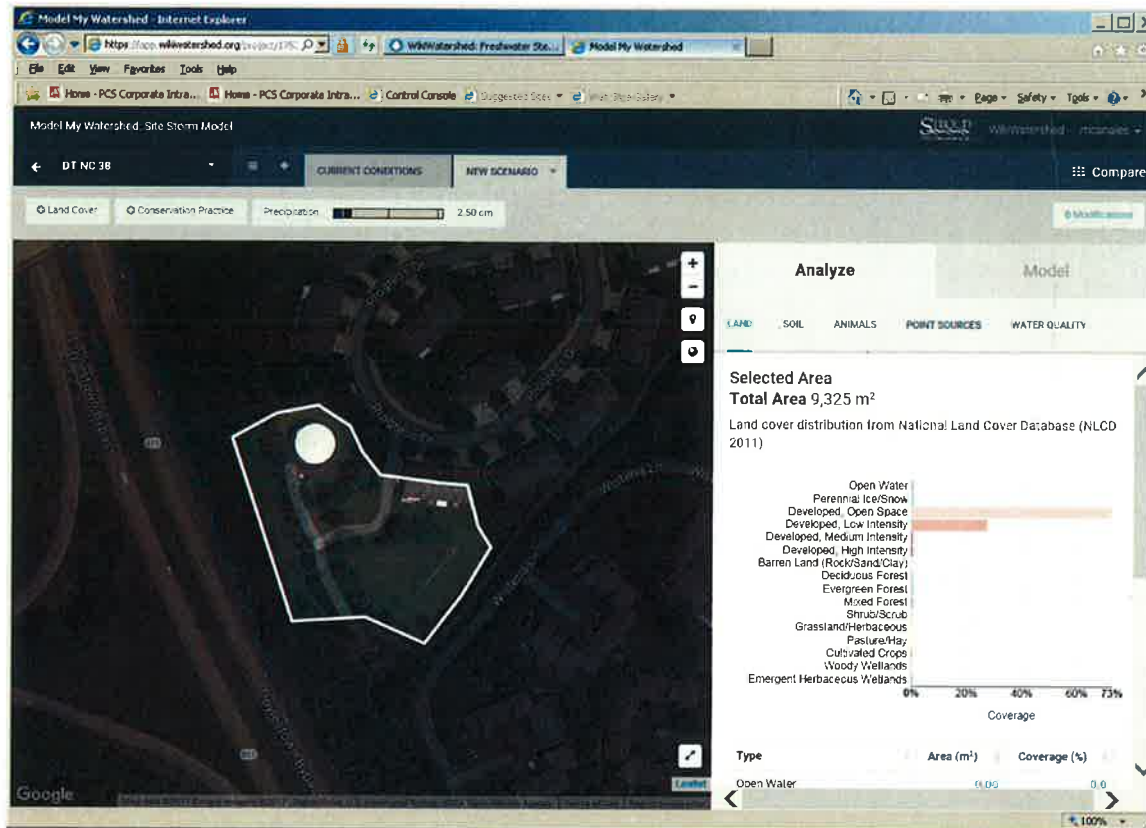
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 36

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	8,074.88	75.00	2.00
Developed, Low Intensity	1,794.42	16.67	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	8.33	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	10,766.51	100.00	2.66



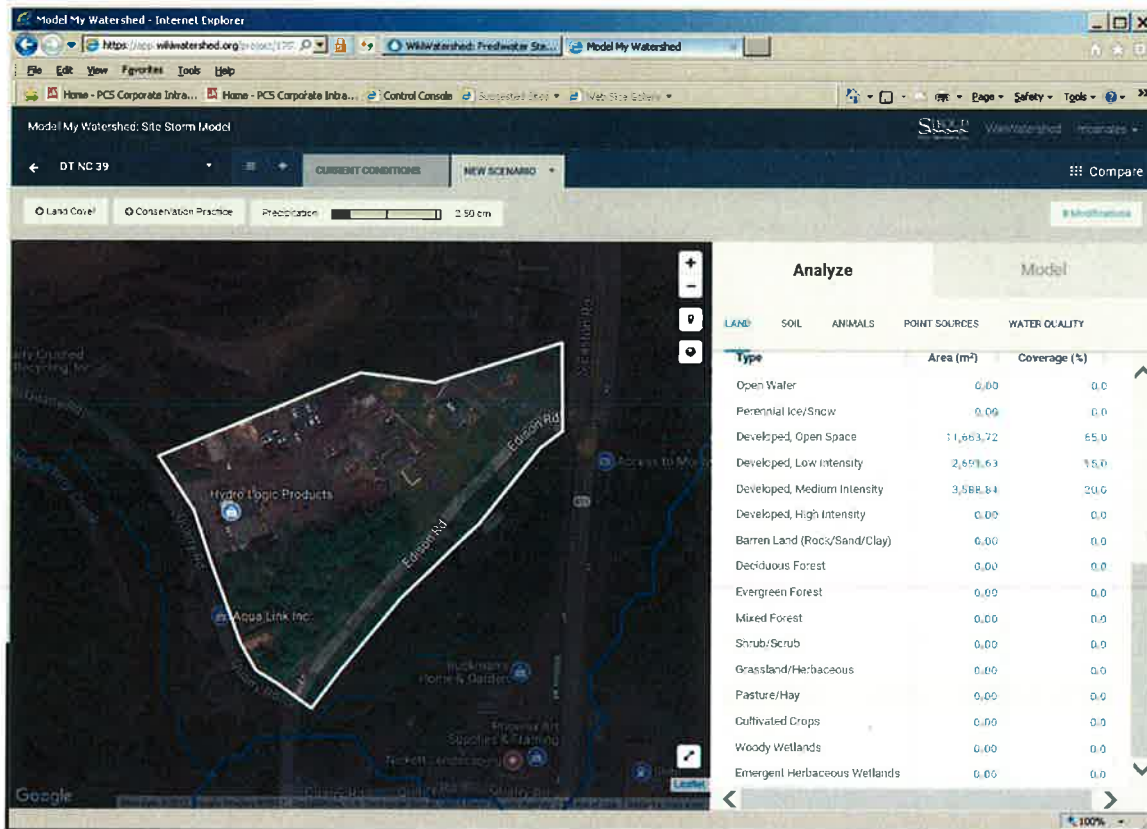
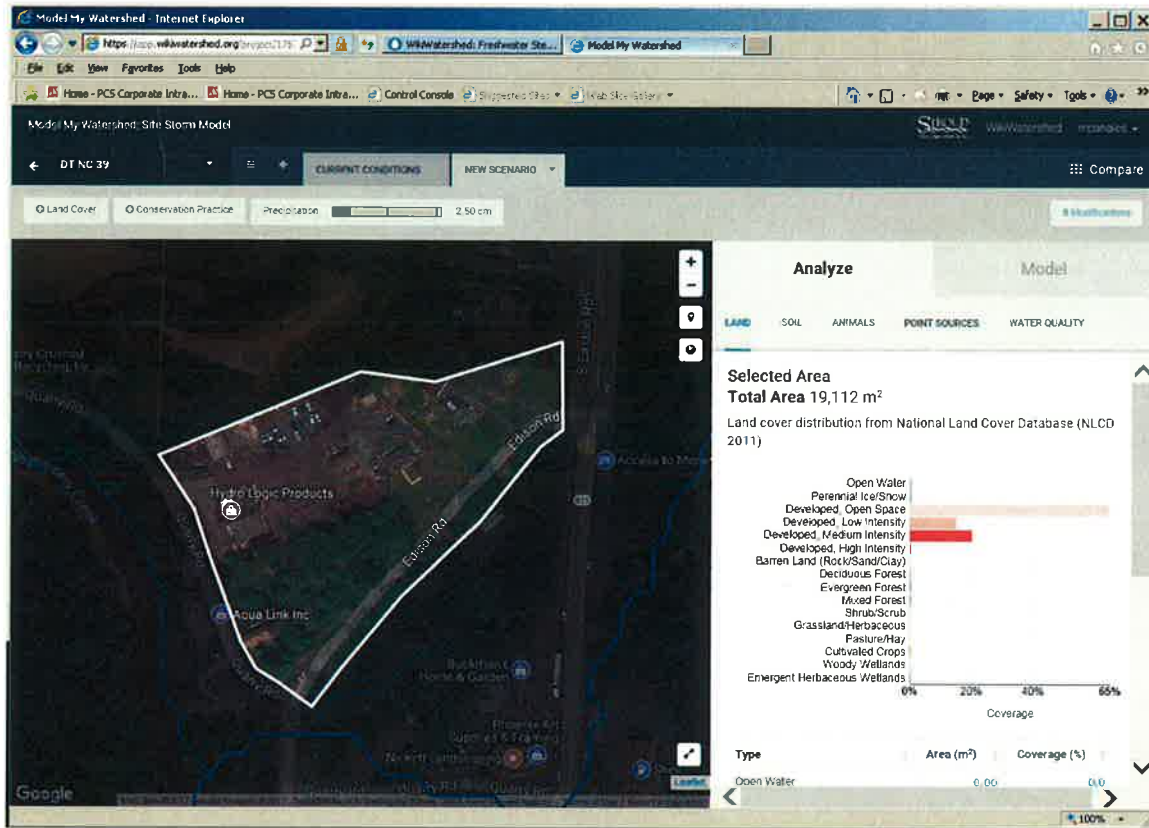
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 38

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	7,177.65	72.73	1.77
Developed, Low Intensity	2,691.62	27.27	0.67
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	9,869.27	100.00	2.44



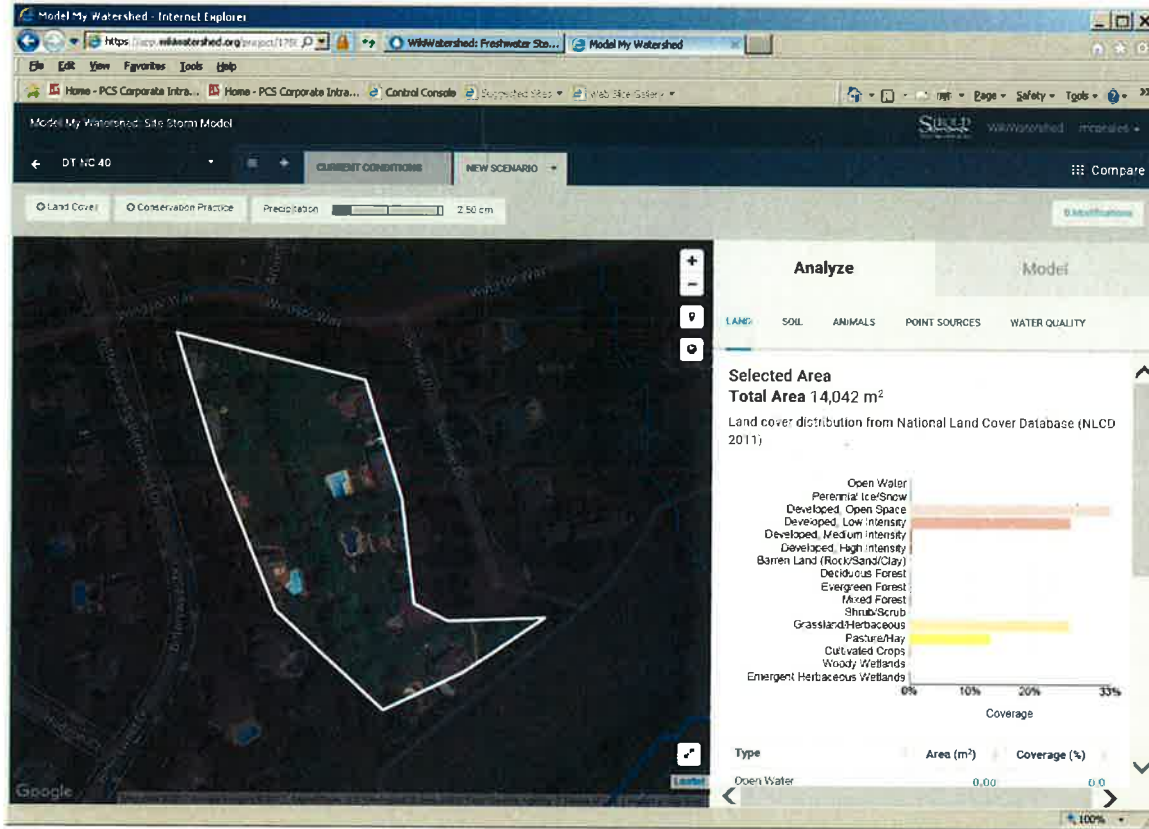
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 39

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	11,663.72	65.00	2.88
Developed, Low Intensity	2,691.63	15.00	0.67
Developed, Medium Intensity	3,588.84	20.00	0.89
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	17,944.19	100.00	4.43



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 40

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	4,486.05	33.33	1.11
Developed, Low Intensity	3,588.84	26.67	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	3,588.84	26.67	0.89
Pasture/Hay	1,794.42	13.33	0.44
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	13,458.15	100.00	3.33



Model My Watershed - Site Storm Model

DT NC 40

PRECIPITATION: 2.50 cm

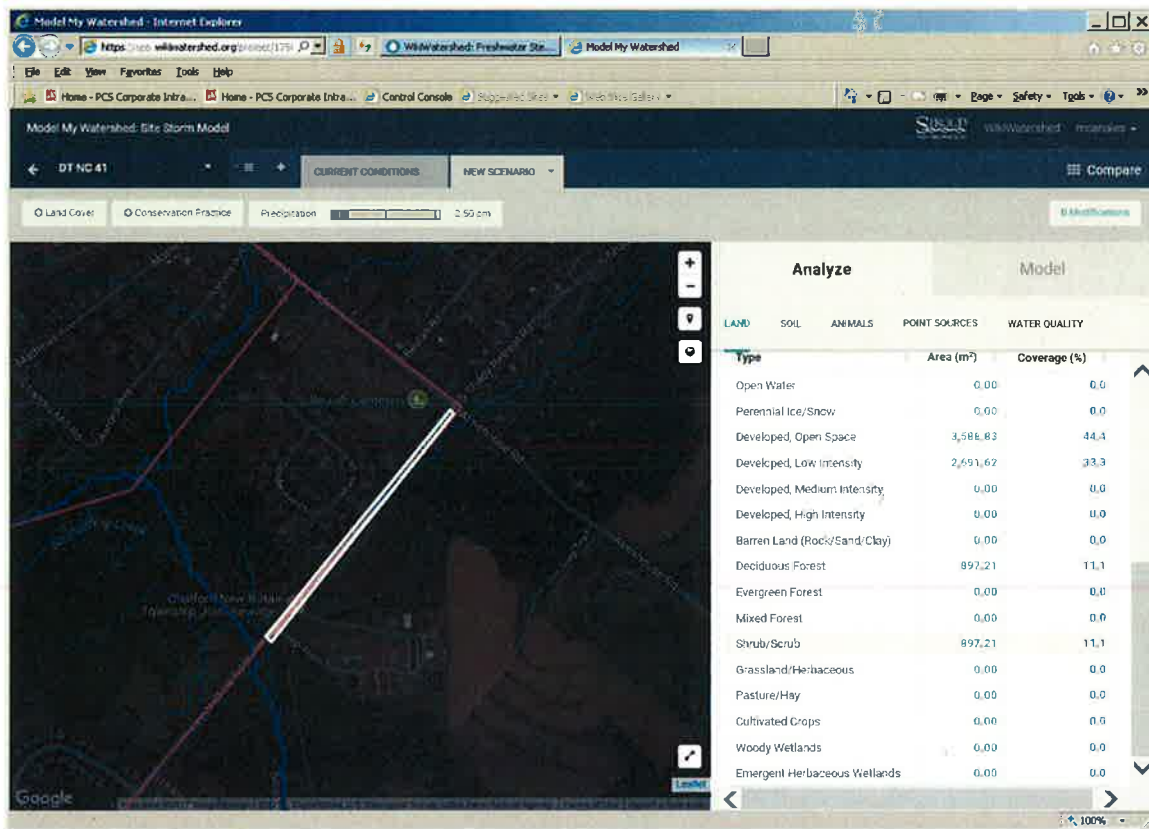
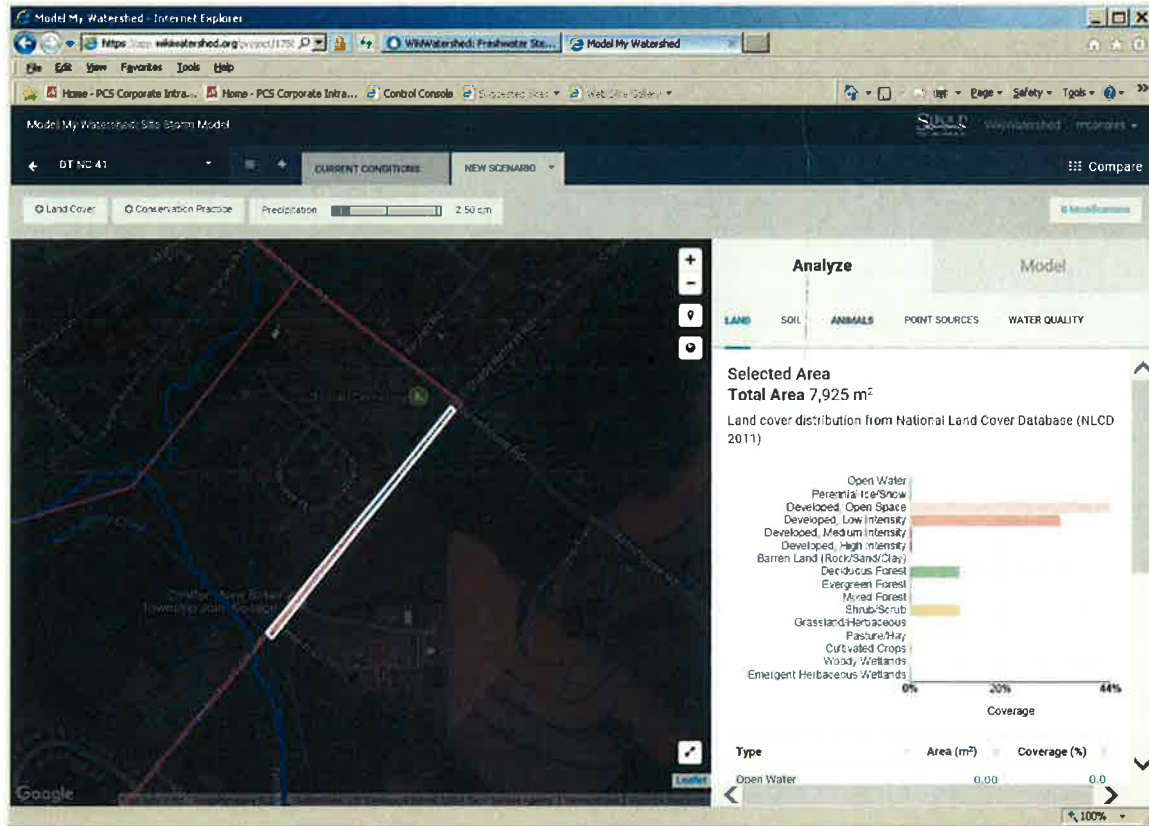
Analyze | Model

LAND | SOIL | ANIMALS | POINT SOURCES | WATER QUALITY

Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	4,486.05	33.3
Developed, Low Intensity	3,588.84	26.7
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	3,588.84	26.7
Pasture/Hay	1,794.42	13.9
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

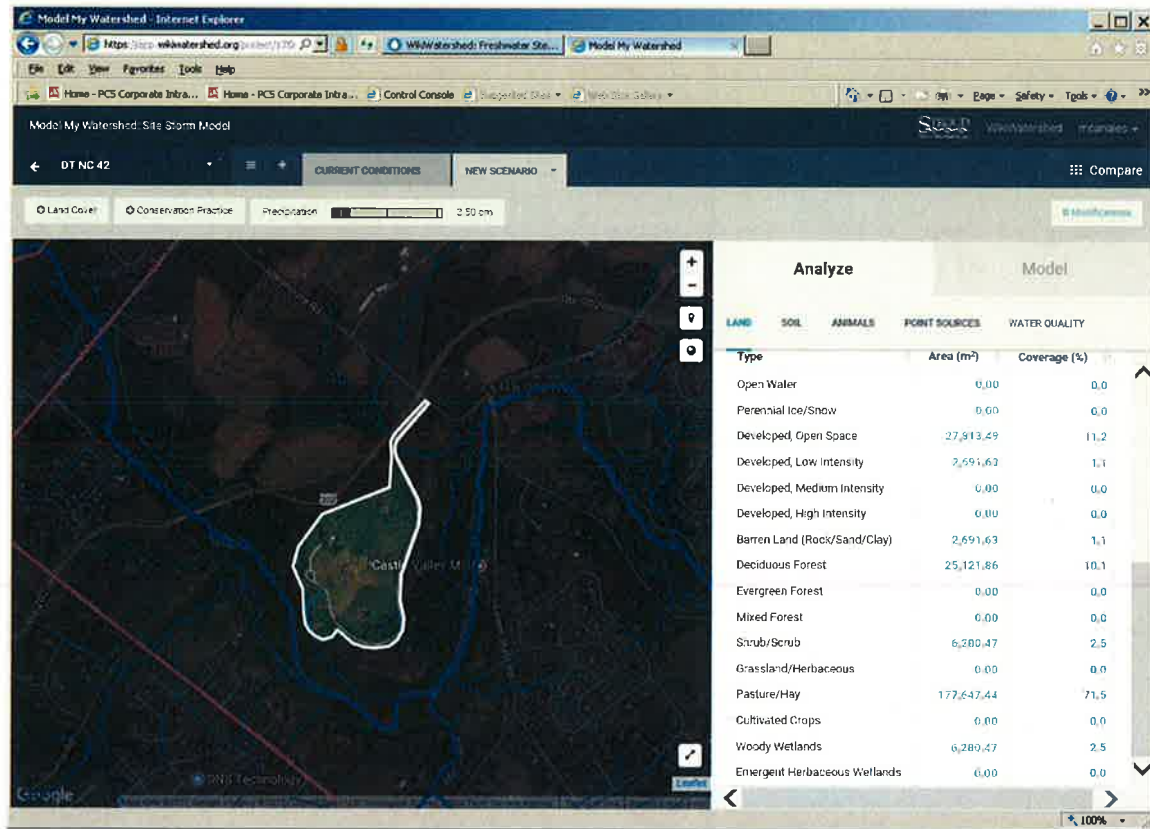
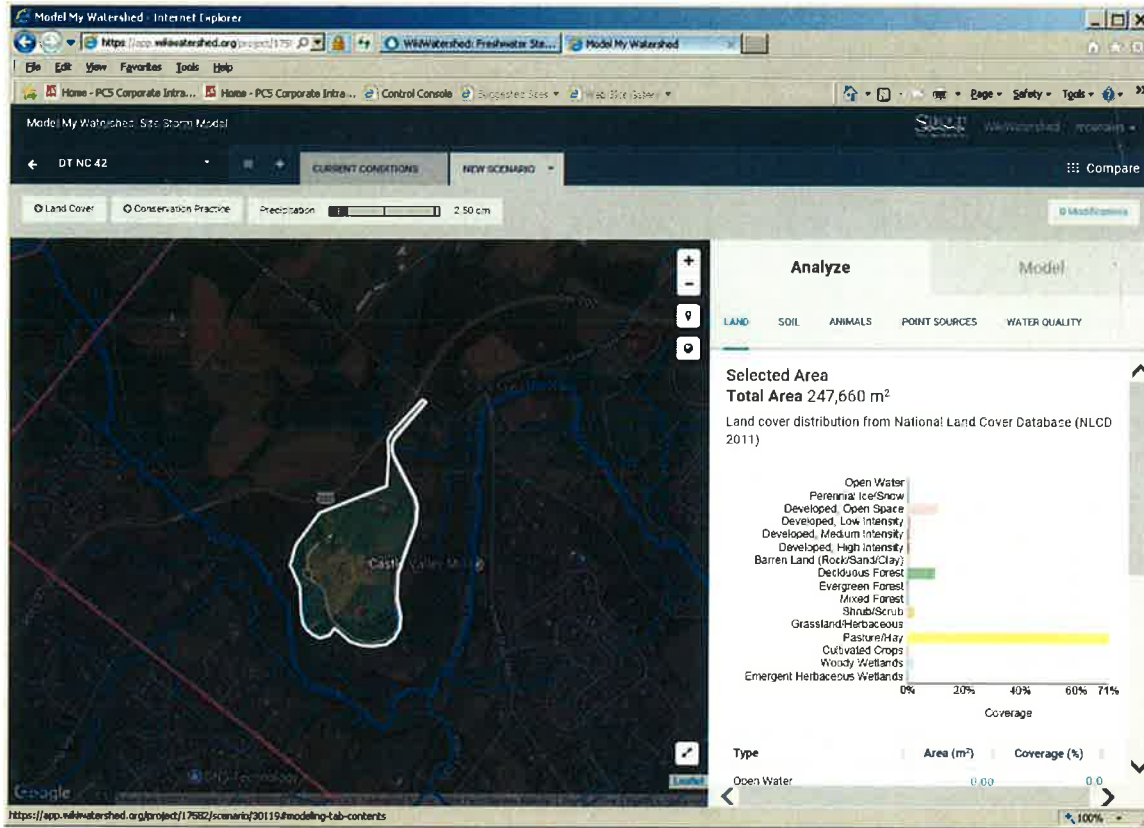
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 41

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	3,588.83	44.44	0.89
Developed, Low Intensity	2,691.62	33.33	0.67
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	11.11	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	897.21	11.11	0.22
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	8,074.87	100.00	2.00



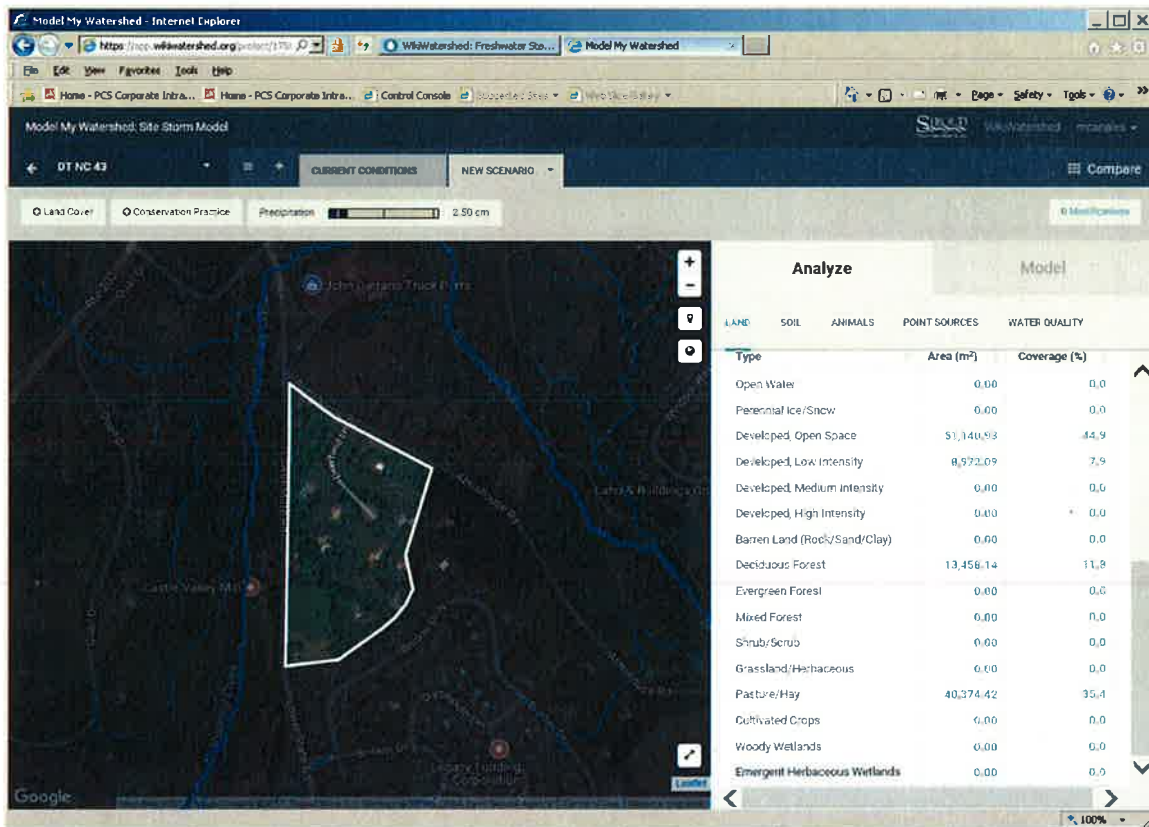
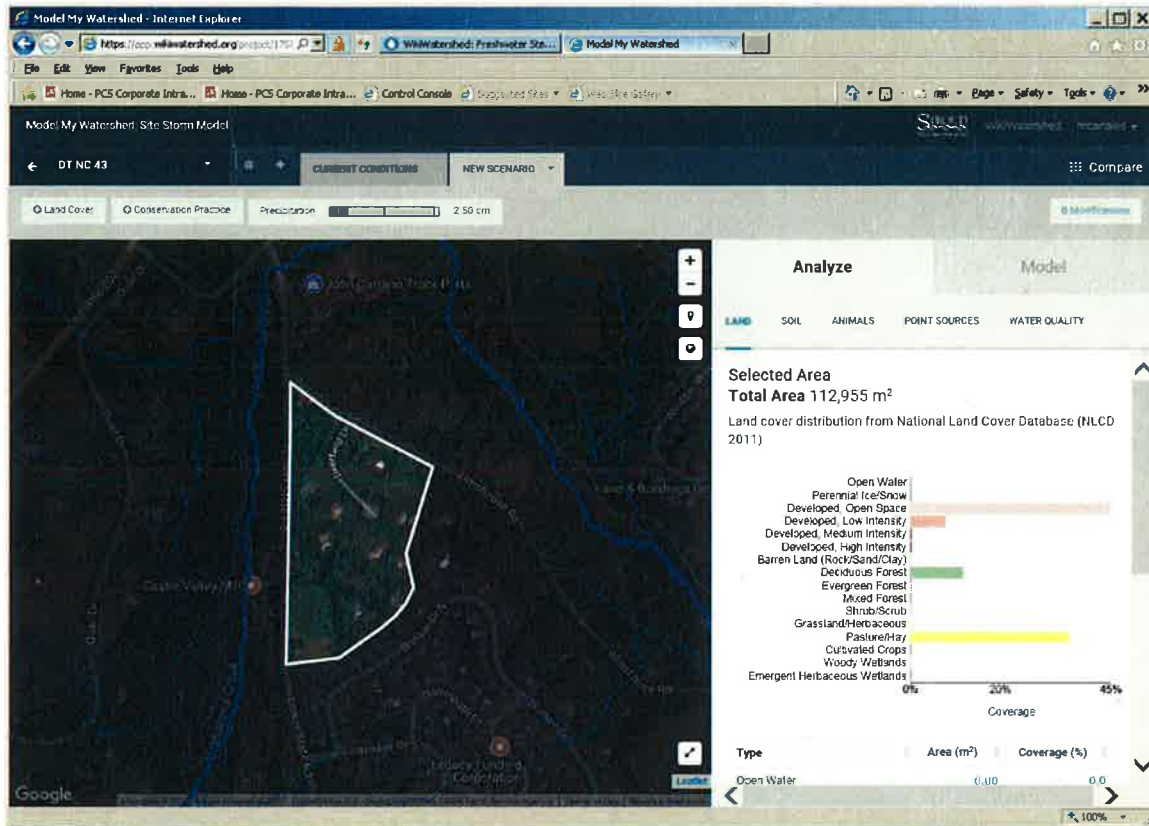
**Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 42**

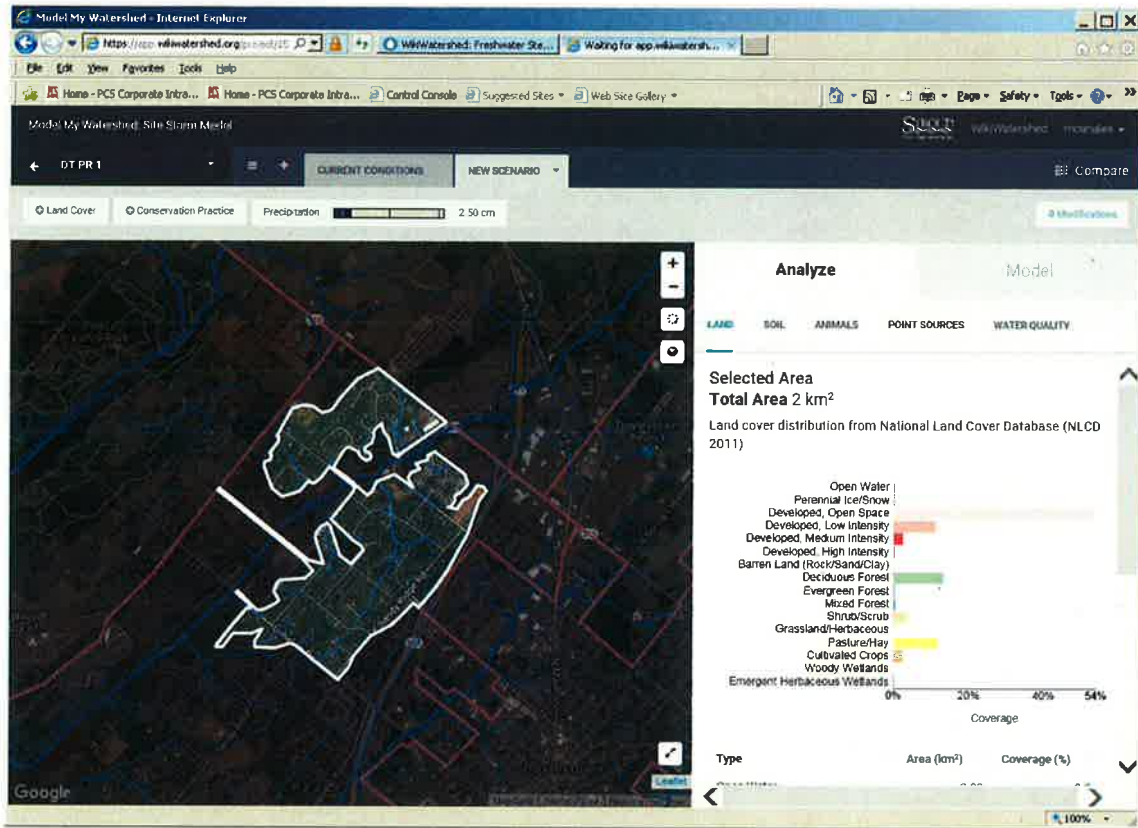
Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	27,813.49	11.19	6.87
Developed, Low Intensity	2,691.63	1.08	0.67
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	2,691.63	1.08	0.67
Deciduous Forest	25,121.86	10.11	6.21
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	6,280.47	2.53	1.55
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	177,647.44	71.48	43.90
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	6,280.47	2.53	1.55
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	248,526.99	100.00	61.41



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Neshaminy Creek - Subwatershed 43

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	51,140.93	44.88	12.64
Developed, Low Intensity	8,972.09	7.87	2.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	13,458.14	11.81	3.33
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	40,374.42	35.43	9.98
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	113,945.58	100.00	28.16





Model My Watershed - Site Storm Model

DT PR 1

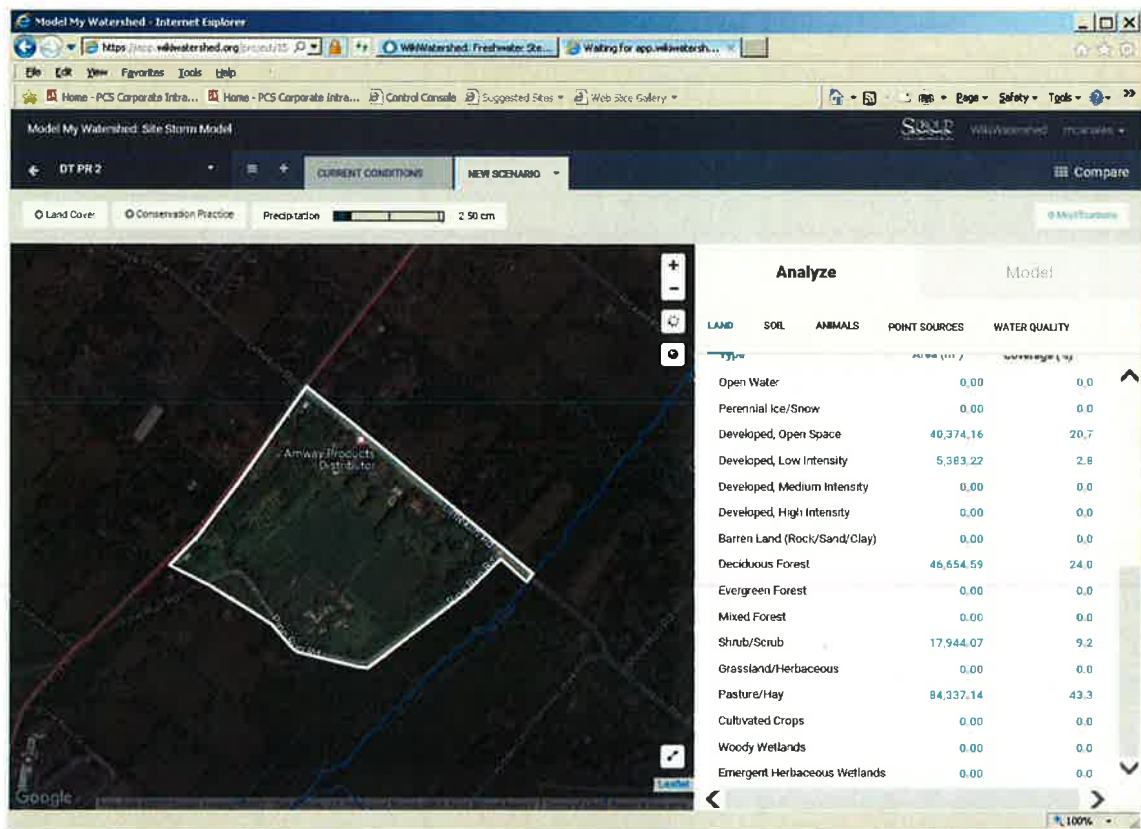
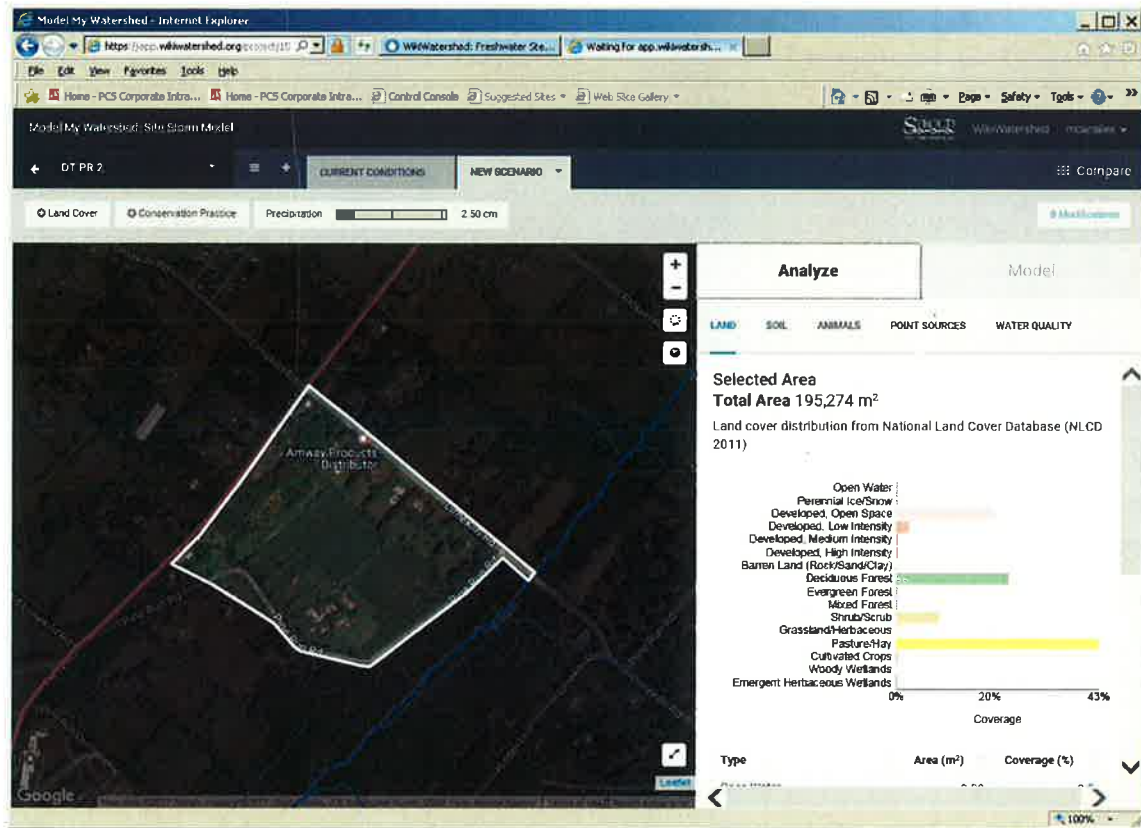
PRECIPITATION: 2.50 cm

Analyze

LAND	SOIL	ANIMALS	POINT SOURCES	WATER QUALITY
Type	Area (km ²)	Coverage (%)		
Open Water	0.00	0.0		
Perennial Ice/Snow	0.00	0.0		
Developed, Open Space	1.21	54.1		
Developed, Low Intensity	0.25	11.2		
Developed, Medium Intensity	0.06	2.5		
Developed, High Intensity	0.01	0.3		
Barren Land (Rock/Sand/Clay)	0.00	0.0		
Deciduous Forest	0.30	13.4		
Evergreen Forest	0.00	0.0		
Mixed Forest	0.01	0.5		
Shrub/Scrub	0.09	3.8		
Grassland/Herbaceous	0.00	0.0		
Pasture/Hay	0.26	11.8		
Cultivated Crops	0.05	2.4		
Woody Wetlands	0.00	0.0		
Emergent Herbaceous Wetlands	0.00	0.0		

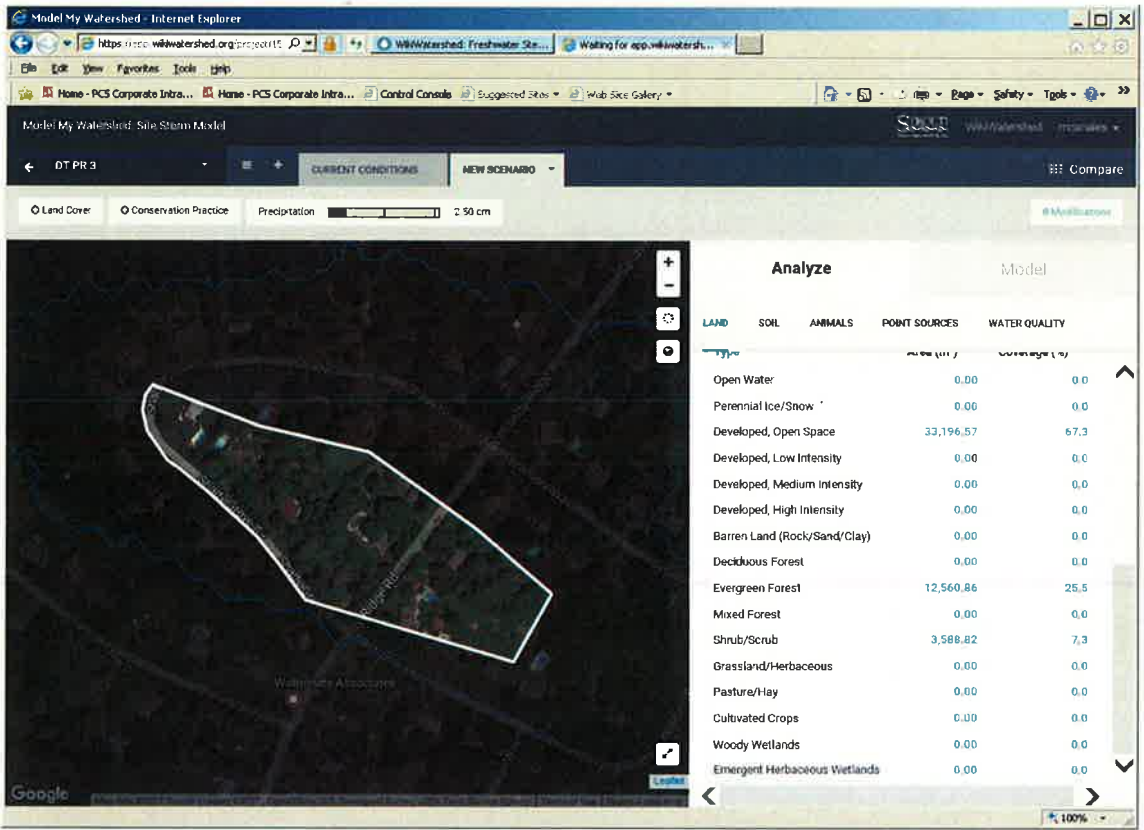
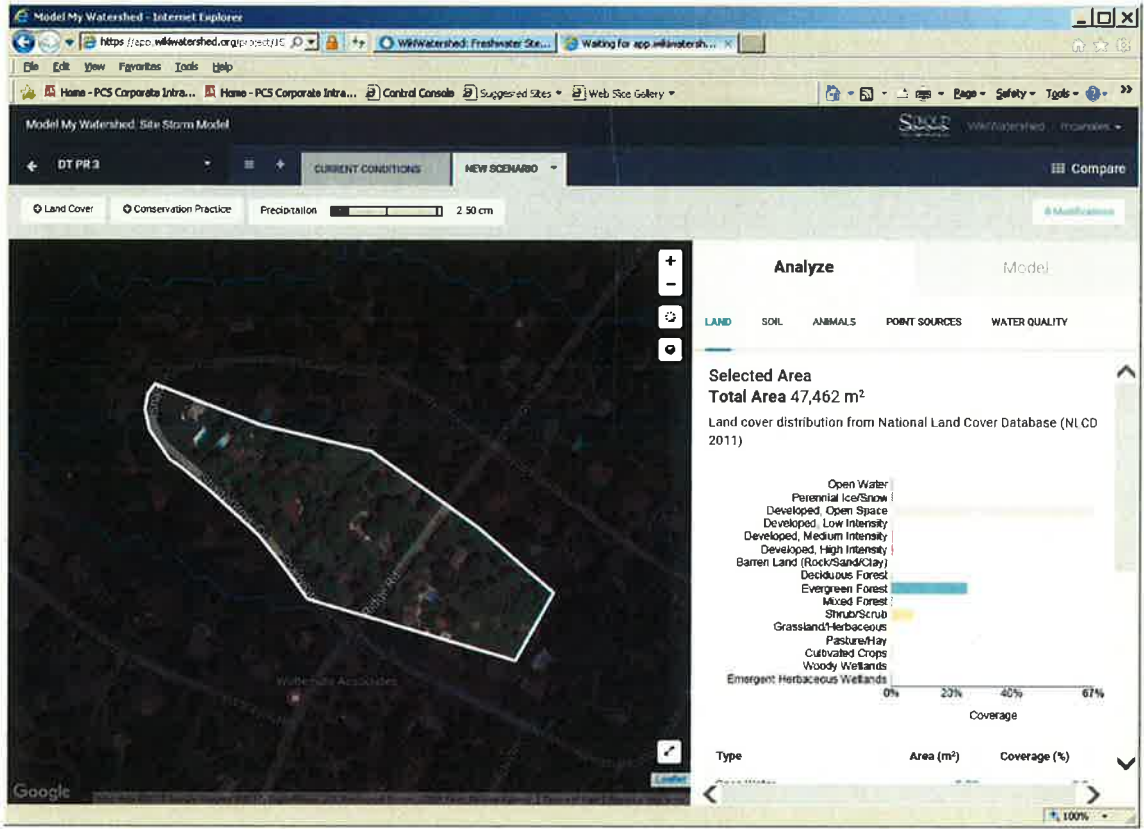
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 1

Land Use	Area (km ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	1.21	54.02	298.99
Developed, Low Intensity	0.25	11.16	61.78
Developed, Medium Intensity	0.06	2.68	14.83
Developed, High Intensity	0.01	0.45	2.47
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.30	13.39	74.13
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.01	0.45	2.47
Shrub/Scrub	0.09	4.02	22.24
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.26	11.61	64.25
Cultivated Crops	0.05	2.23	12.36
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	2.24	100.00	553.50



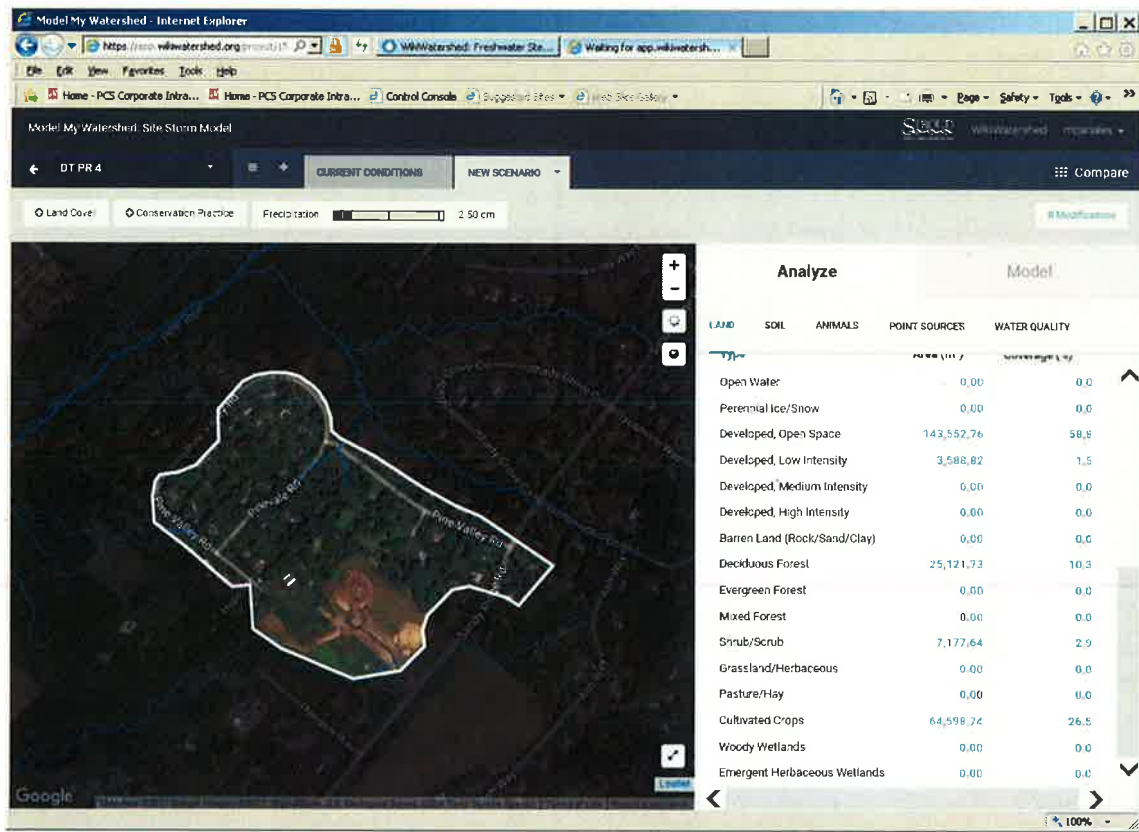
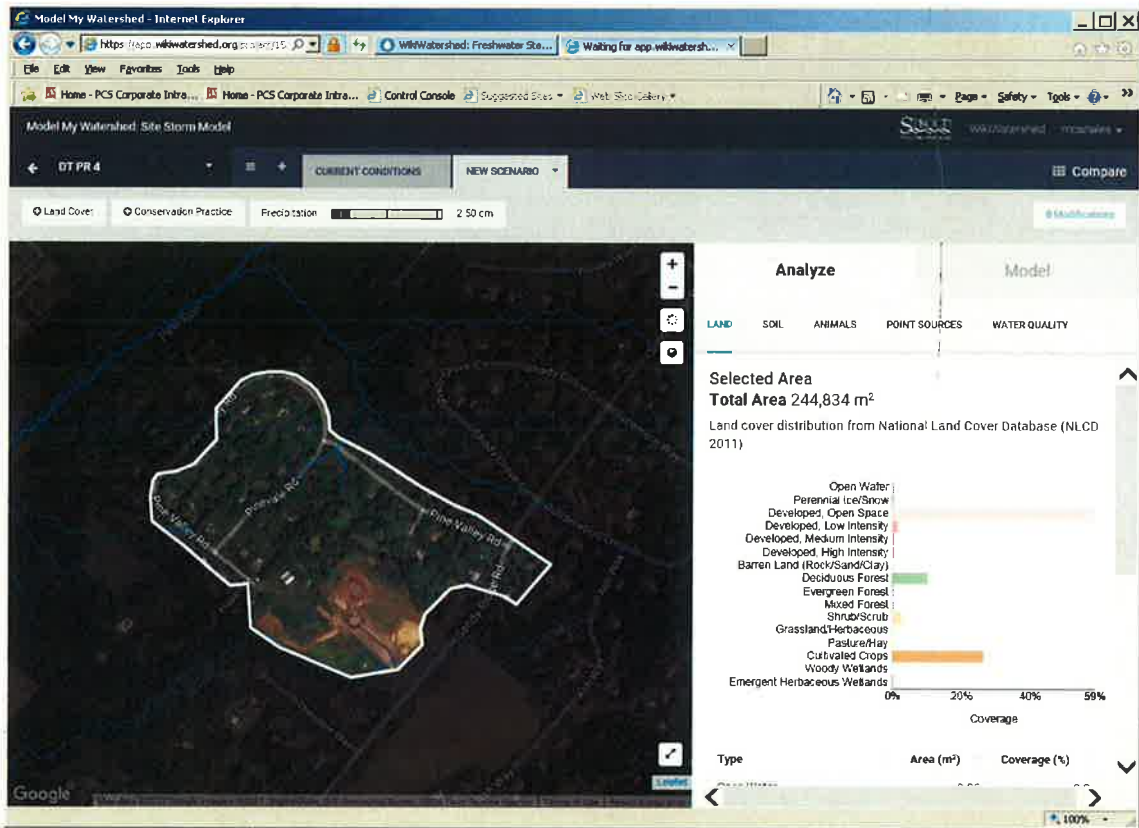
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 2

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	40,374.16	20.74	9.98
Developed, Low Intensity	5,383.22	2.76	1.33
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	46,654.59	23.96	11.53
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	17,944.07	9.22	4.43
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	84,337.14	43.32	20.84
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	194,693.18	100.00	48.11



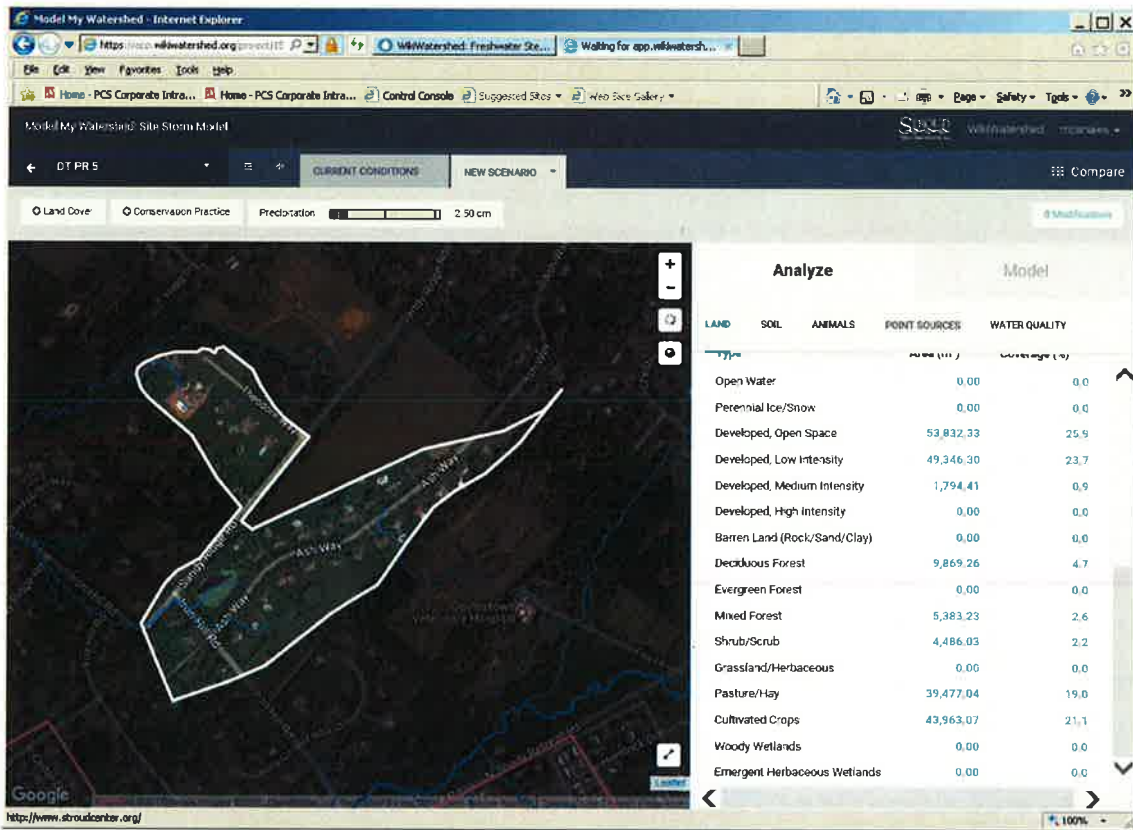
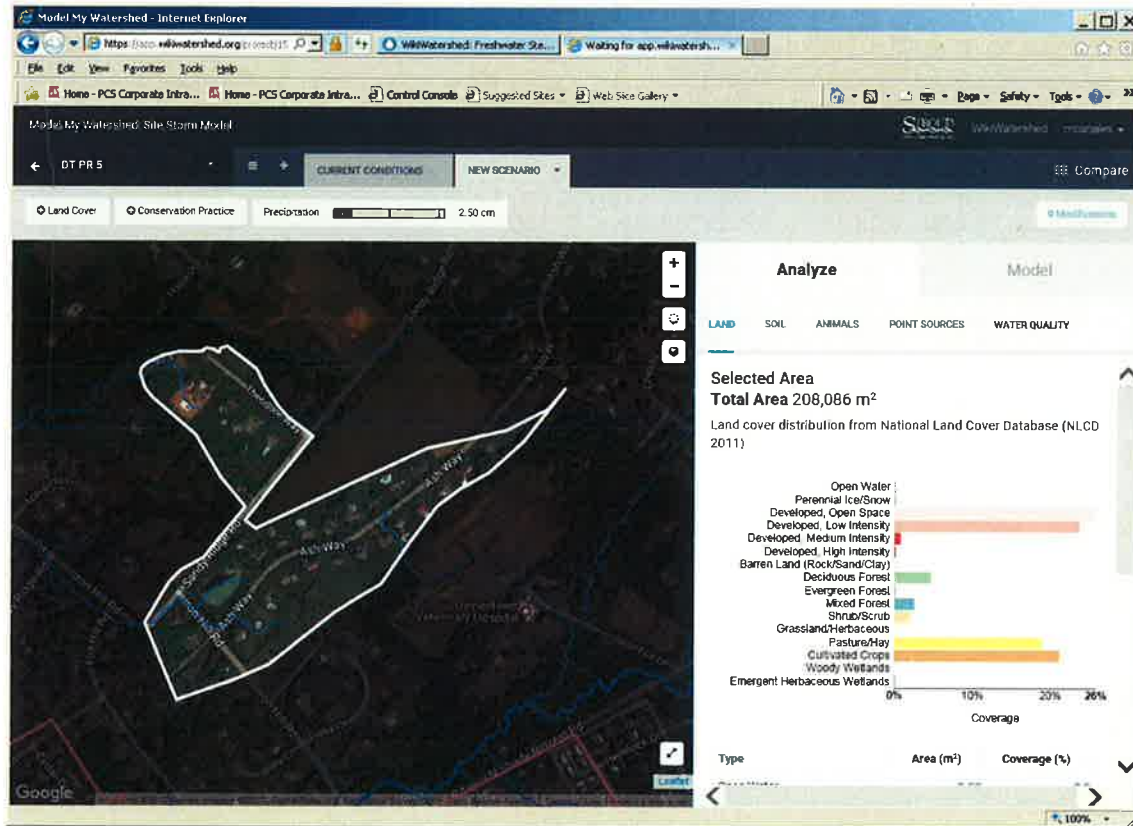
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 3

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	33,196.57	67.27	8.20
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	12,560.86	25.45	3.10
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	3,588.82	7.27	0.89
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	49,346.25	100.00	12.19



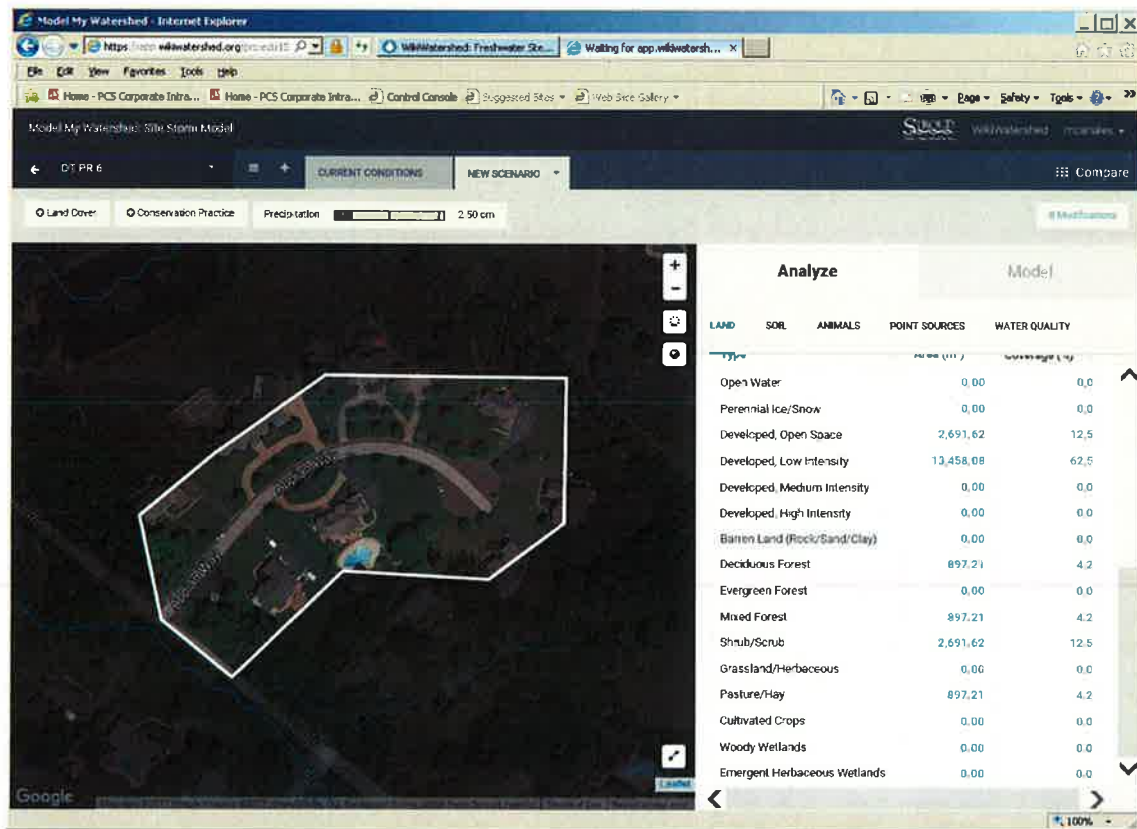
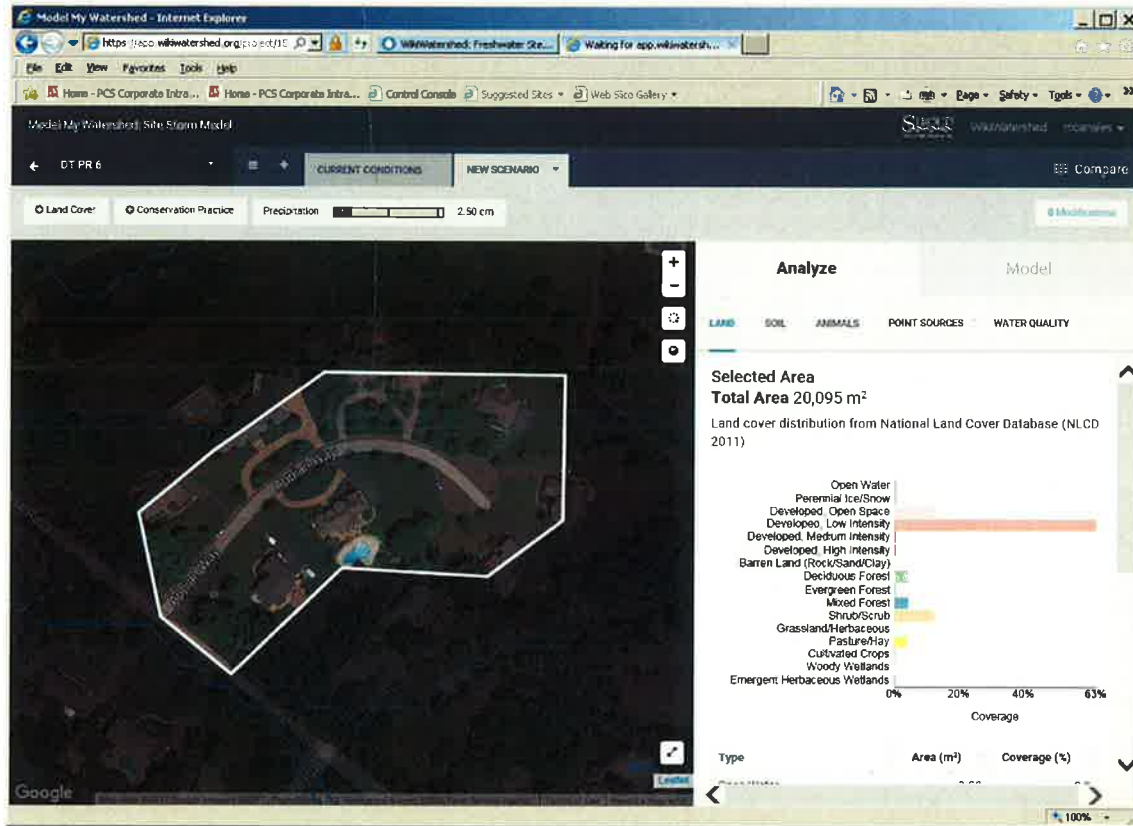
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 4

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	143,552.76	58.82	35.47
Developed, Low Intensity	3,588.82	1.47	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	25,121.73	10.29	6.21
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	7,177.64	2.94	1.77
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	64,598.74	26.47	15.96
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	244,039.69	100.00	60.30



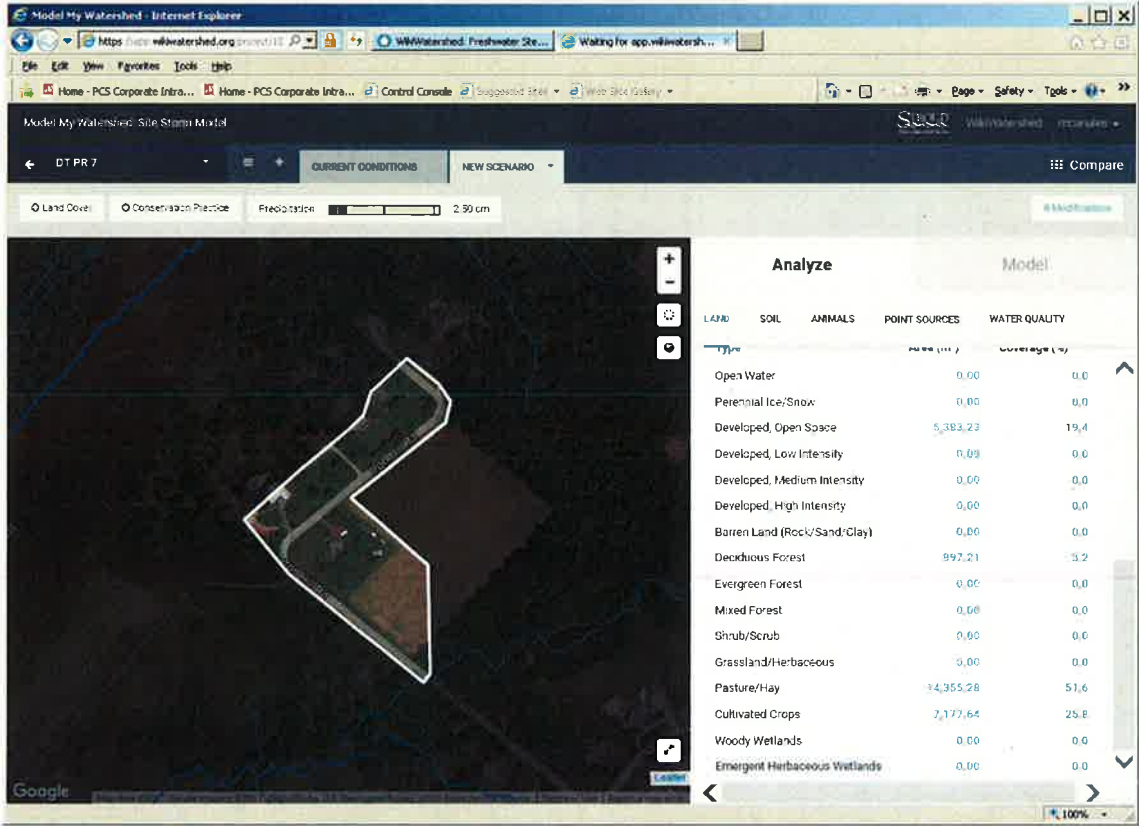
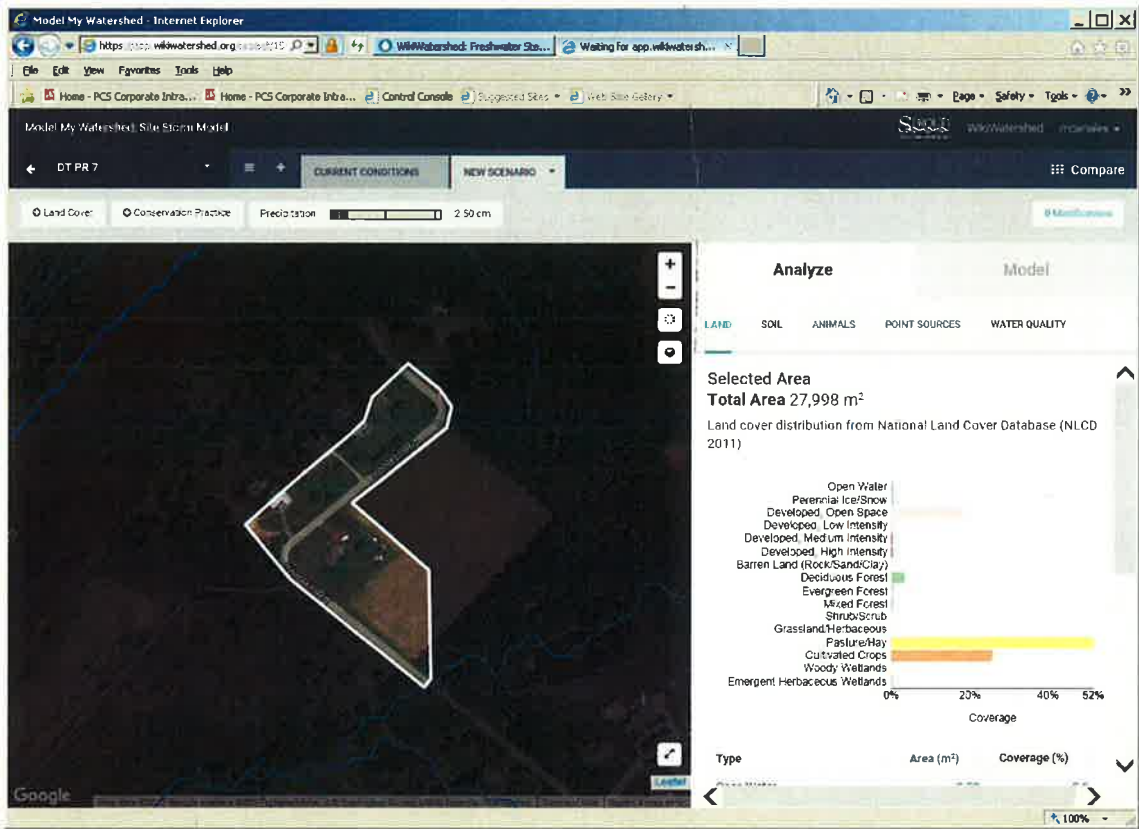
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 5

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	53,832.33	25.86	13.30
Developed, Low Intensity	49,346.30	23.71	12.19
Developed, Medium Intensity	1,794.41	0.86	0.44
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	9,869.26	4.74	2.44
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	5,383.23	2.59	1.33
Shrub/Scrub	4,486.03	2.16	1.11
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	39,477.04	18.97	9.75
Cultivated Crops	43,963.07	21.12	10.86
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	208,151.67	100.00	51.43



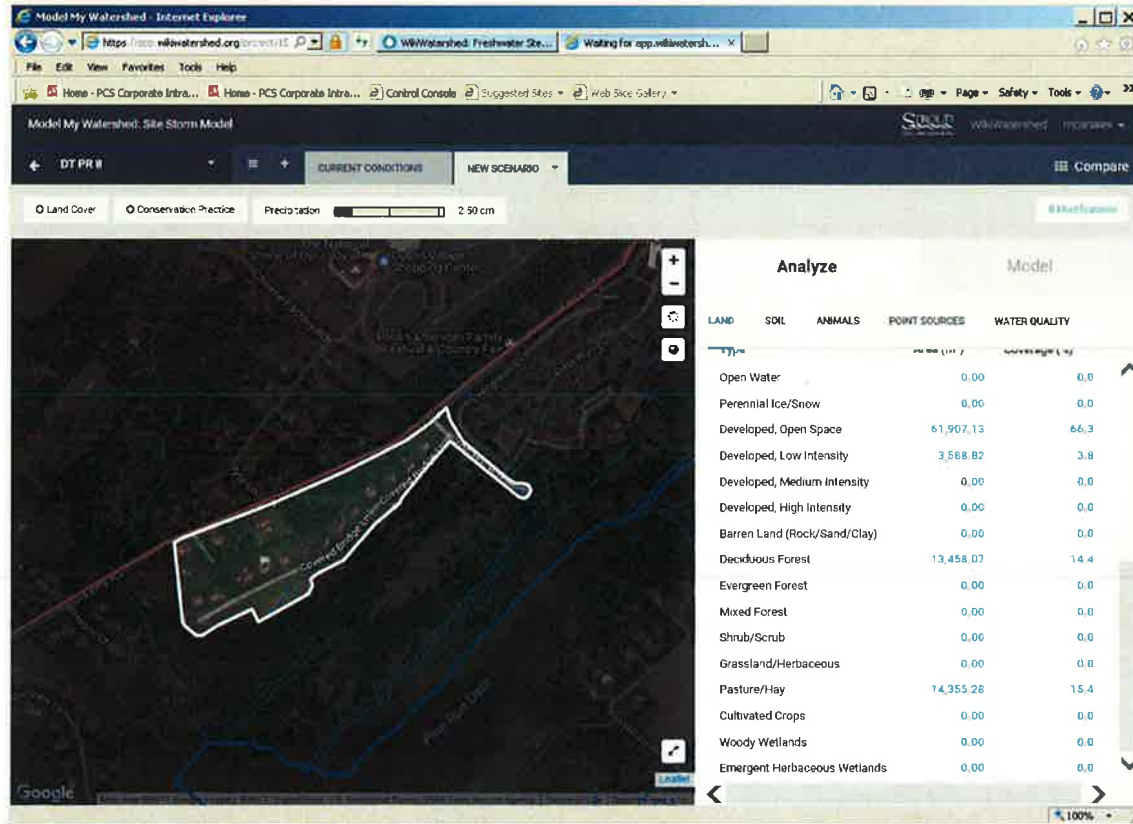
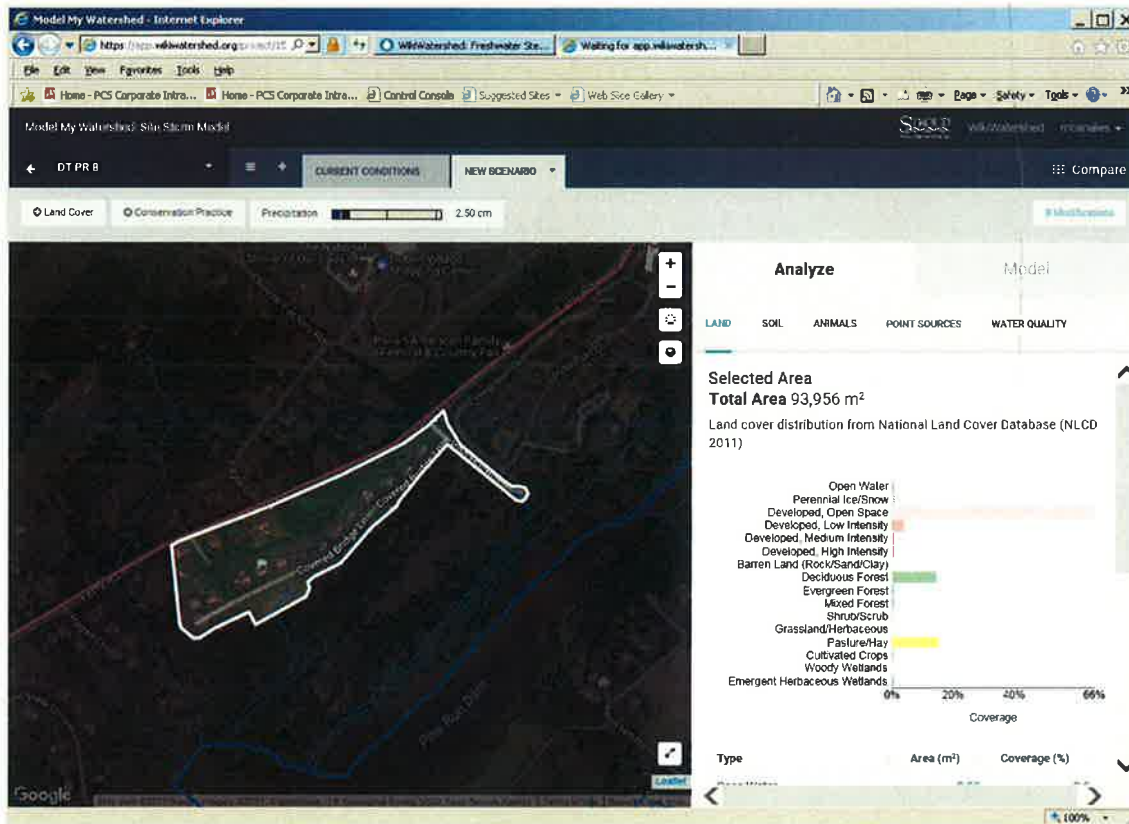
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 6

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	2,691.62	12.50	0.67
Developed, Low Intensity	13,458.08	62.50	3.33
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	4.17	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	897.21	4.17	0.22
Shrub/Scrub	2,691.62	12.50	0.67
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.21	4.17	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	21,532.95	100.00	5.32



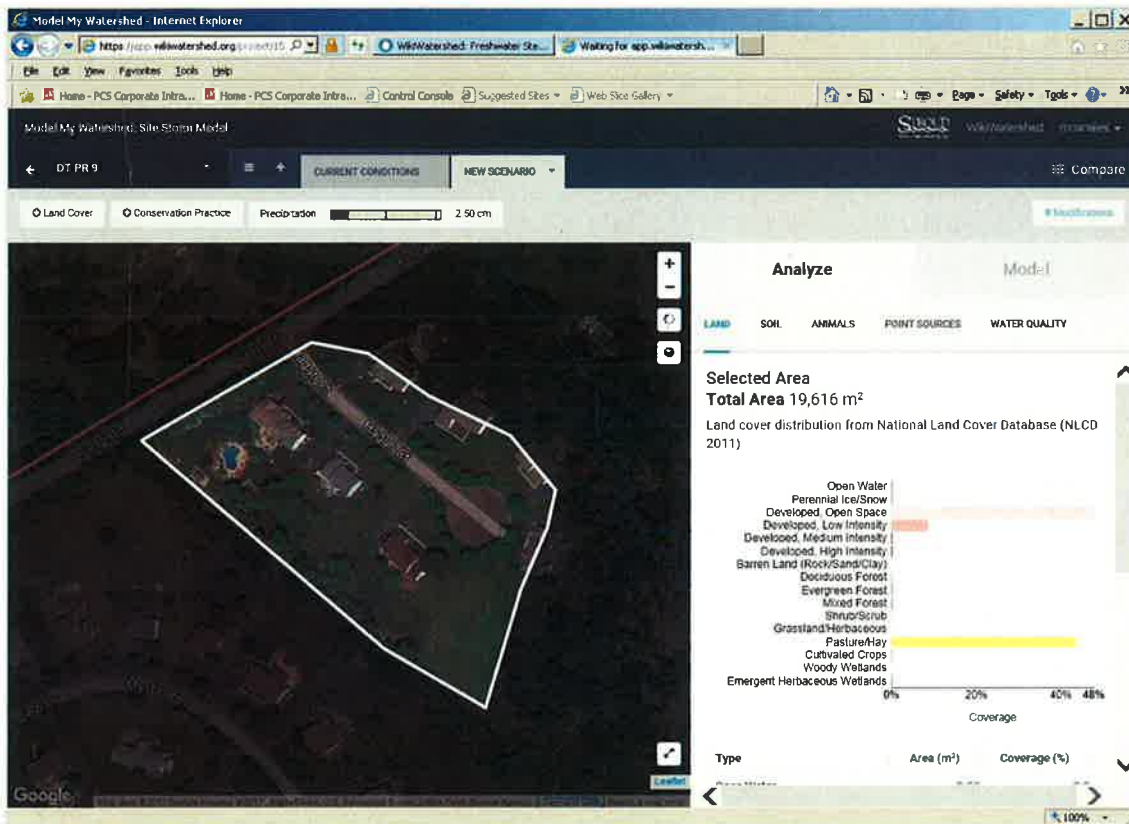
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 7

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.23	19.35	1.33
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	3.23	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	14,355.28	51.61	3.55
Cultivated Crops	7,177.64	25.81	1.77
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	27,813.36	100.00	6.87



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 8

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	61,907.13	66.35	15.30
Developed, Low Intensity	3,588.82	3.85	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	13,458.07	14.42	3.33
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	14,355.28	15.38	3.55
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	93,309.30	100.00	23.06



Model My Watershed - Internet Explorer

https://app.watershed.org/.../DT PR 9

Model My Watershed - Site Storm Model

DT PR 9

CURRENT CONDITIONS

NEW SCENARIO

Compare

Land Cover Conservation Practice Precipitation 2.50 cm

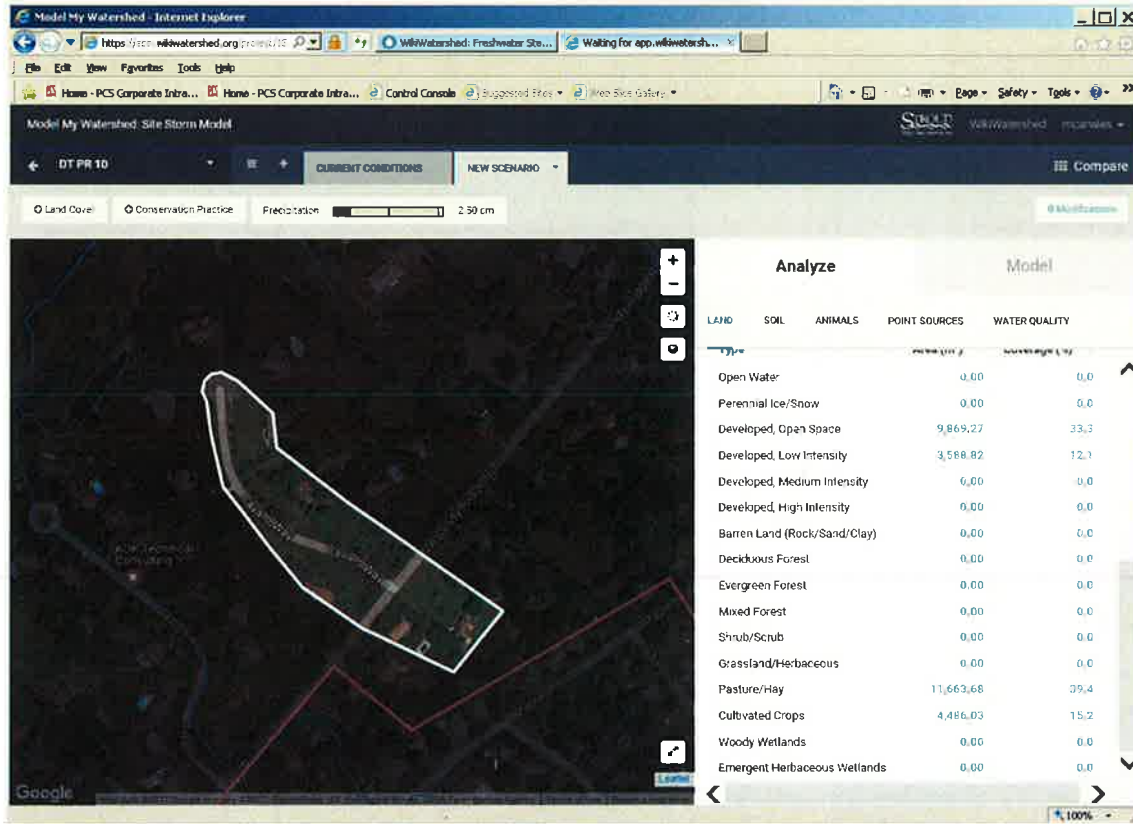
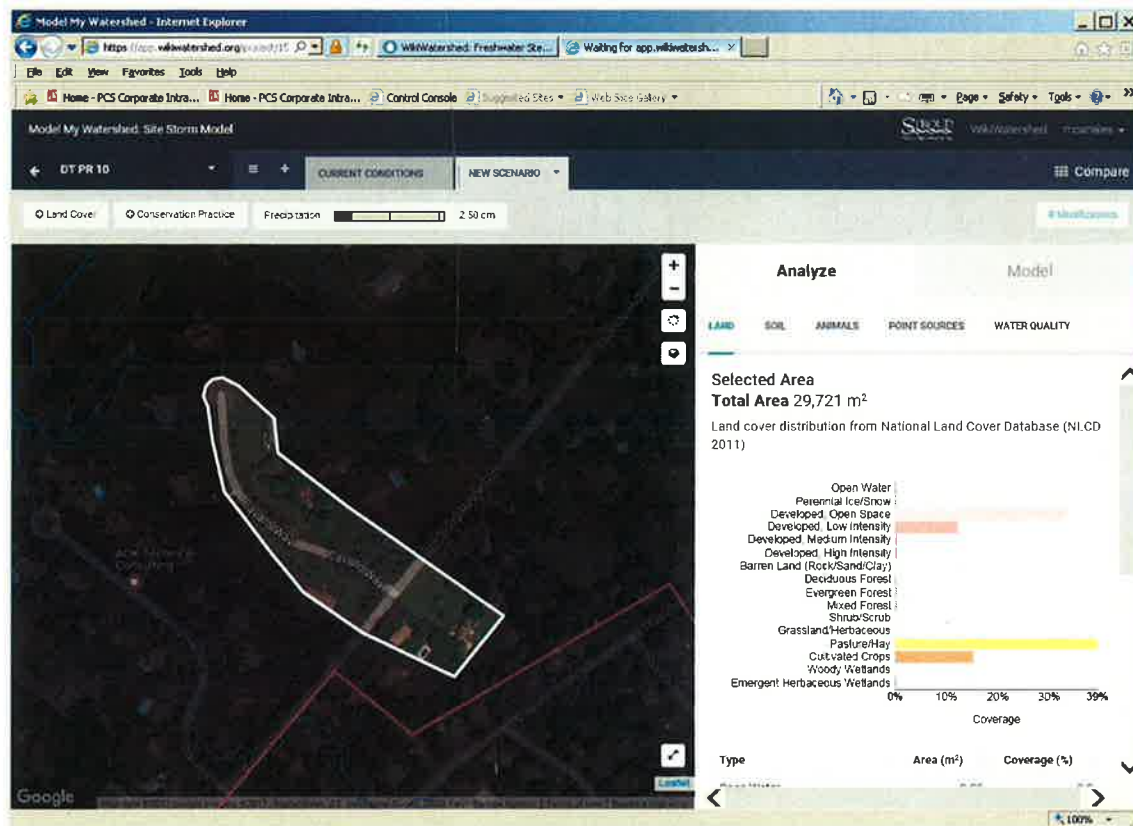
Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	9,869.26	47.8
Developed, Low Intensity	1,794.41	8.7
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	8,972.05	43.5
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

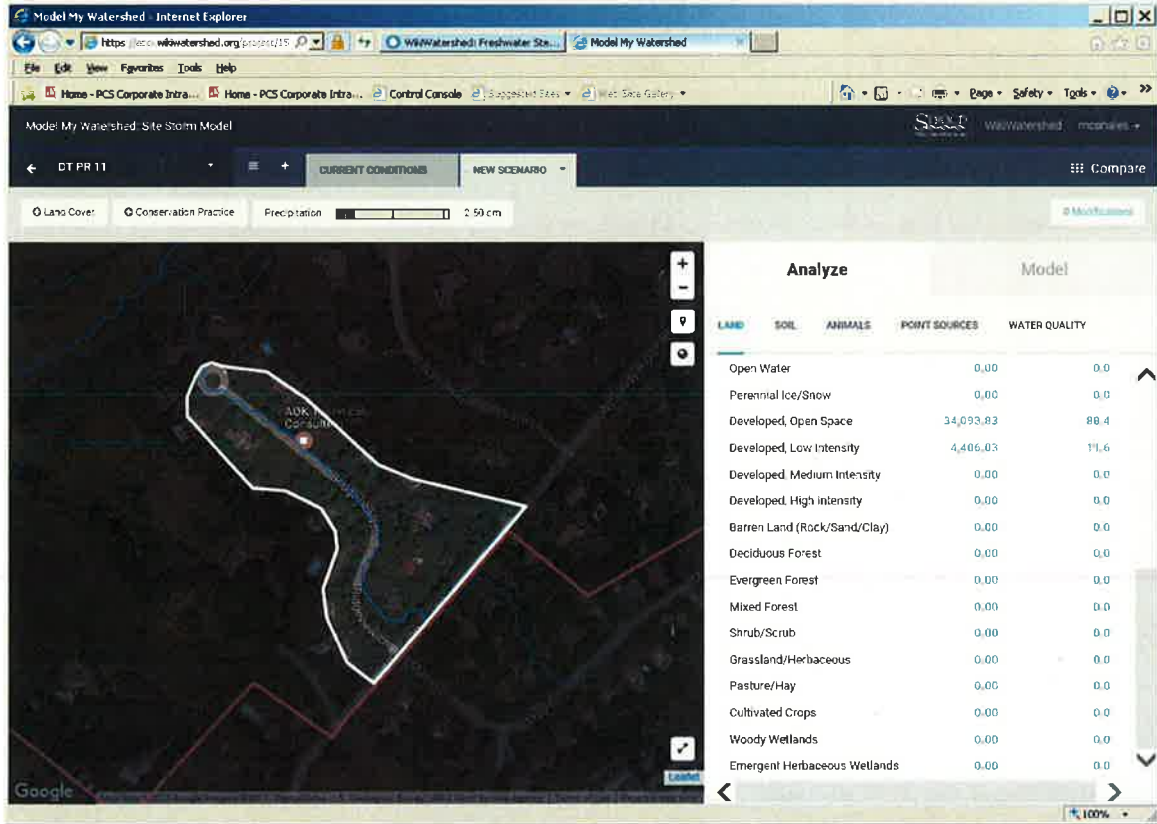
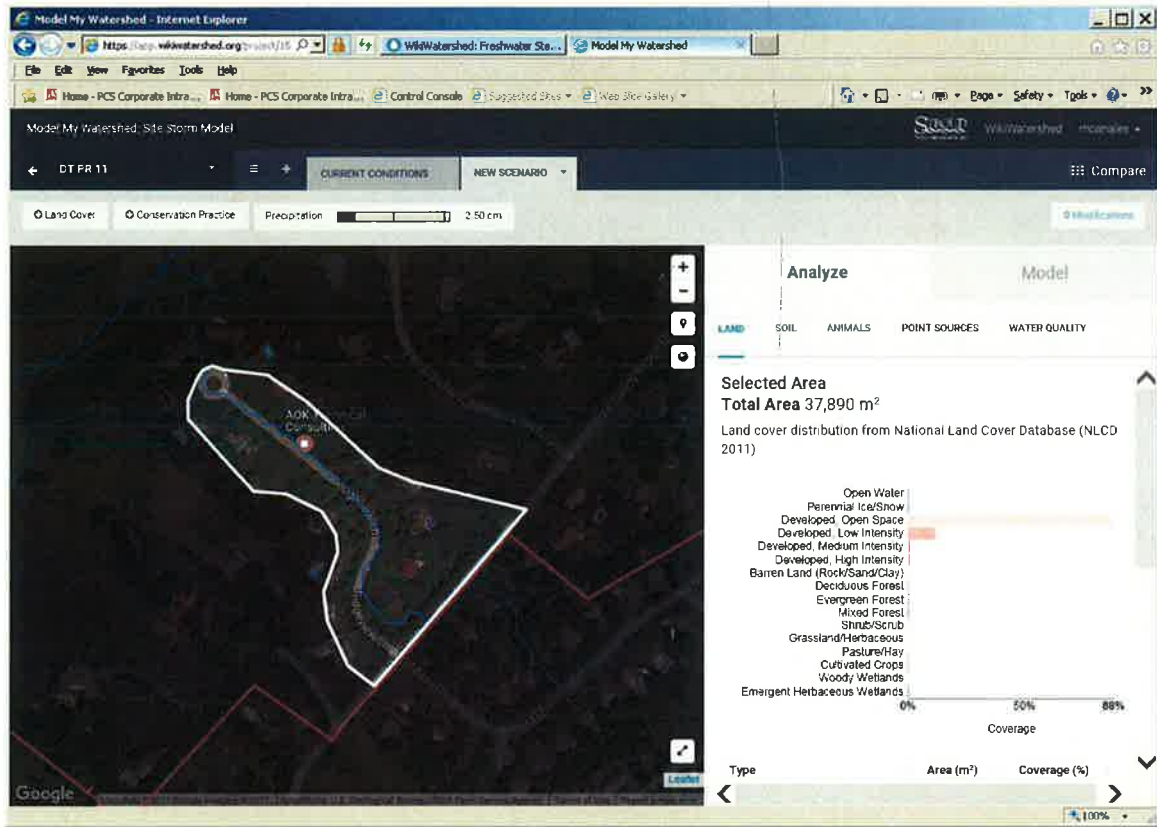
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 9

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	9,869.26	47.83	2.44
Developed, Low Intensity	1,794.41	8.70	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	8,972.05	43.48	2.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	20,635.72	100.00	5.10



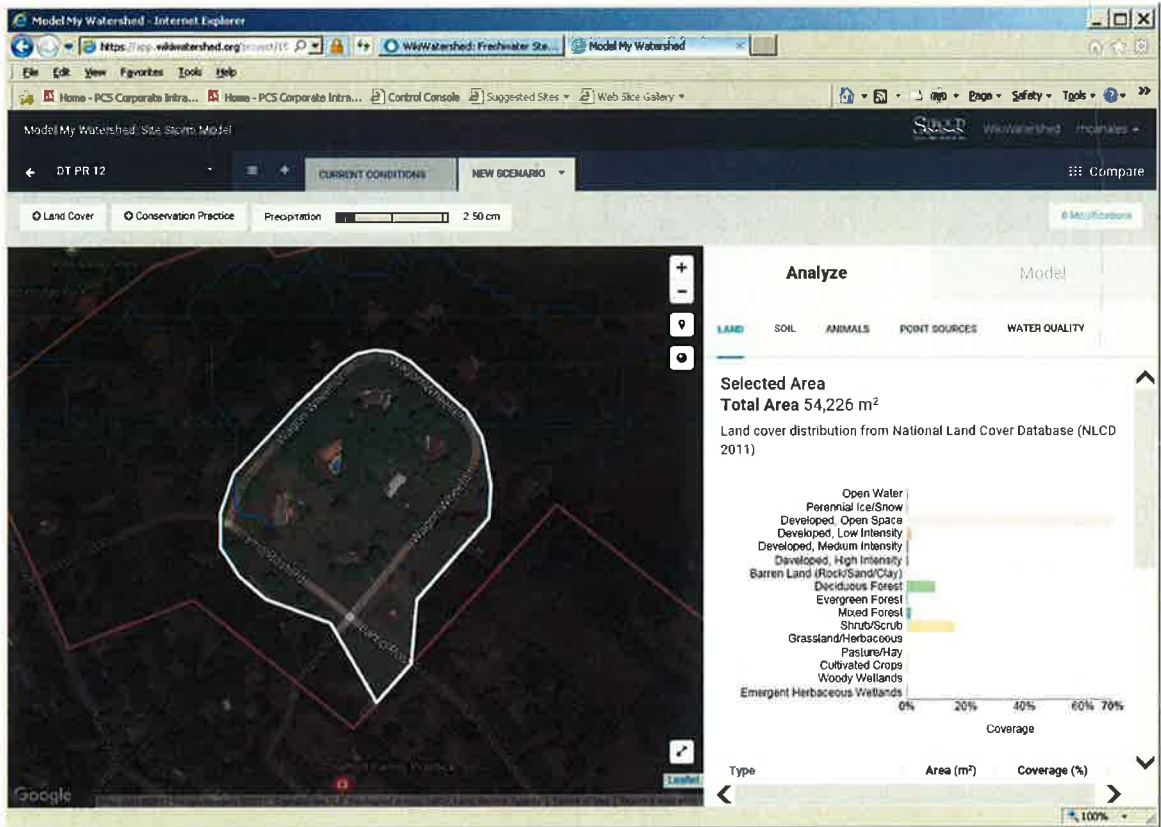
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 10

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	9,869.27	33.33	2.44
Developed, Low Intensity	3,588.82	12.12	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	11,663.68	39.39	2.88
Cultivated Crops	4,486.03	15.15	1.11
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	29,607.80	100.00	7.32



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 11

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	34,093.83	88.37	8.42
Developed, Low Intensity	4,486.03	11.63	1.11
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	38,579.86	100.00	9.53



Model My Watershed - Internet Explorer

https://app.watershed.org/... Model My Watershed

Model My Watershed: Site Storm Model

DT PR 12

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

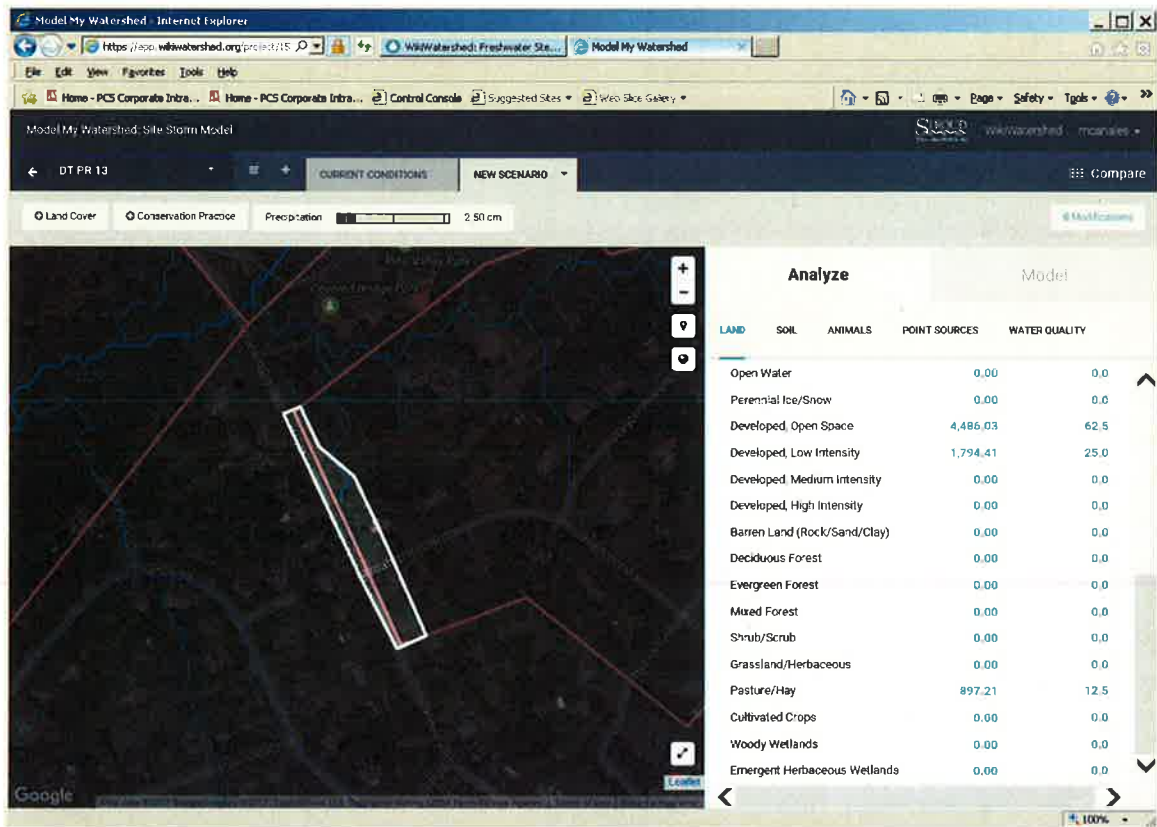
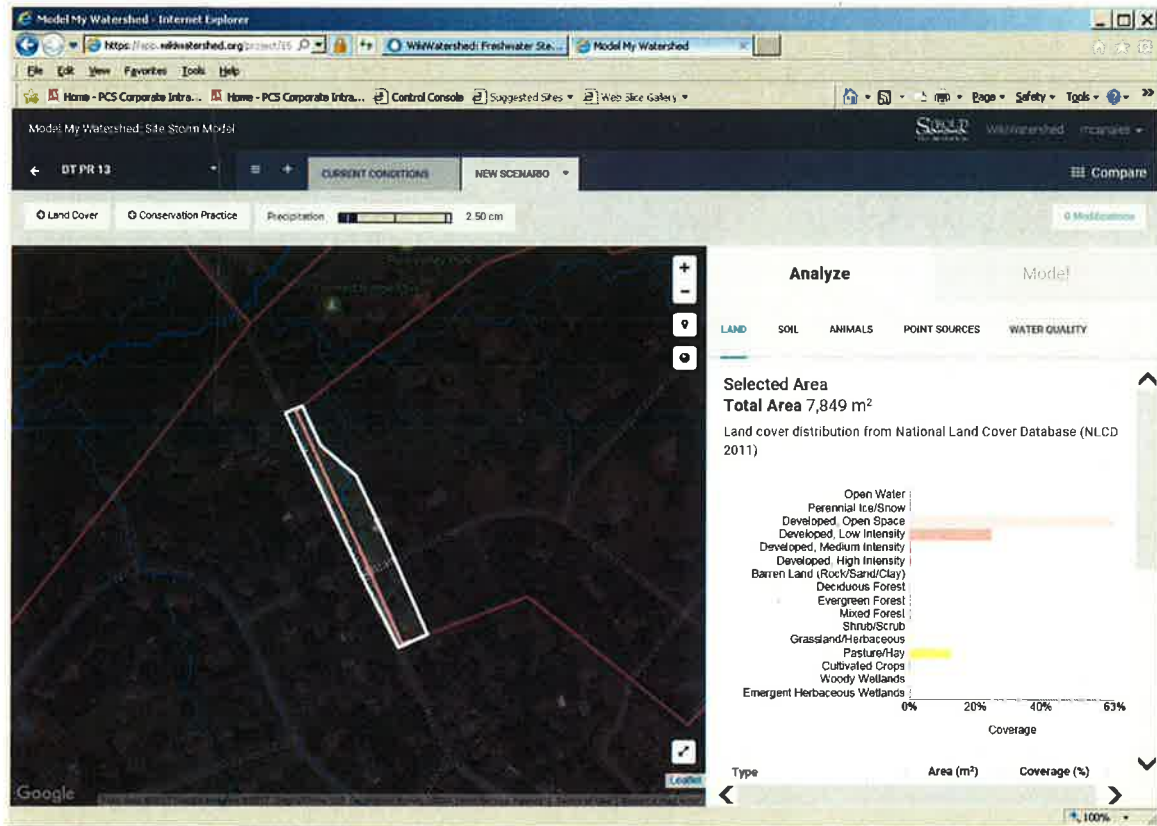
Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	37,682.67	70.0
Developed, Low Intensity	897.21	1.7
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	5,383.24	10.0
Evergreen Forest	0.00	0.0
Mixed Forest	897.21	1.7
Shrub/Scrub	8,972.06	16.7
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	0.00	0.0
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

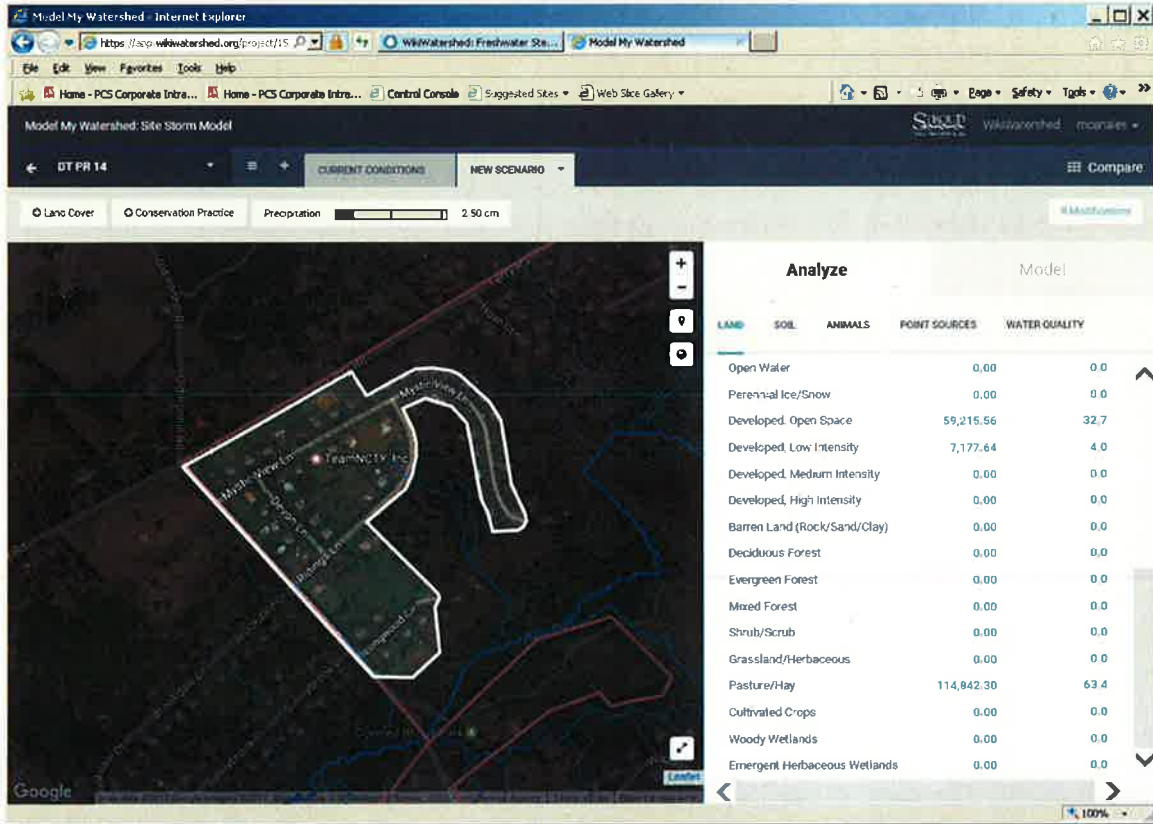
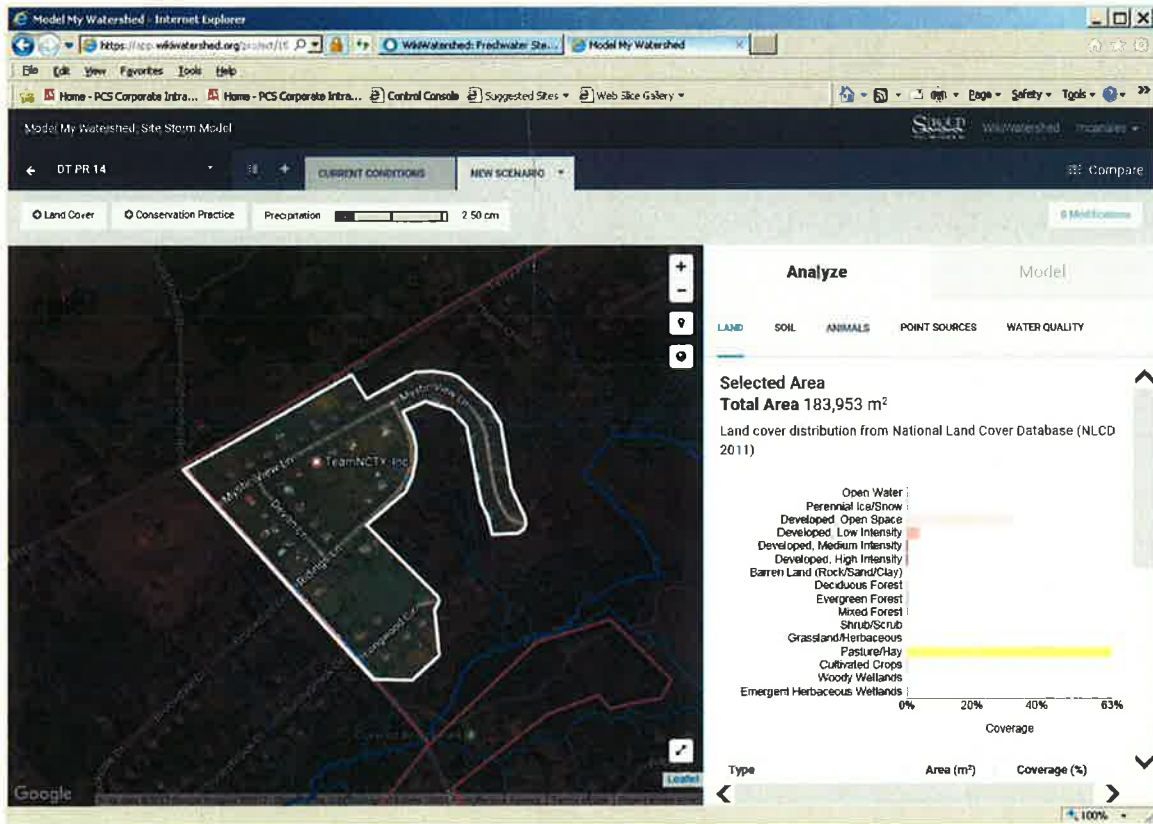
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 12

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	37,682.67	70.00	9.31
Developed, Low Intensity	897.21	1.67	0.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	5,383.24	10.00	1.33
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	897.21	1.67	0.22
Shrub/Scrub	8,972.06	16.67	2.22
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	53,832.39	100.00	13.30



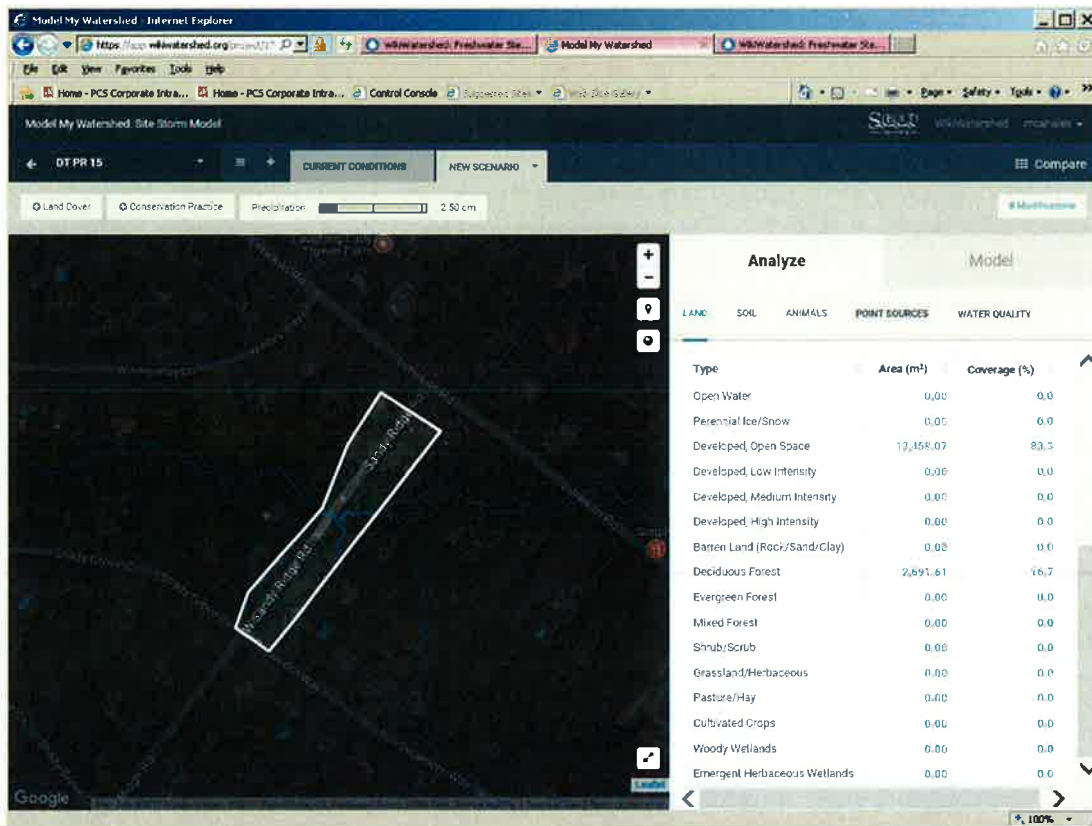
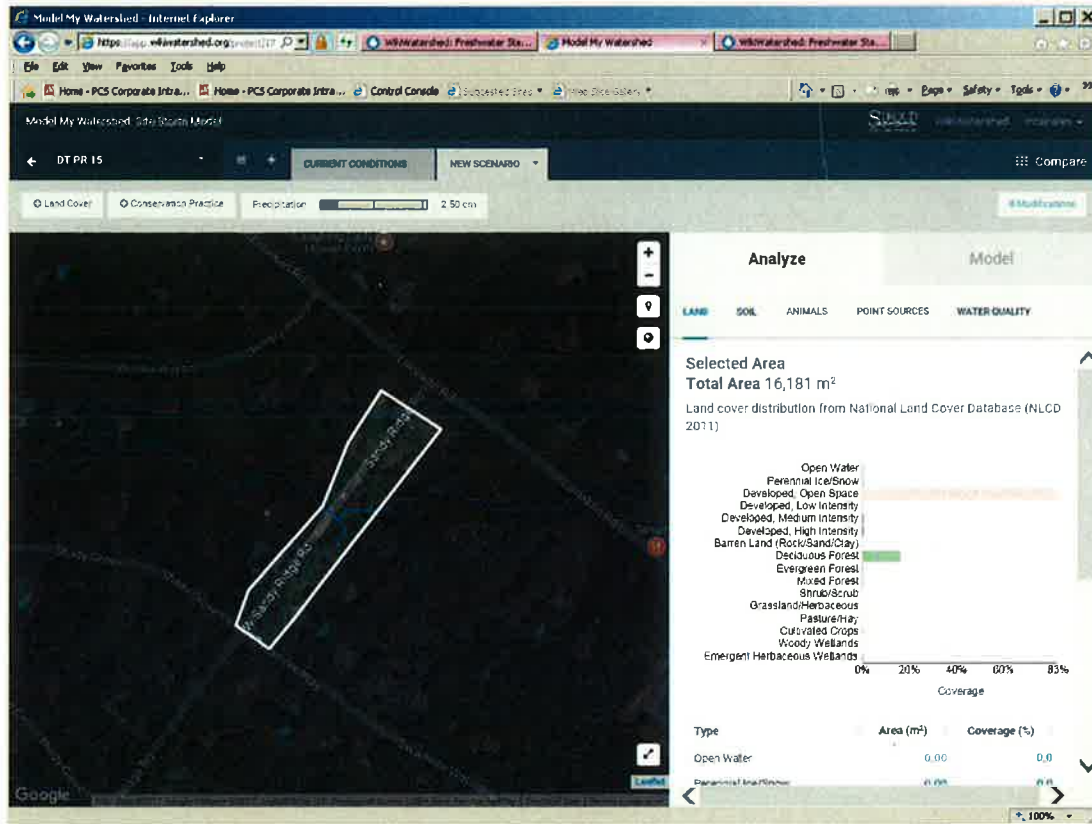
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 13

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	4,486.03	62.50	1.11
Developed, Low Intensity	1,794.41	25.00	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.21	12.50	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	7,177.65	100.00	1.77



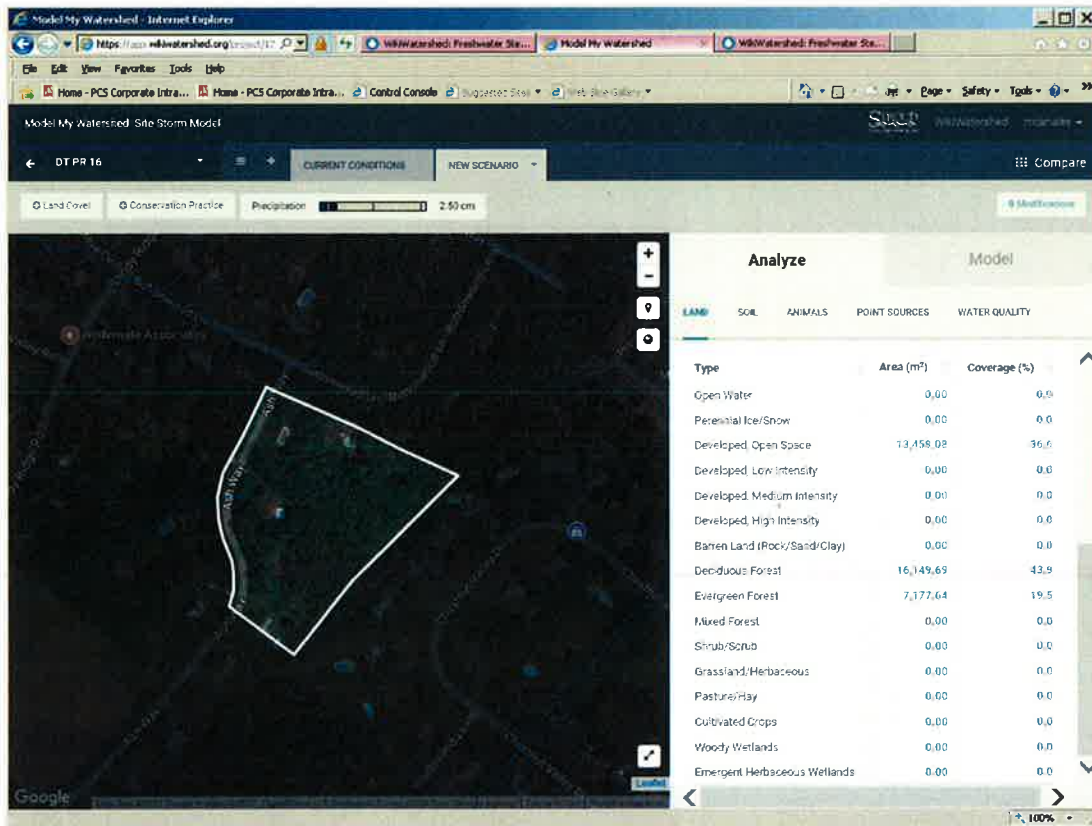
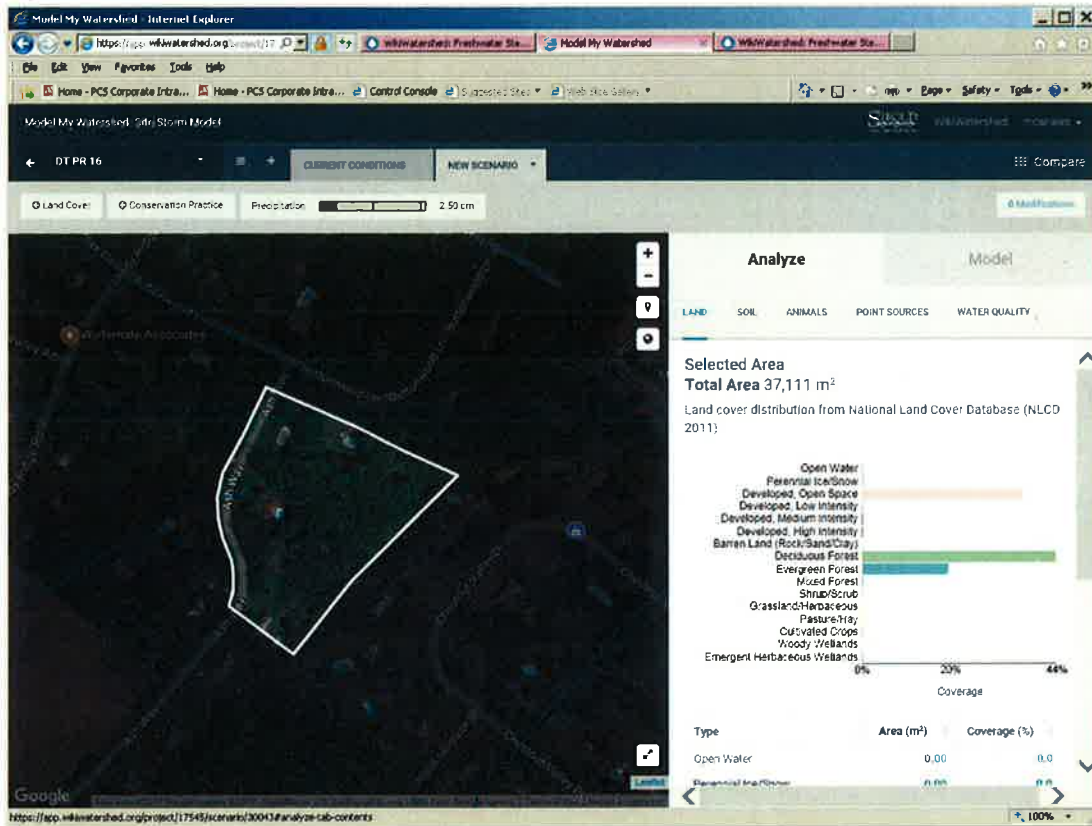
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 14

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	59,215.56	32.67	14.63
Developed, Low Intensity	7,177.64	3.96	1.77
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	114,842.30	63.37	28.38
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	181,235.50	100.00	44.78



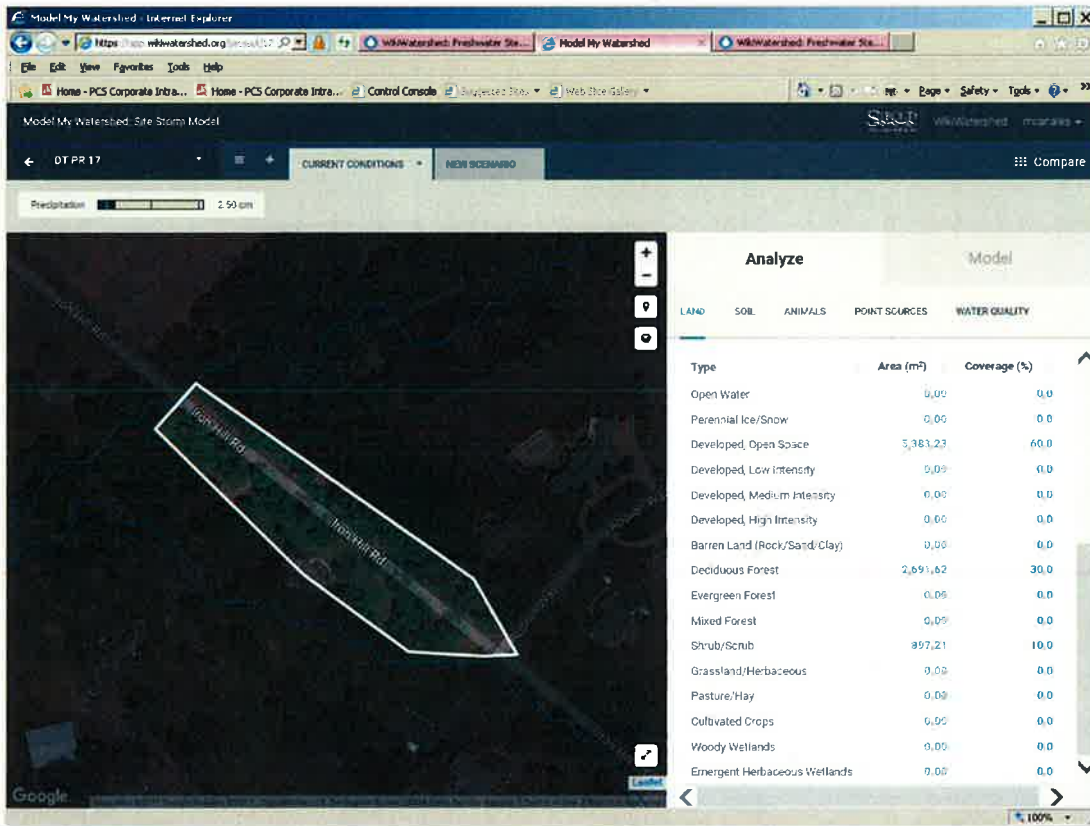
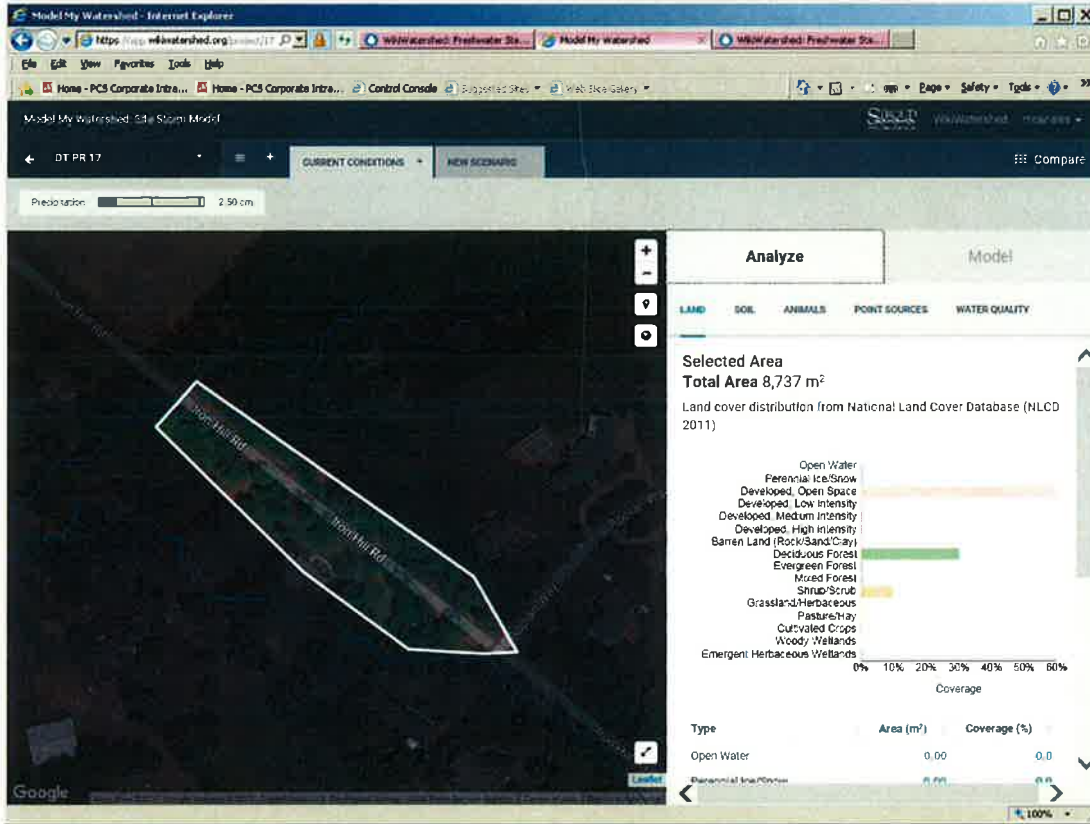
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 15

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	13,458.07	83.33	3.33
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	2,691.60	16.67	0.67
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	16,149.67	100.00	3.99



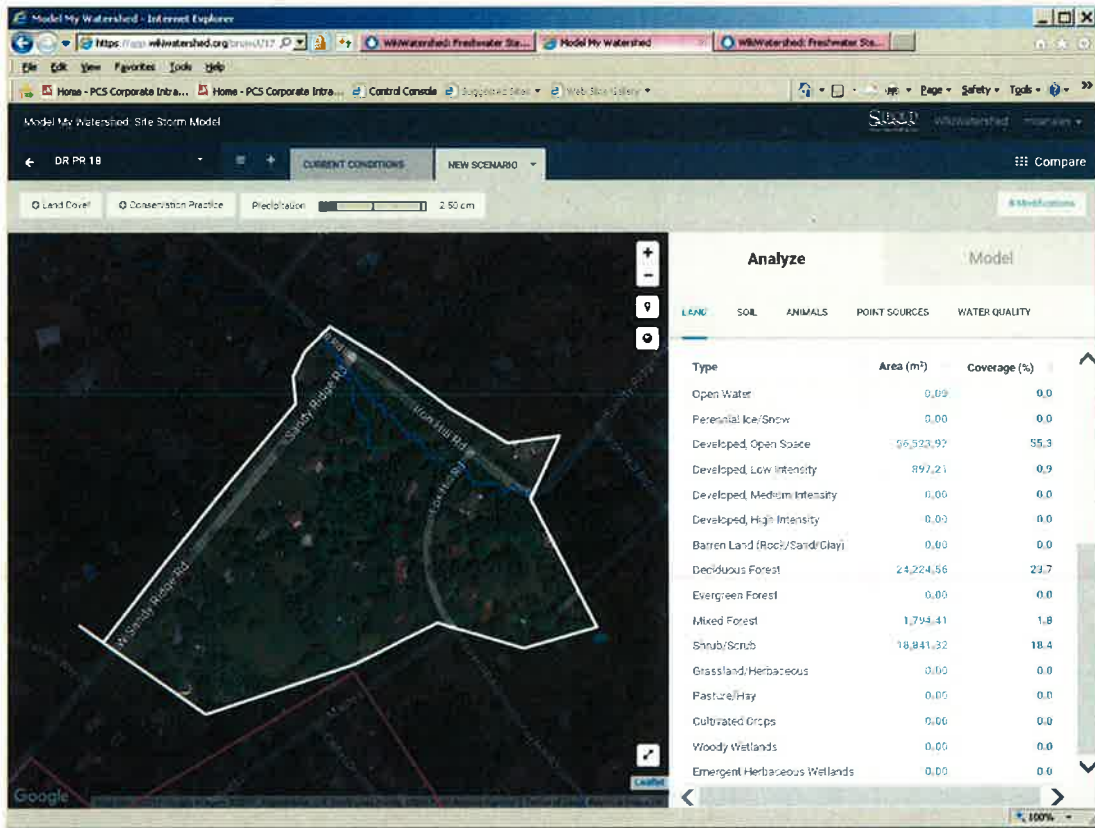
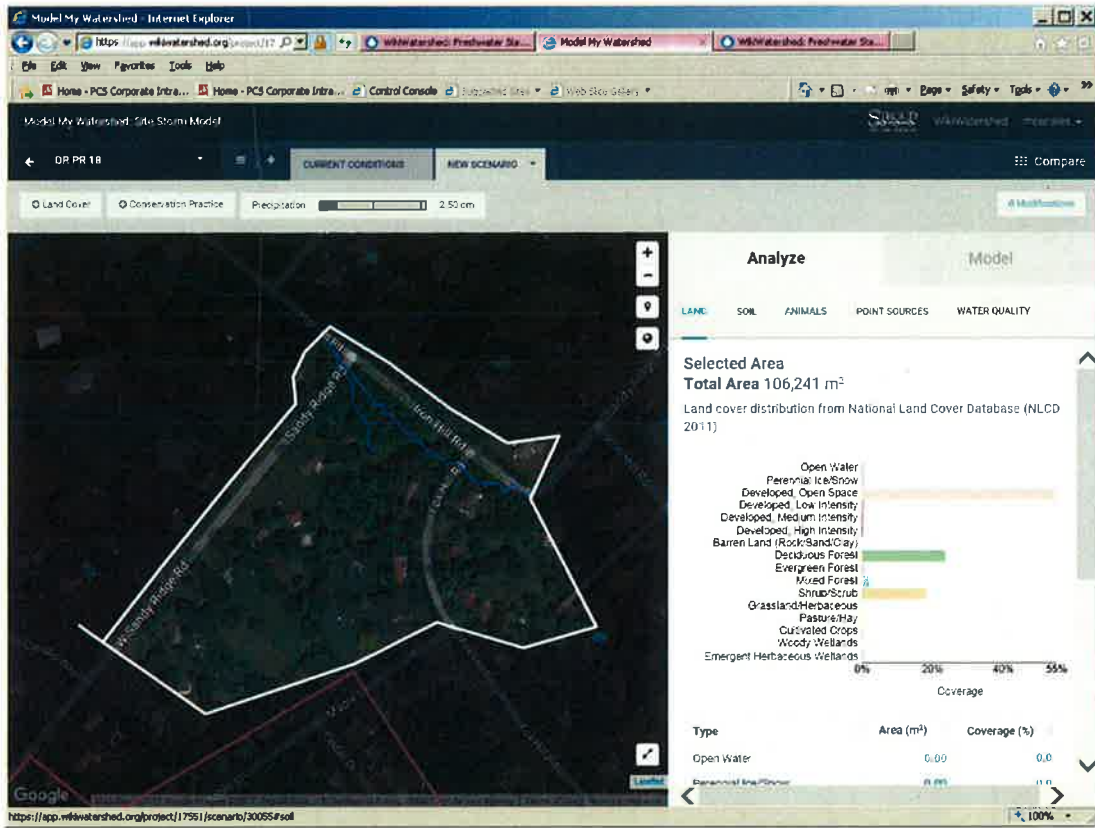
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 16

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	13,458.08	36.59	3.33
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	16,149.69	43.90	3.99
Evergreen Forest	7,177.64	19.51	1.77
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	36,785.41	100.00	9.09



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 17

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.23	60.00	1.33
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	2,691.62	30.00	0.67
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	897.21	10.00	0.22
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	8,972.06	100.00	2.22

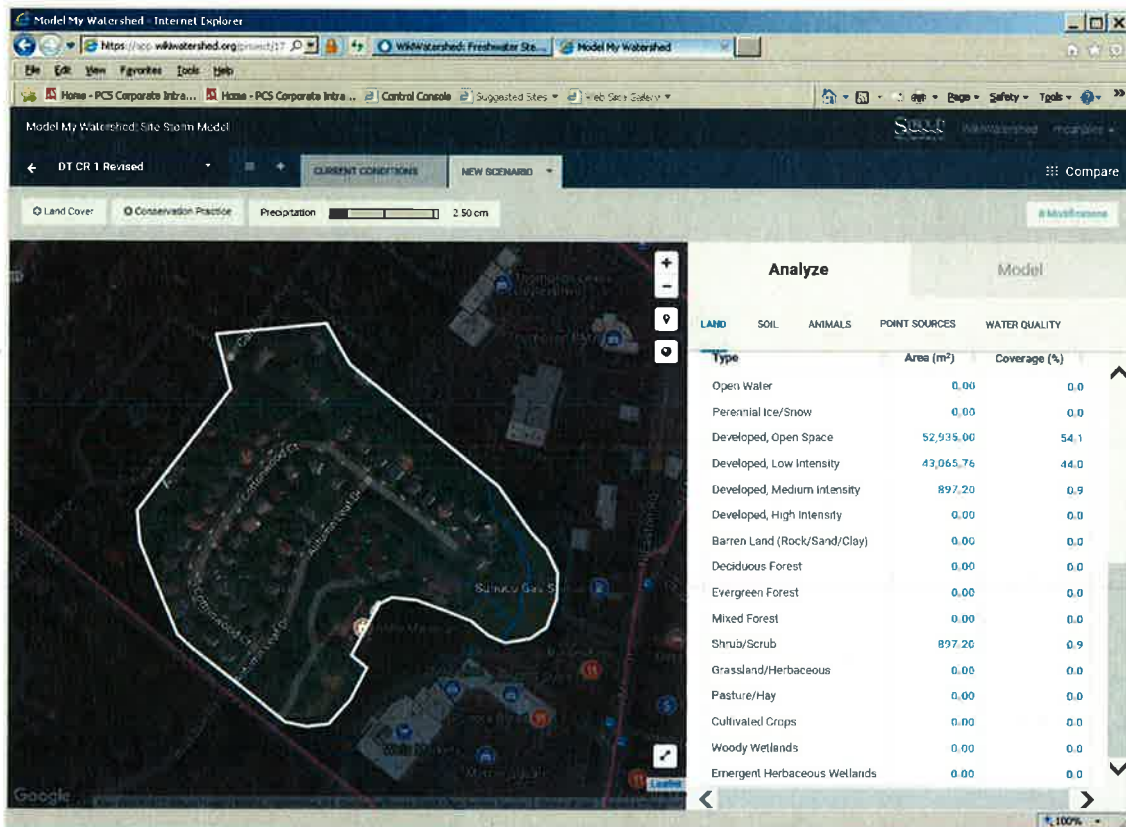
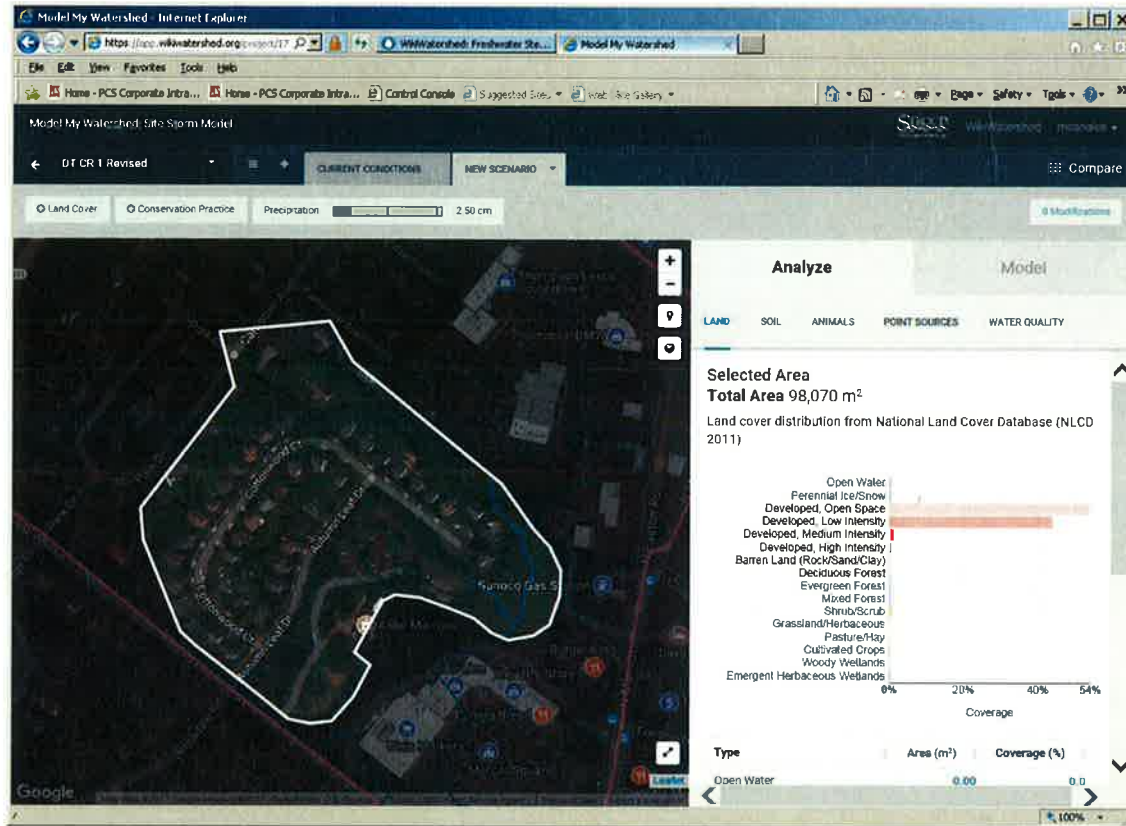


Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Pine Run - Subwatershed 18

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	56,523.97	55.26	13.97
Developed, Low Intensity	897.21	0.88	0.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	24,224.56	23.68	5.99
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	1,794.41	1.75	0.44
Shrub/Scrub	18,841.32	18.42	4.66
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	102,281.47	100.00	25.27

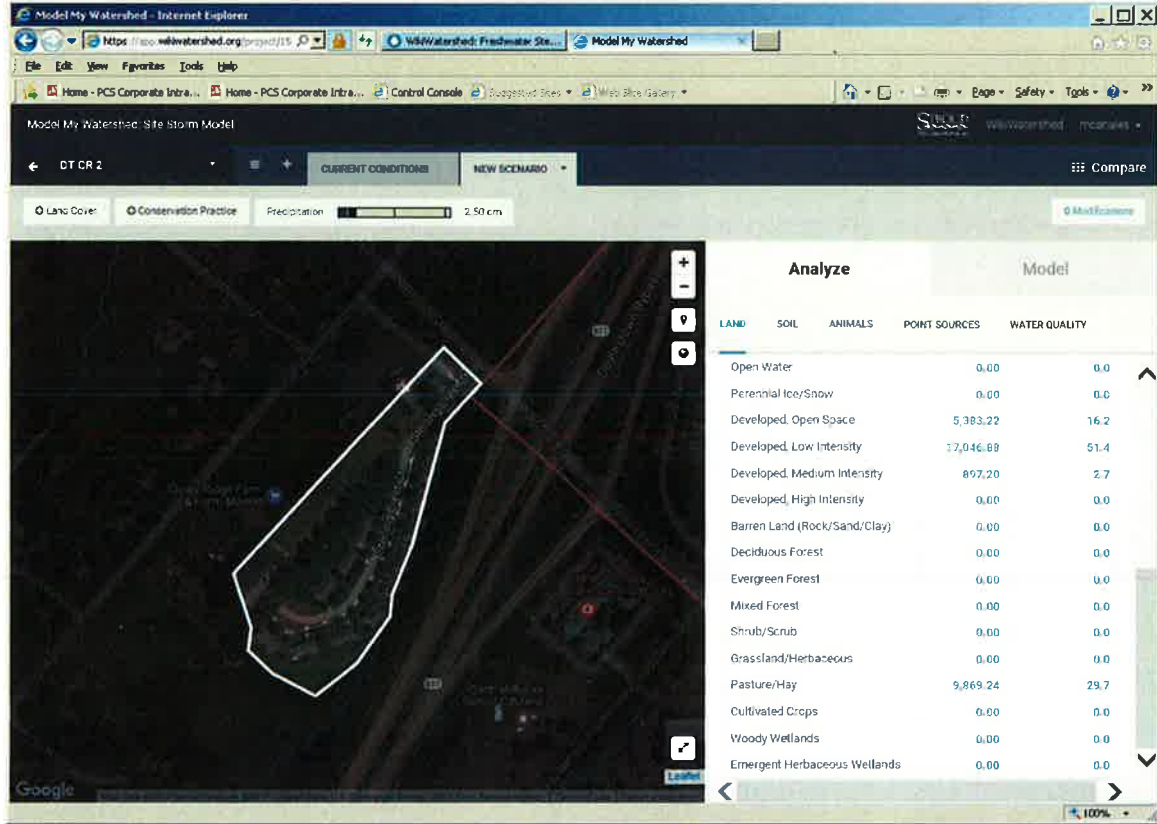
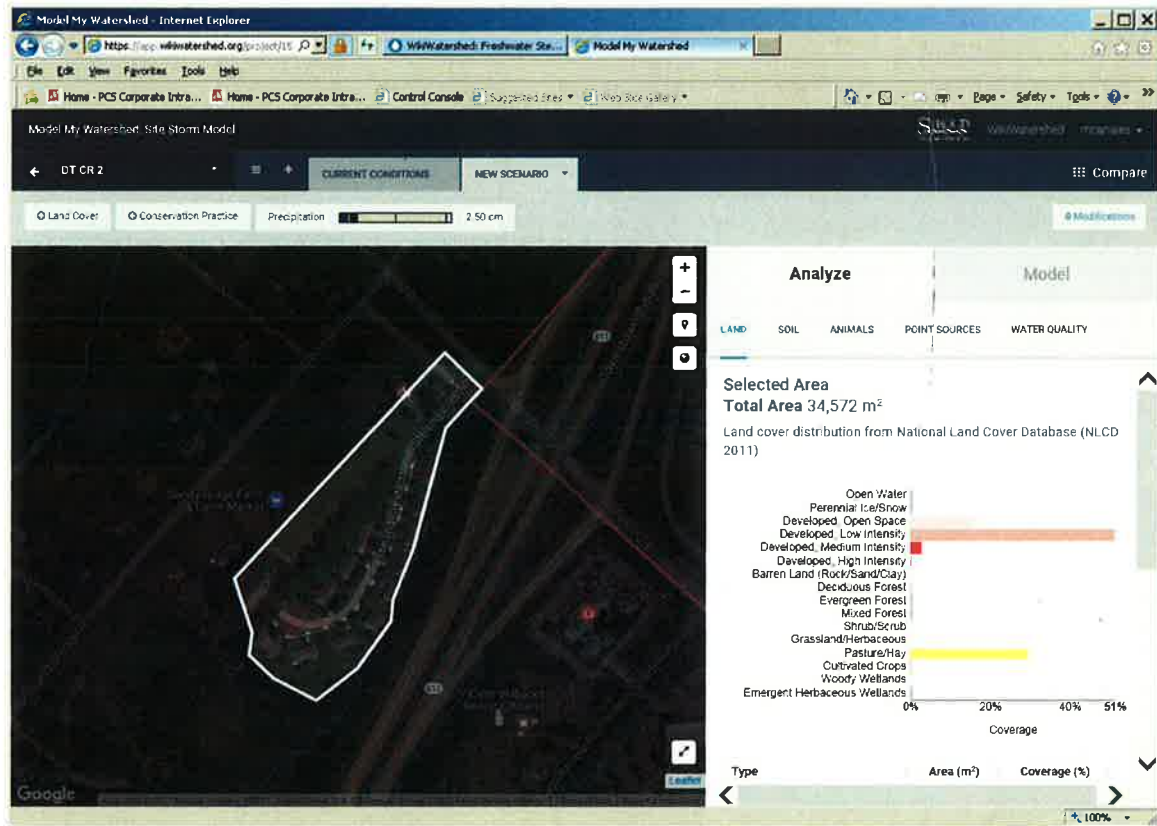
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 1

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	52,935.00	54.13	13.08
Developed, Low Intensity	43,065.76	44.04	10.64
Developed, Medium Intensity	897.20	0.92	0.22
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	897.20	0.92	0.22
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	97,795.16	100.00	24.17



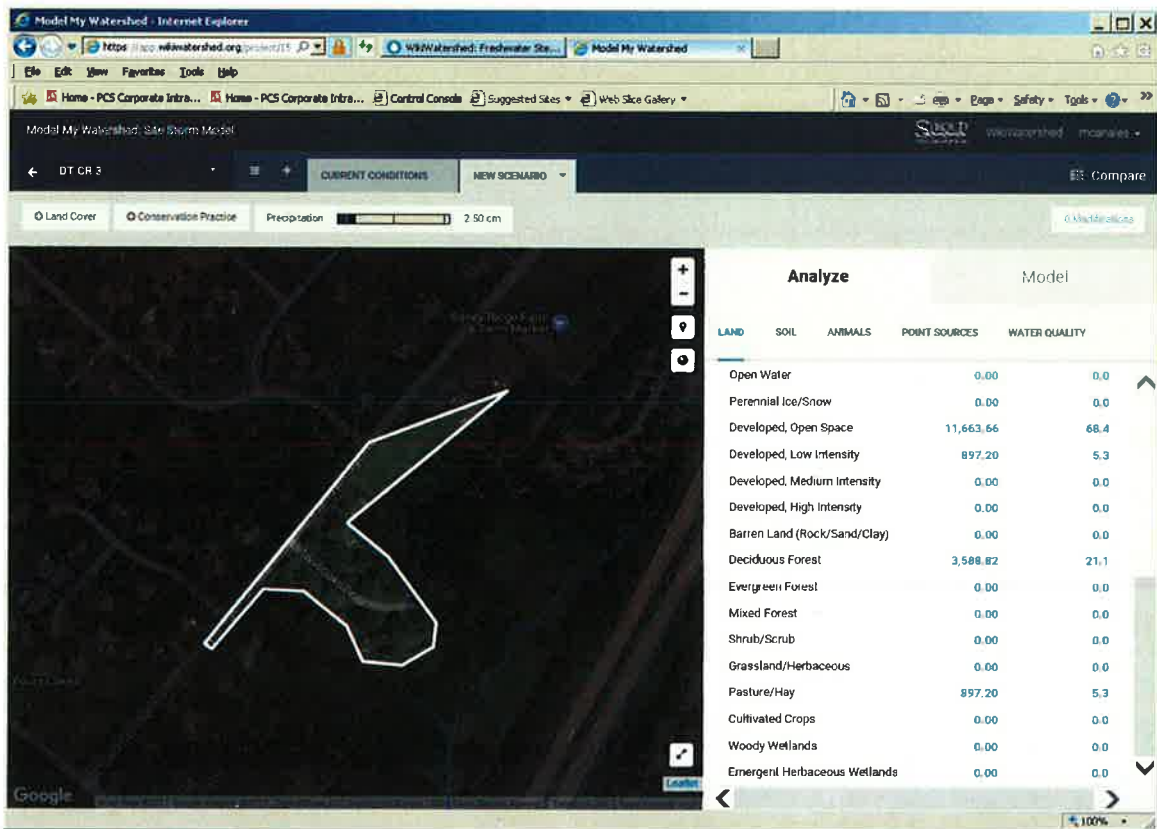
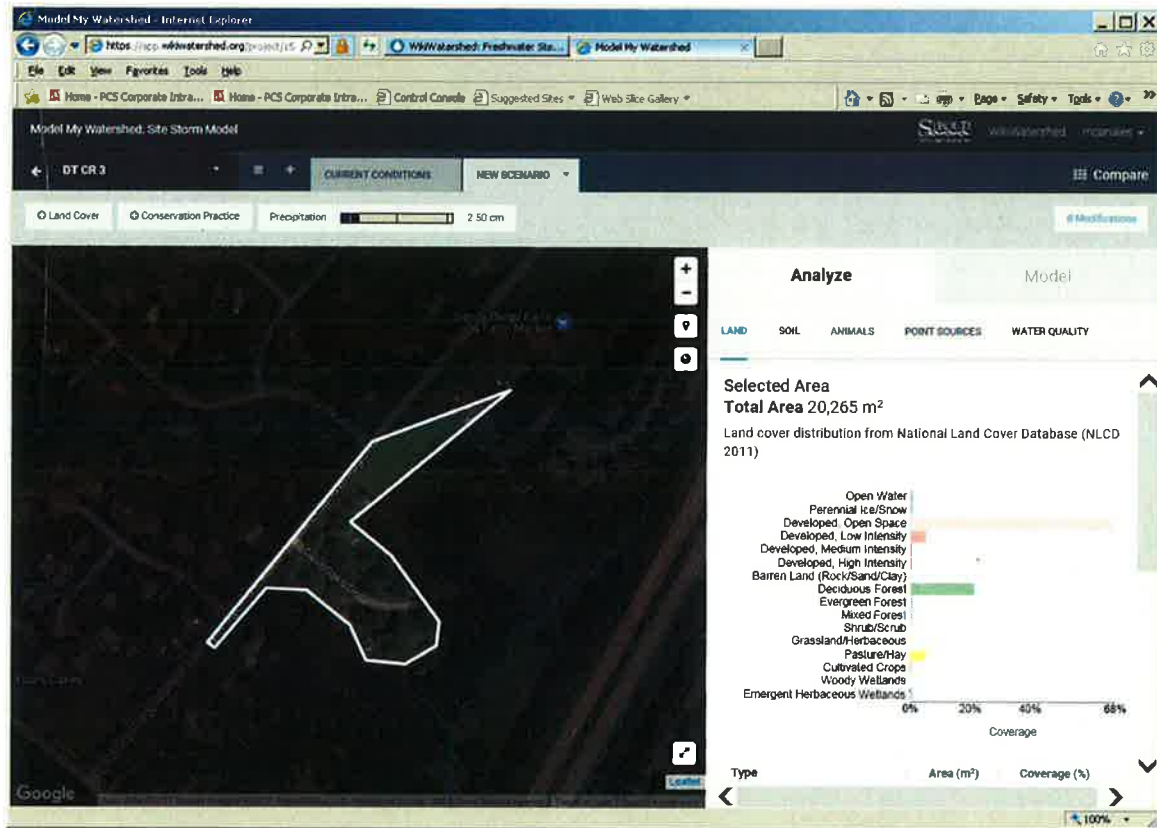
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 2

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.22	16.22	1.33
Developed, Low Intensity	17,046.88	51.35	4.21
Developed, Medium Intensity	897.20	2.70	0.22
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	9,869.24	29.73	2.44
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	33,196.54	100.00	8.20



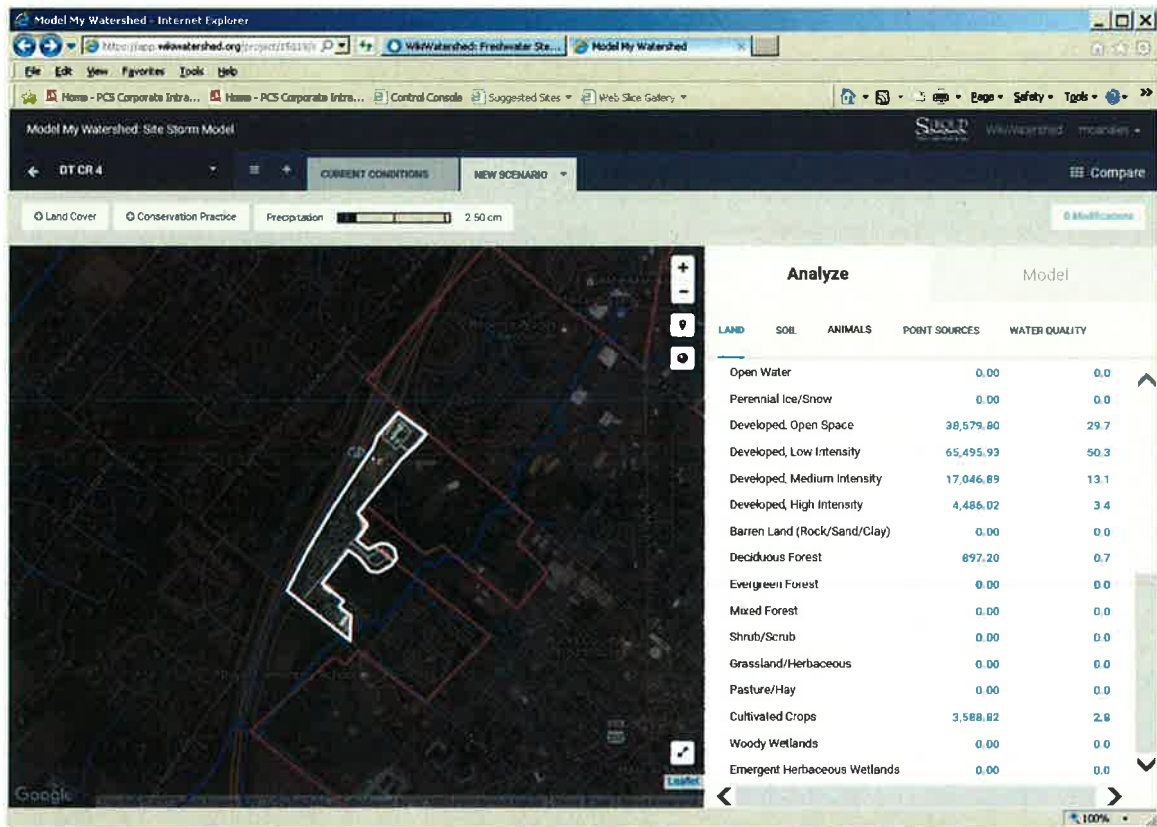
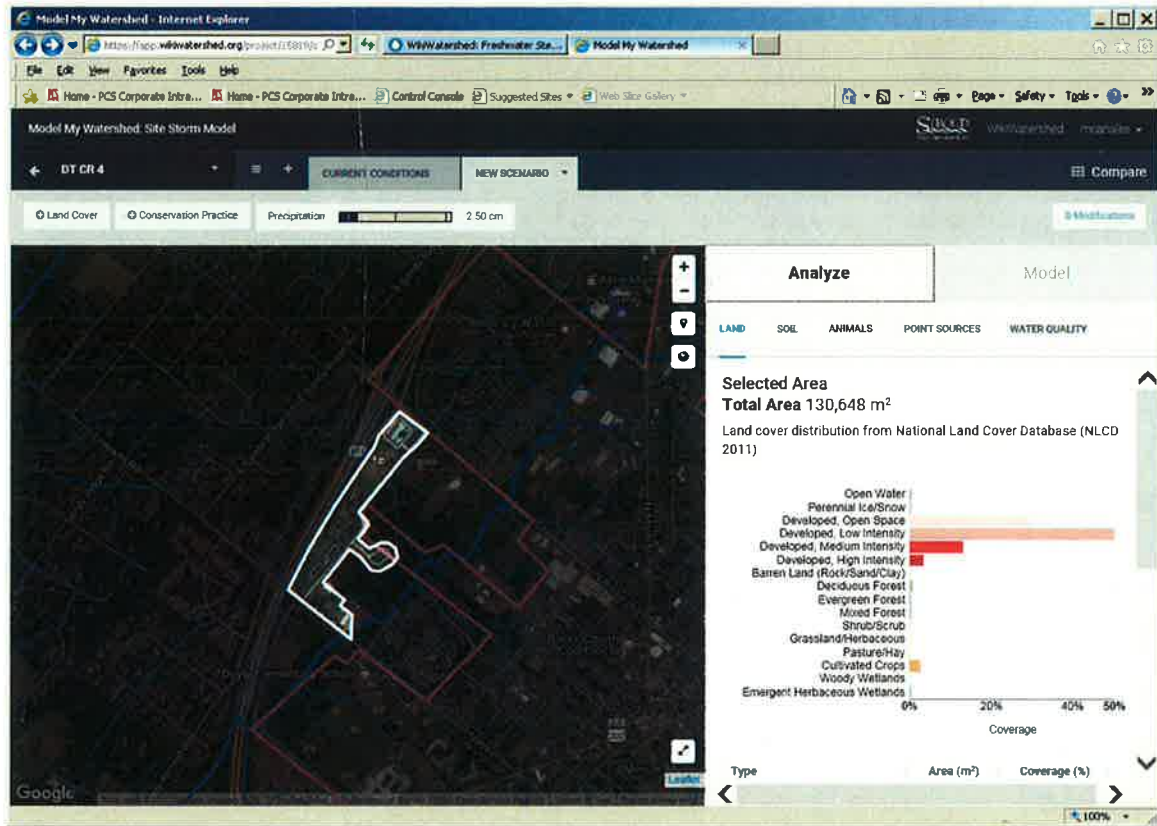
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 3

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	11,663.66	68.42	2.88
Developed, Low Intensity	897.20	5.26	0.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	3,588.82	21.05	0.89
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.20	5.26	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	17,046.88	100.00	4.21



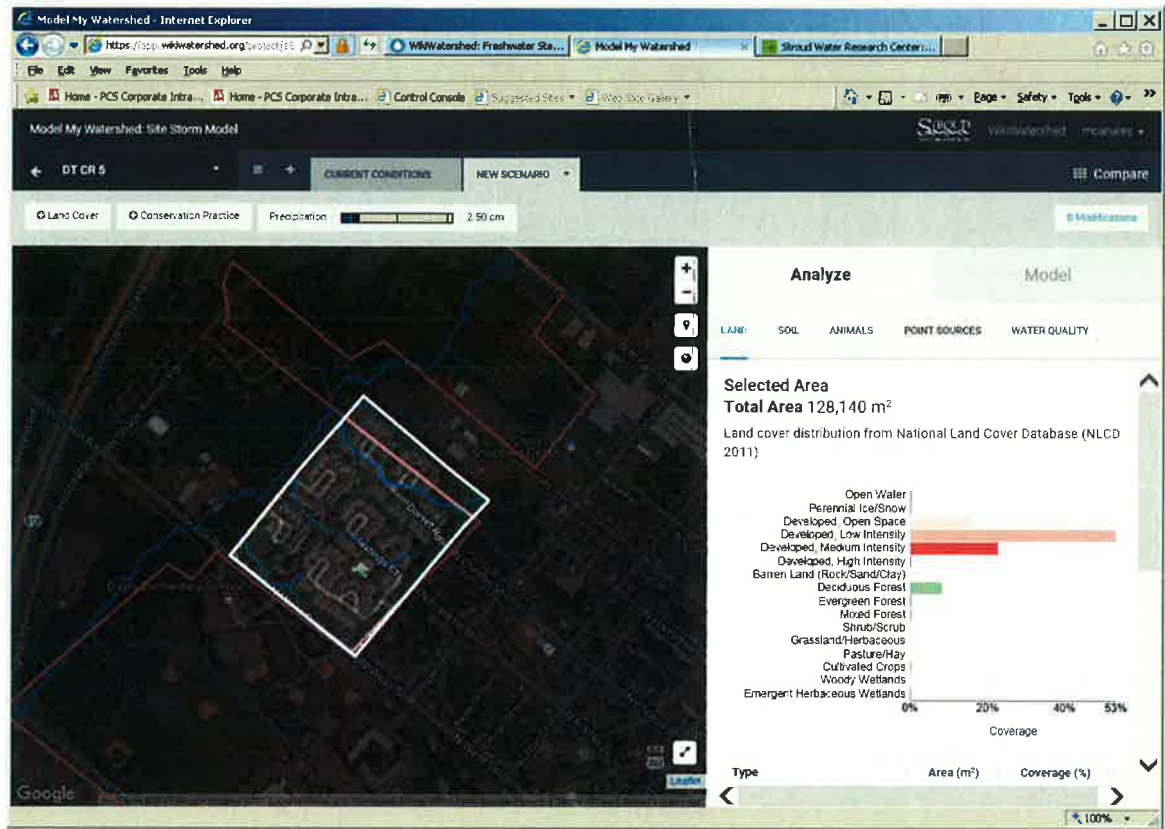
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 4

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	38,579.80	29.66	9.53
Developed, Low Intensity	65,495.93	50.34	16.18
Developed, Medium Intensity	17,046.89	13.10	4.21
Developed, High Intensity	4,486.02	3.45	1.11
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.20	0.69	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	3,588.82	2.76	0.89
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	130,094.66	100.00	32.15



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 5

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	20,635.72	15.75	5.10
Developed, Low Intensity	69,982.00	53.42	17.29
Developed, Medium Intensity	29,607.77	22.60	7.32
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	10,766.46	8.22	2.66
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	130,991.95	100.00	32.37



Model My Watershed - Internet Explorer

https://app.watershed.org/projects/15

Model My Watershed: Site Storm Model

DT CR 5

PRECIPITATION 2.50 cm

Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

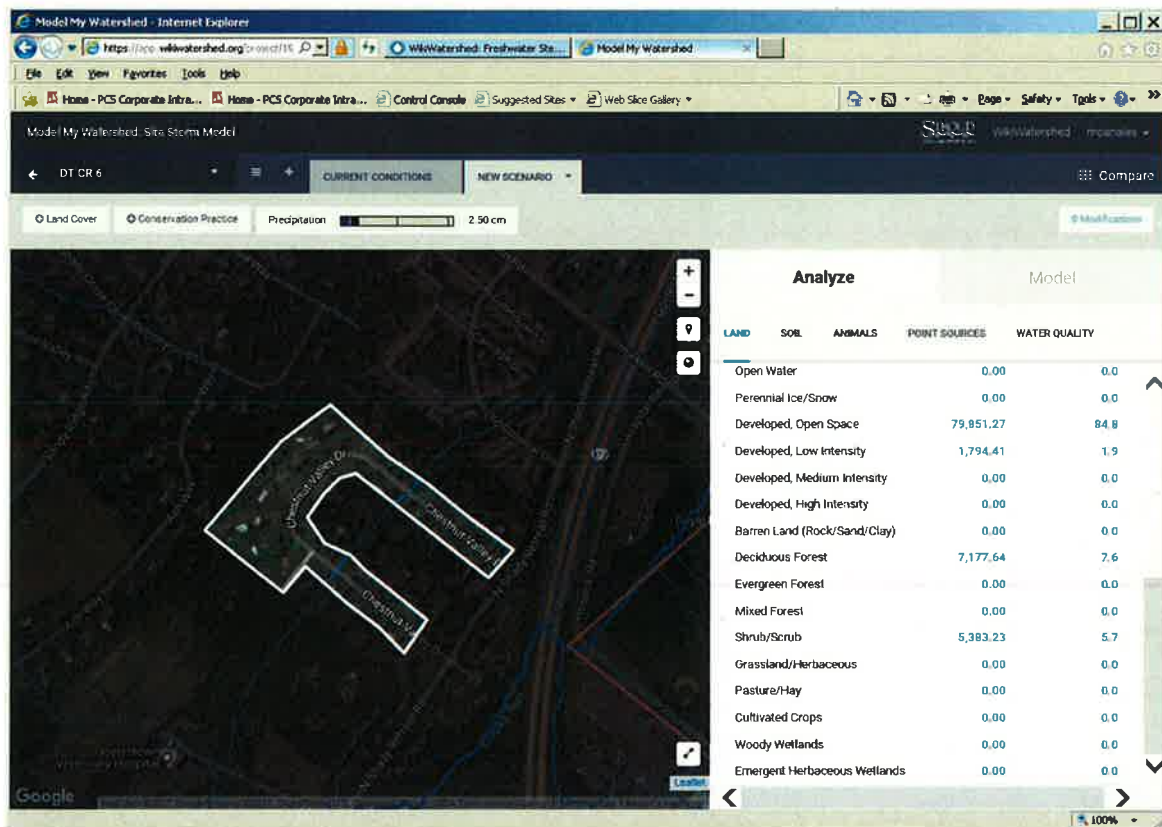
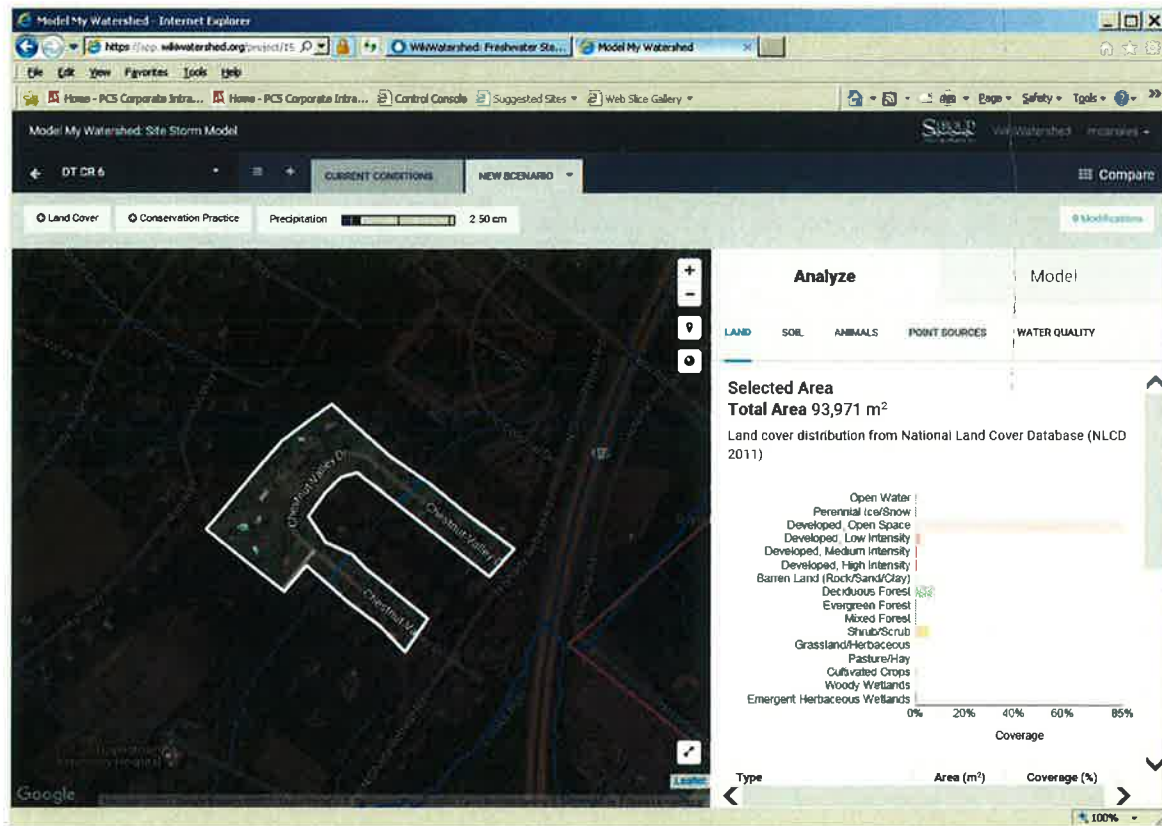
Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	20,635.72	15.8
Developed, Low Intensity	68,982.00	53.4
Developed, Medium Intensity	29,607.77	22.6
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	10,766.46	8.2
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	0.00	0.0
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

Type Area (m²) Coverage (%)

100%

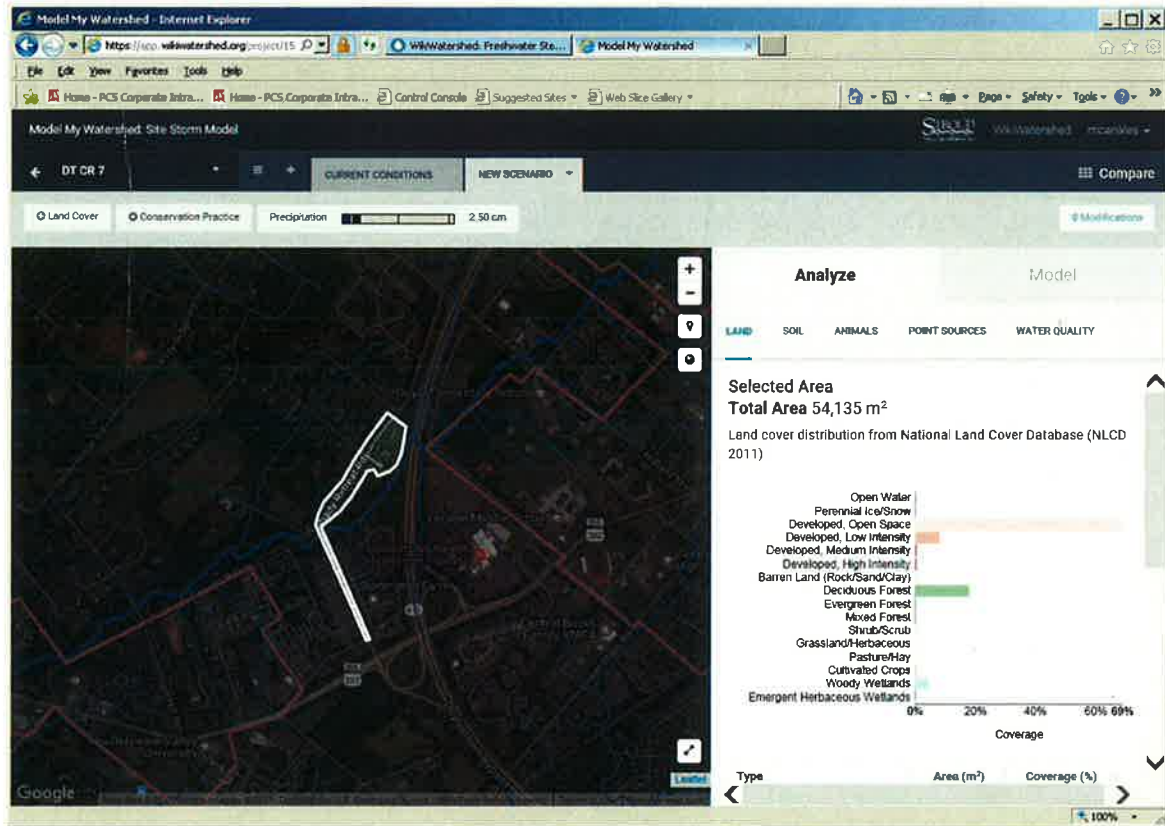
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 6

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	79,851.27	84.76	19.73
Developed, Low Intensity	1,794.41	1.90	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	7,177.64	7.62	1.77
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	5,383.23	5.71	1.33
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	94,206.55	100.00	23.28



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 7

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	37,682.65	68.85	9.31
Developed, Low Intensity	4,486.03	8.20	1.11
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	9,869.26	18.03	2.44
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	2,691.62	4.92	0.67
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	54,729.56	100.00	13.52



Model My Watershed - Internet Explorer

https://www.watershed.org/projects/15

Model My Watershed

Model My Watershed, Site Storm Model

DT CR 7

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

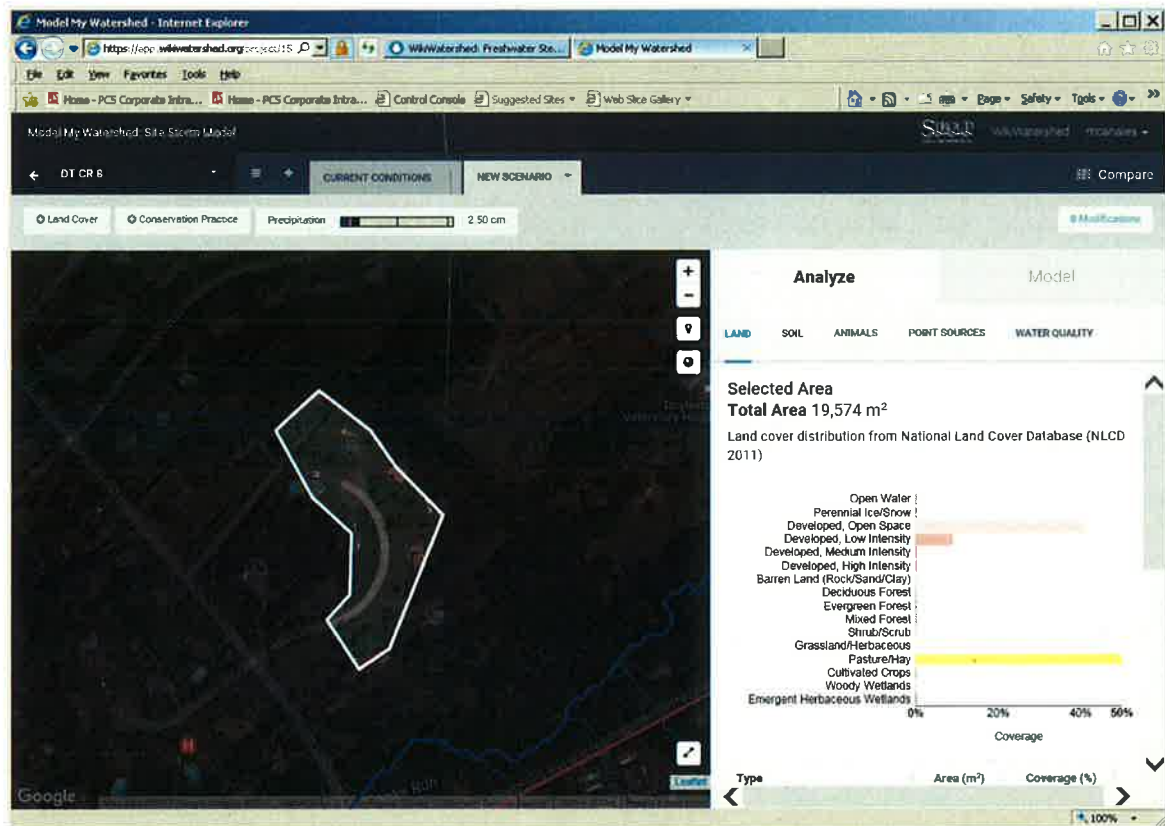
Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

LAND	SOIL	ANIMALS	POINT SOURCES	WATER QUALITY
Open Water			0.00	0.0
Perennial Ice/Snow			0.00	0.0
Developed, Open Space			37,682.65	68.9
Developed, Low Intensity			4,486.03	8.2
Developed, Medium Intensity			0.00	0.0
Developed, High Intensity			0.00	0.0
Barren Land (Rock/Sand/Clay)			0.00	0.0
Deciduous Forest			9,869.26	18.0
Evergreen Forest			0.00	0.0
Mixed Forest			0.00	0.0
Shrub/Scrub			0.00	0.0
Grassland/Herbaceous			0.00	0.0
Pasture/Hay			0.00	0.0
Cultivated Crops			0.00	0.0
Woody Wetlands			2,691.62	4.9
Emergent Herbaceous Wetlands			0.00	0.0

Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 8

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	8,074.85	40.91	2.00
Developed, Low Intensity	1,794.41	9.09	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	9,869.27	50.00	2.44
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	19,738.53	100.00	4.88



Model My Watershed - Internet Explorer

https://app.watershed.org/projects/...

Model My Watershed

Model My Watershed, Site Storm Model

DT CR 8

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

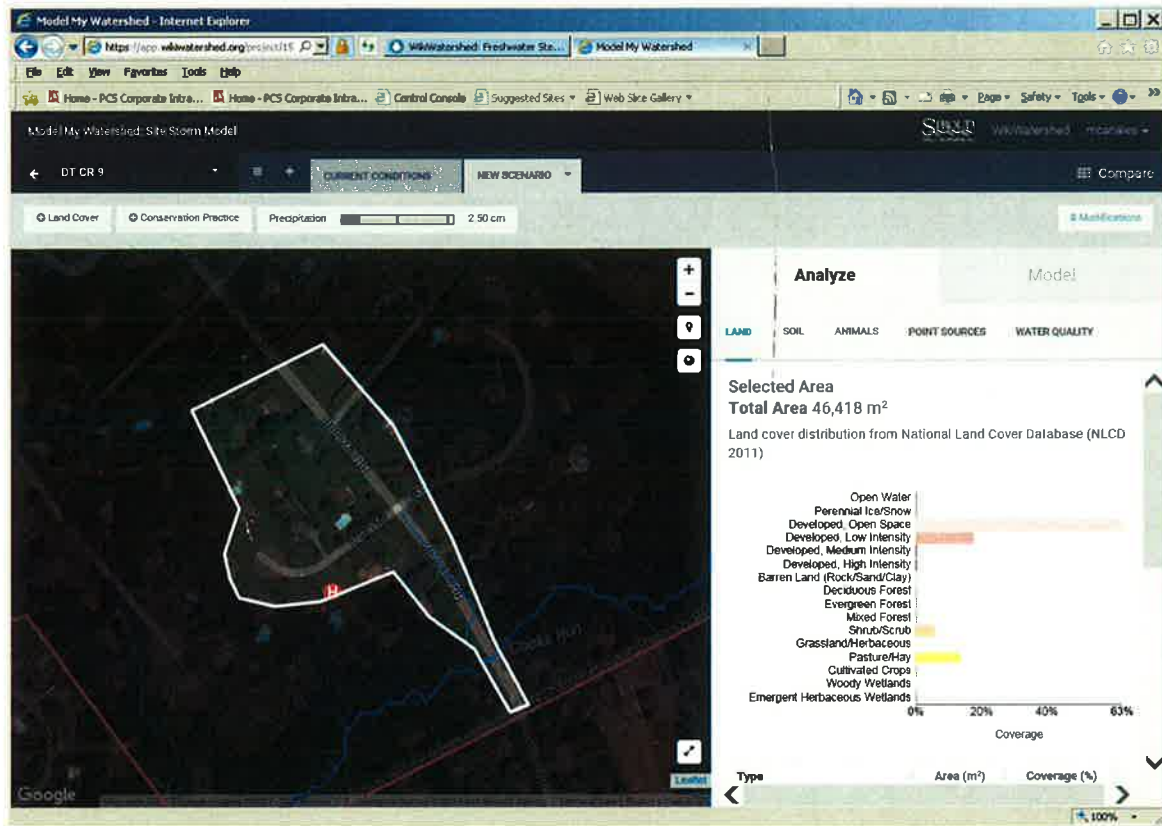
Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	8,074.85	40.9
Developed, Low Intensity	1,794.41	9.1
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	9,869.27	50.0
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

Type Area (m²) Coverage (%)

100%

Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 9

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	28,710.60	62.75	7.09
Developed, Low Intensity	8,074.86	17.65	2.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	2,691.62	5.88	0.67
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	6,280.44	13.73	1.55
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	45,757.52	100.00	11.31



Model My Watershed - Internet Explorer

https://app.wikiwatershed.org/tesst/15

Model My Watershed: Site Storm Model

DT CR 9

PRECIPITATION 2.50 cm

Analyze

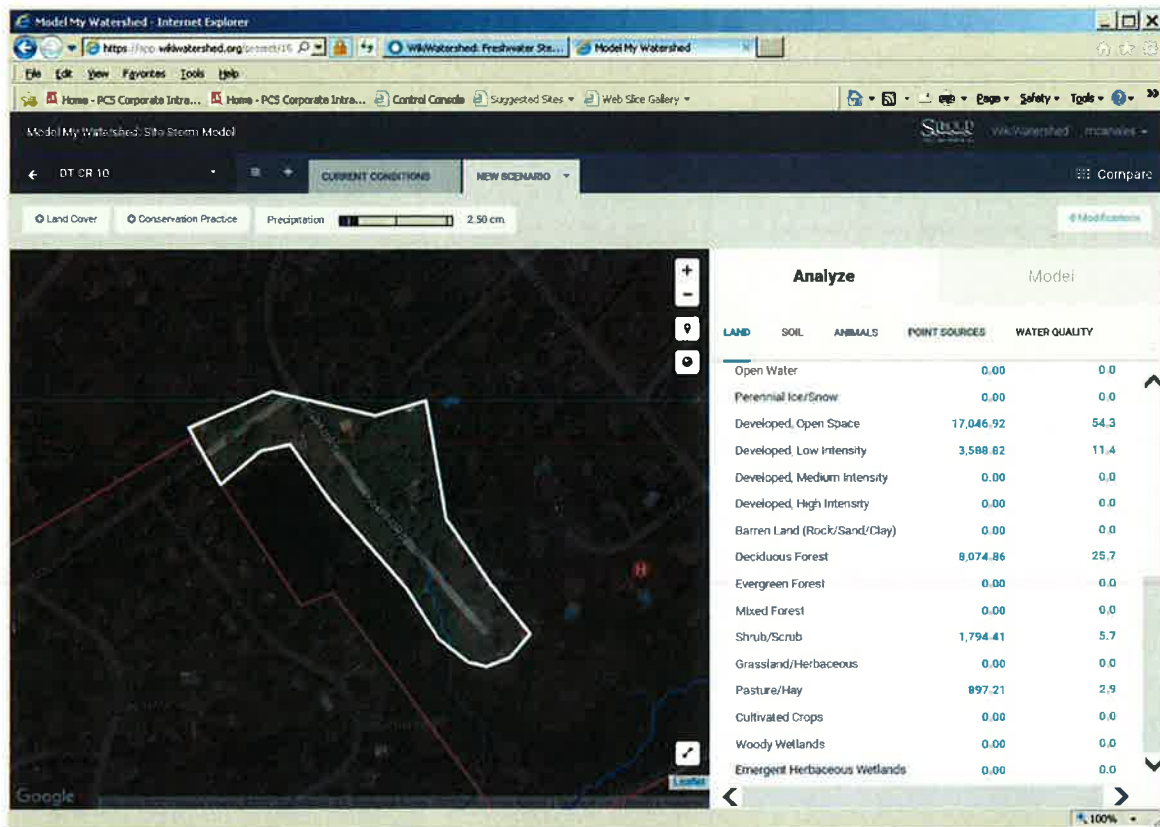
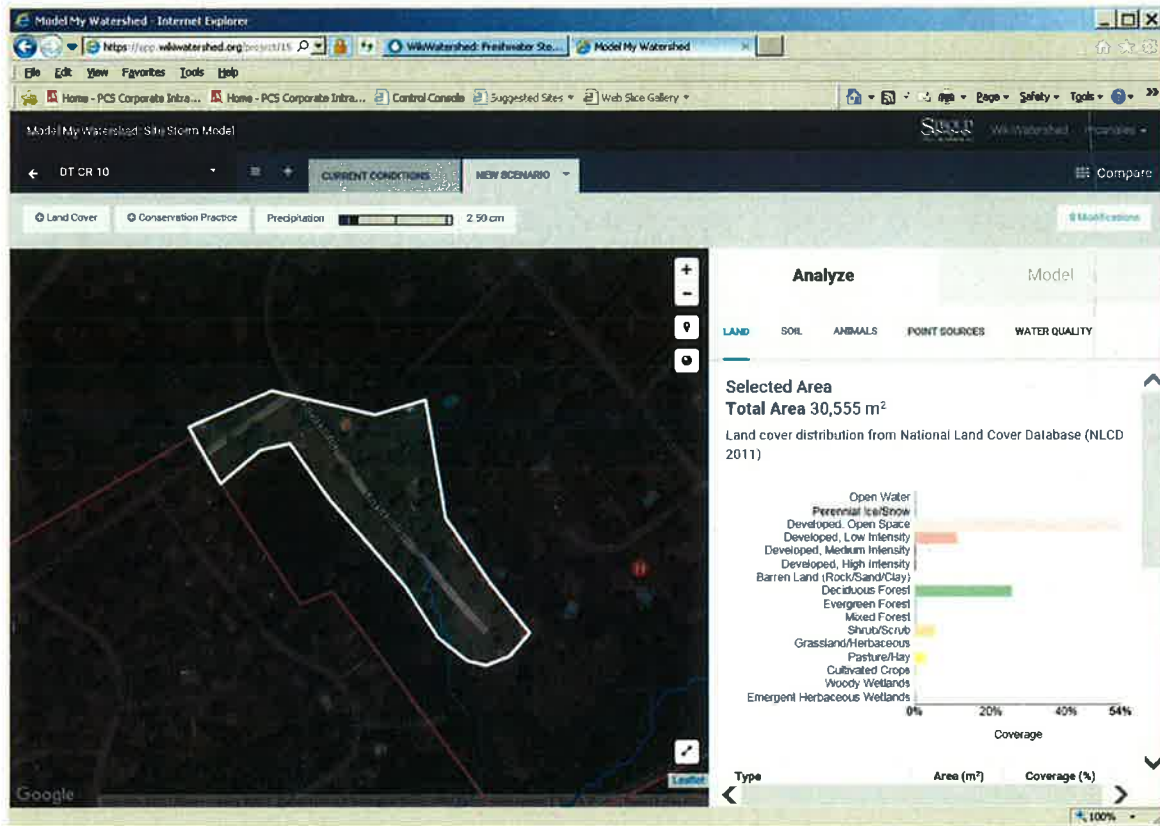
Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	28,710.60	62.7
Developed, Low Intensity	8,074.86	17.6
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	2,691.62	5.9
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	6,280.44	13.7
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

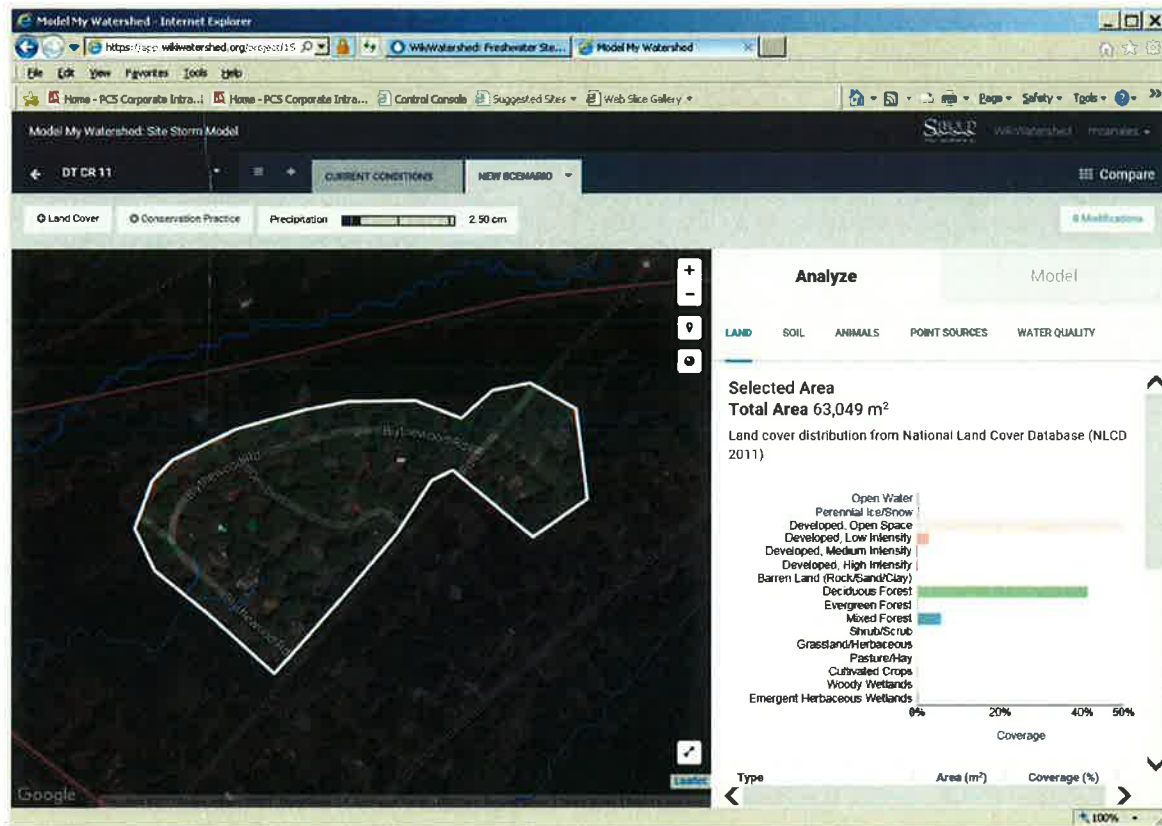
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 10

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	17,046.92	54.29	4.21
Developed, Low Intensity	3,588.82	11.43	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	8,074.86	25.71	2.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	1,794.41	5.71	0.44
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.21	2.86	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	31,402.22	100.00	7.76



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 11

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	31,402.25	50.00	7.76
Developed, Low Intensity	1,794.41	2.86	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	26,019.01	41.43	6.43
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	3,588.83	5.71	0.89
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	62,804.50	100.00	15.52



Model My Watershed - Internet Explorer

https://acc.watershed.org/project/15

Model My Watershed: Site Storm Model

DT CR 11

PRECIPITATION 2.50 cm

Analyze Model

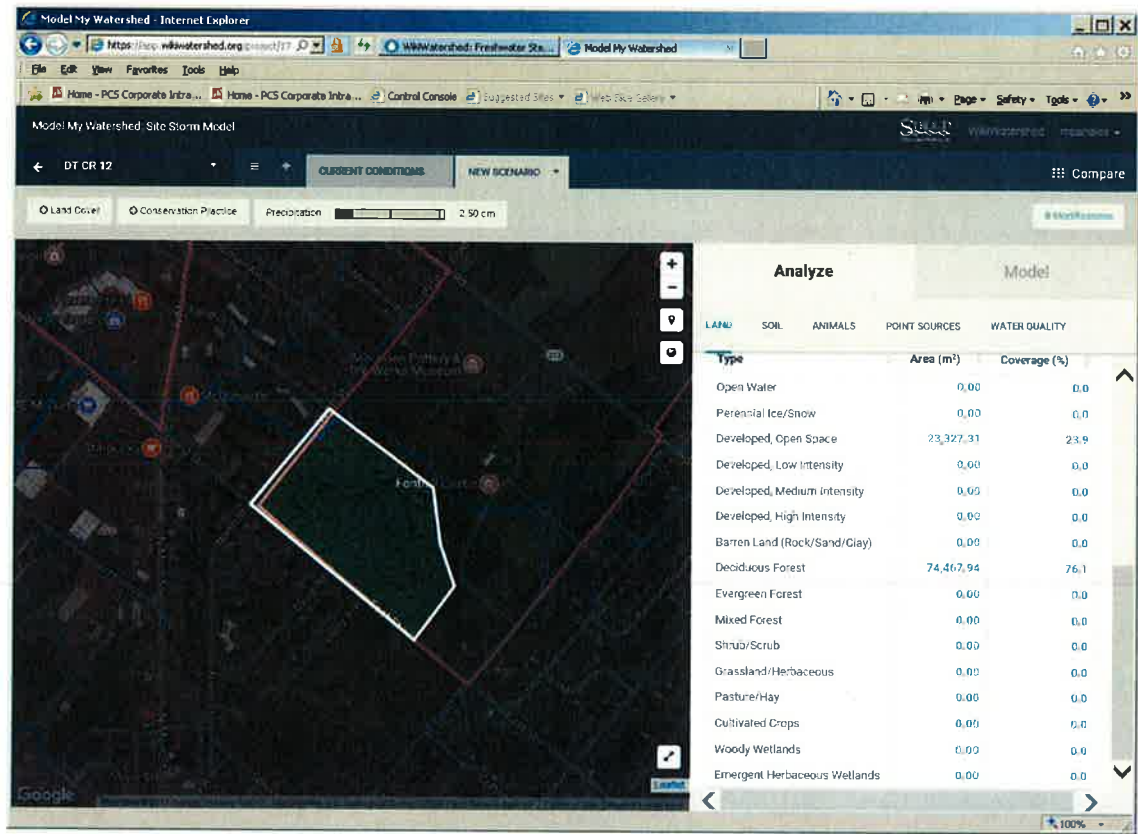
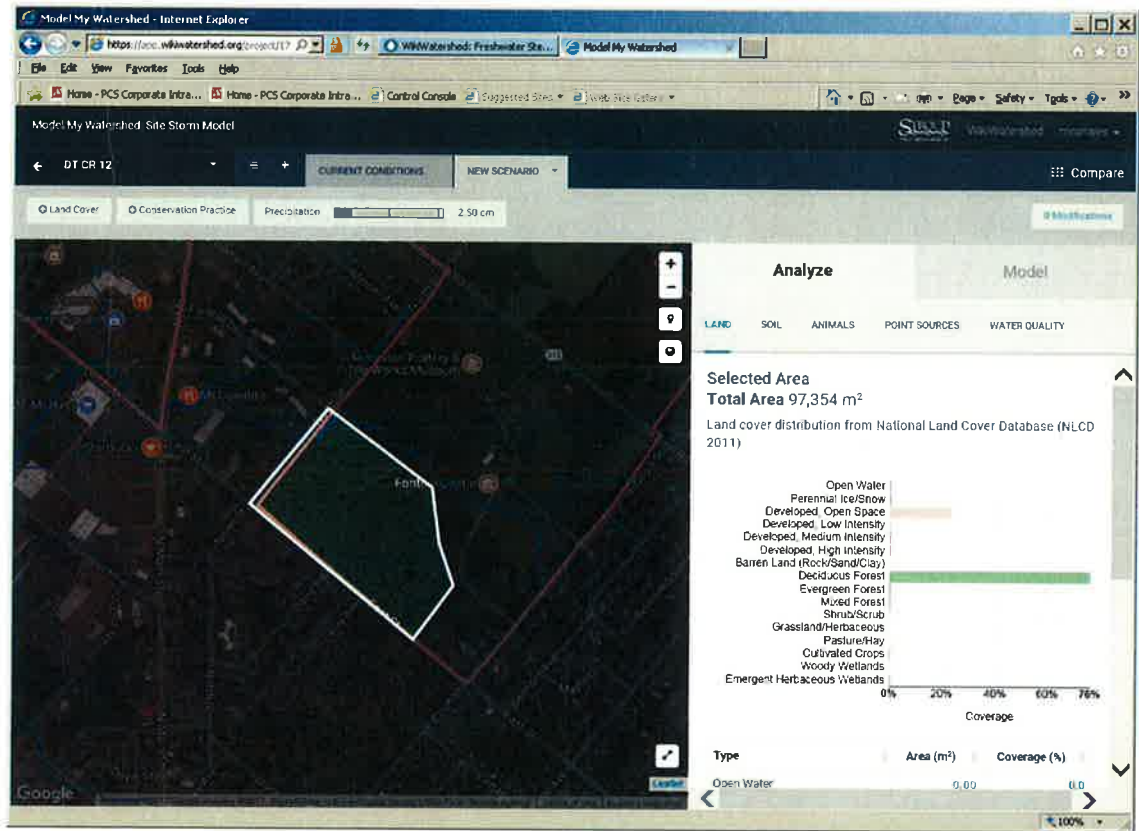
LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	31,402.25	50.0
Developed, Low Intensity	1,794.41	2.9
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	26,019.01	41.4
Evergreen Forest	0.00	0.0
Mixed Forest	3,588.83	5.7
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	0.00	0.0
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

100%

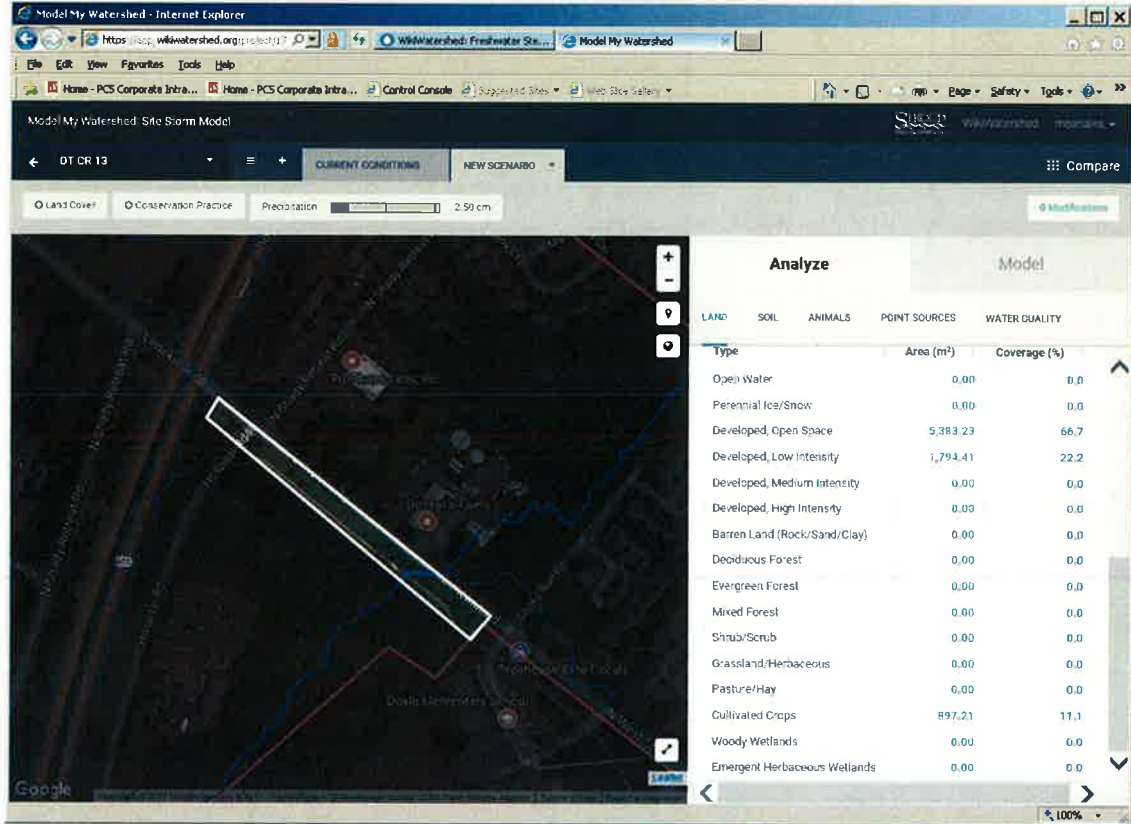
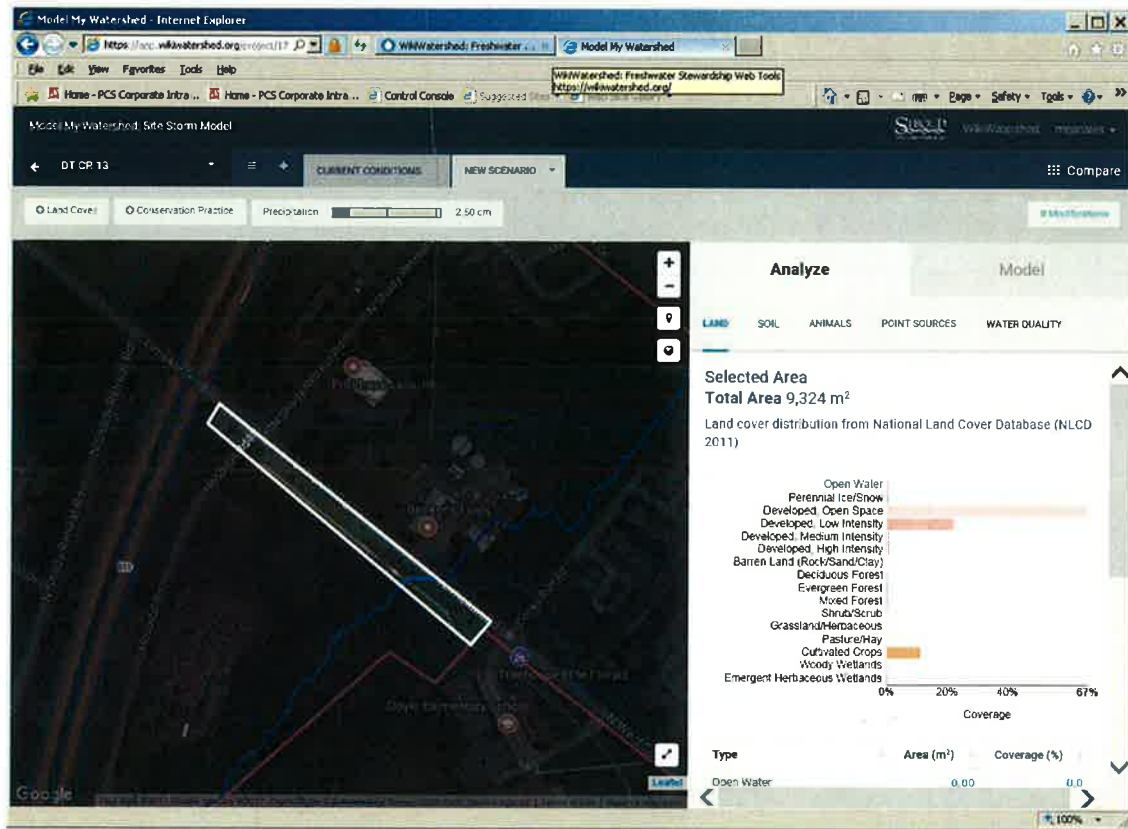
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 12

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	23,327.31	23.85	5.76
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	74,467.94	76.15	18.40
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	97,795.25	100.00	24.17



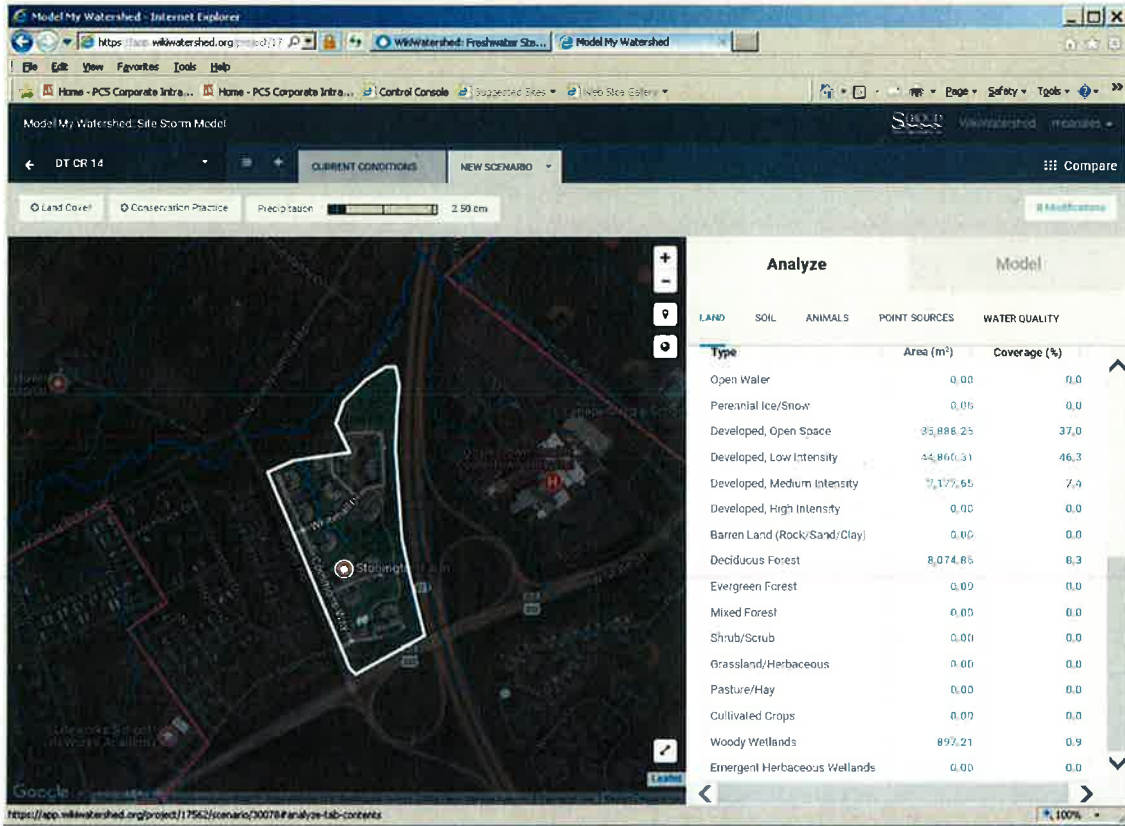
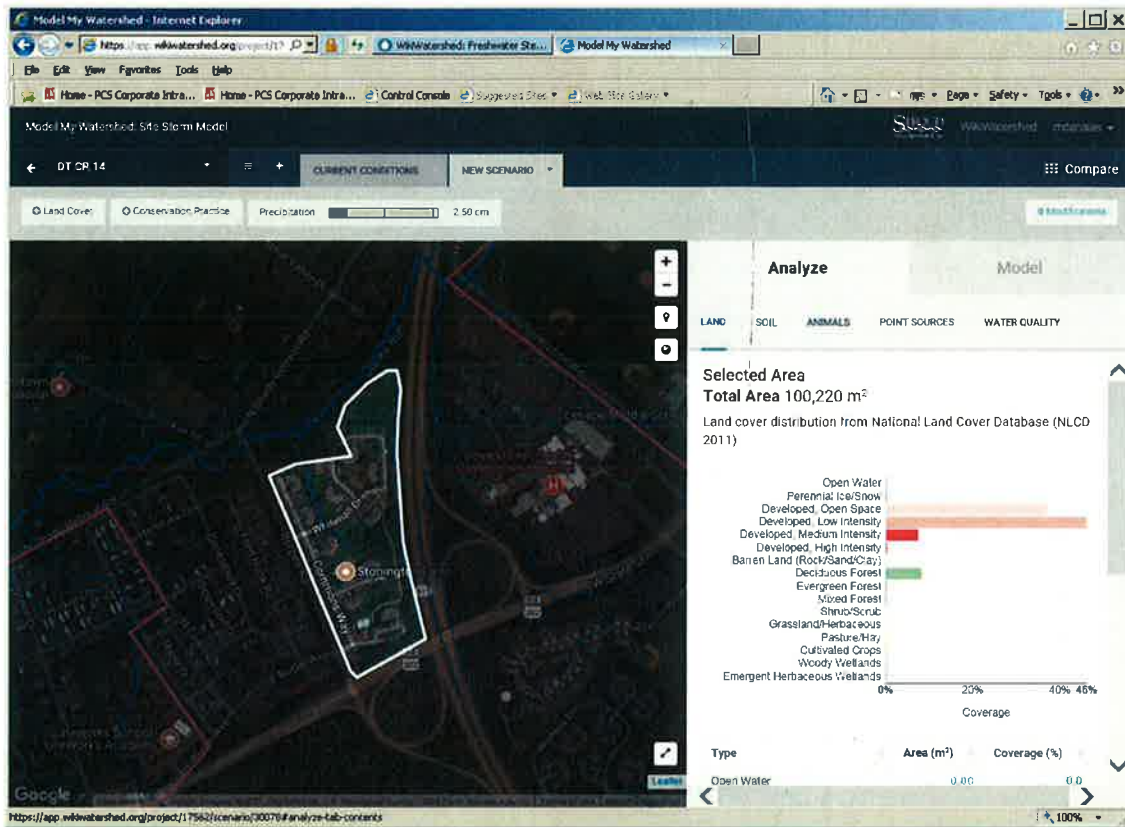
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 13

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.23	66.67	1.33
Developed, Low Intensity	1,794.41	22.22	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	897.21	11.11	0.22
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	8,074.85	100.00	2.00



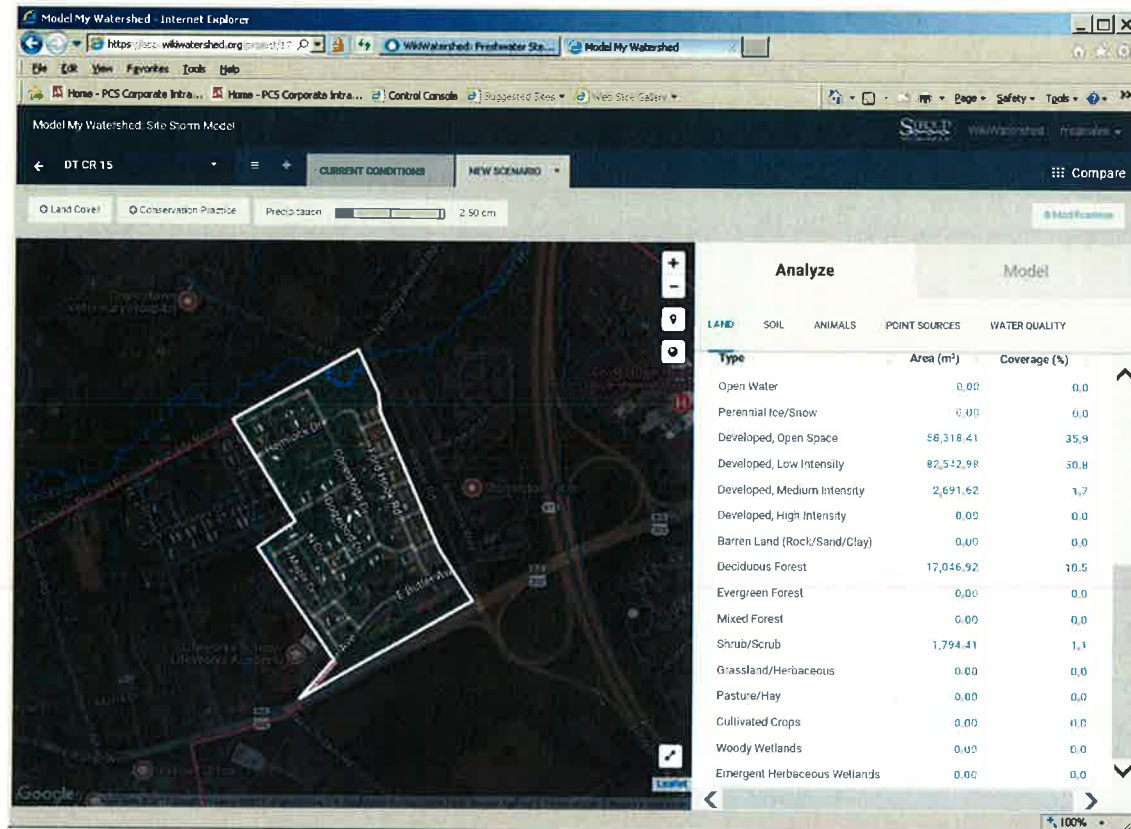
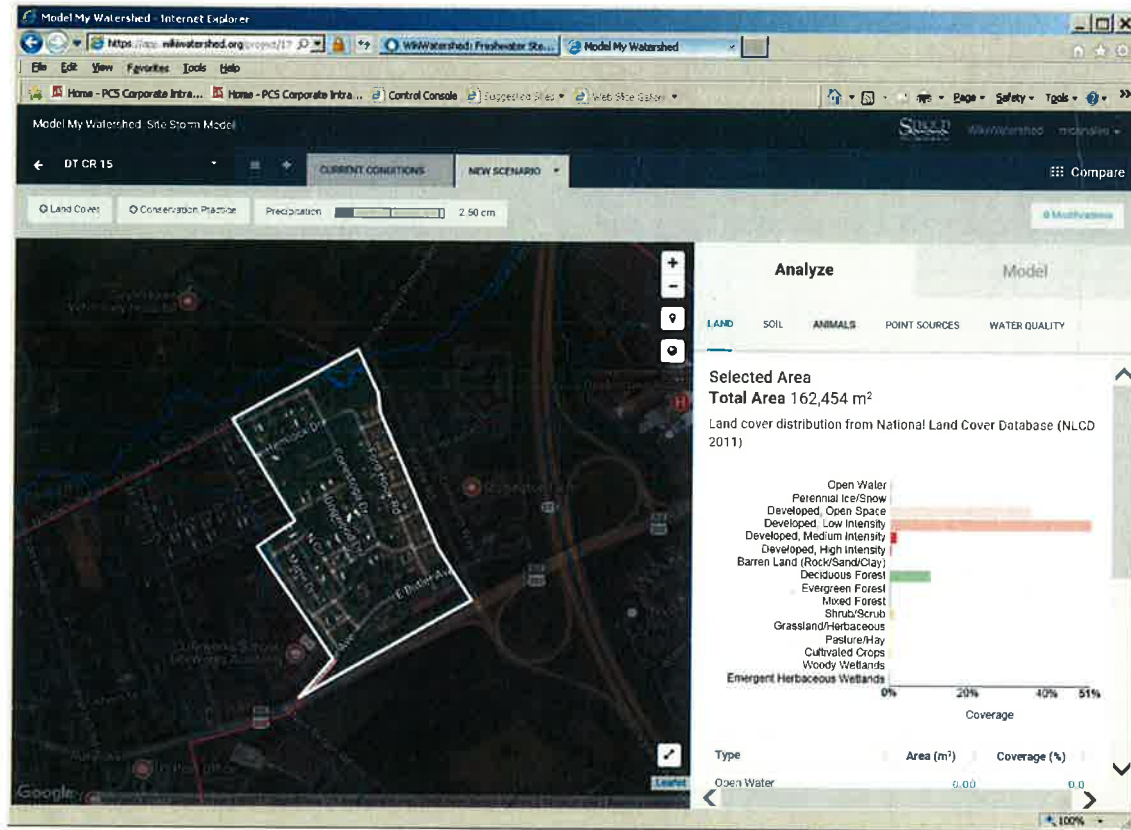
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 14

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	35,888.25	37.04	8.87
Developed, Low Intensity	44,860.31	46.30	11.08
Developed, Medium Intensity	7,177.65	7.41	1.77
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	8,074.86	8.33	2.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	897.21	0.93	0.22
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	96,898.28	100.00	23.94



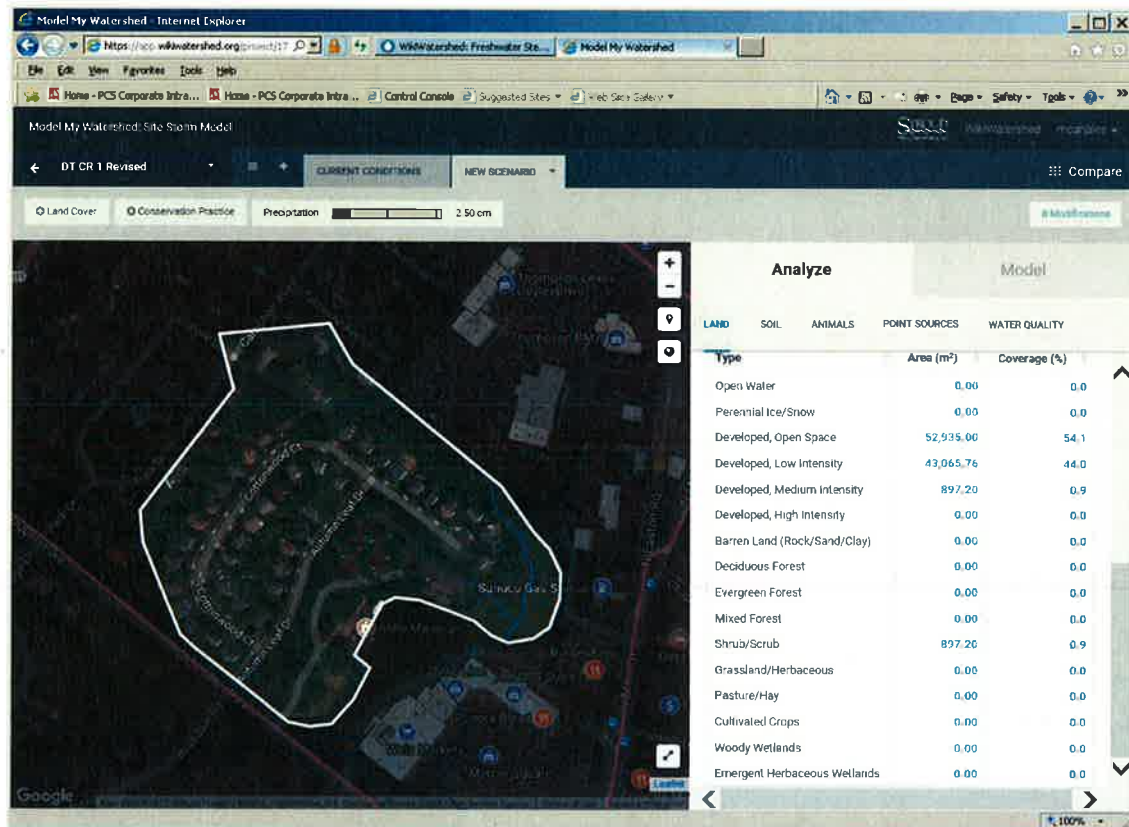
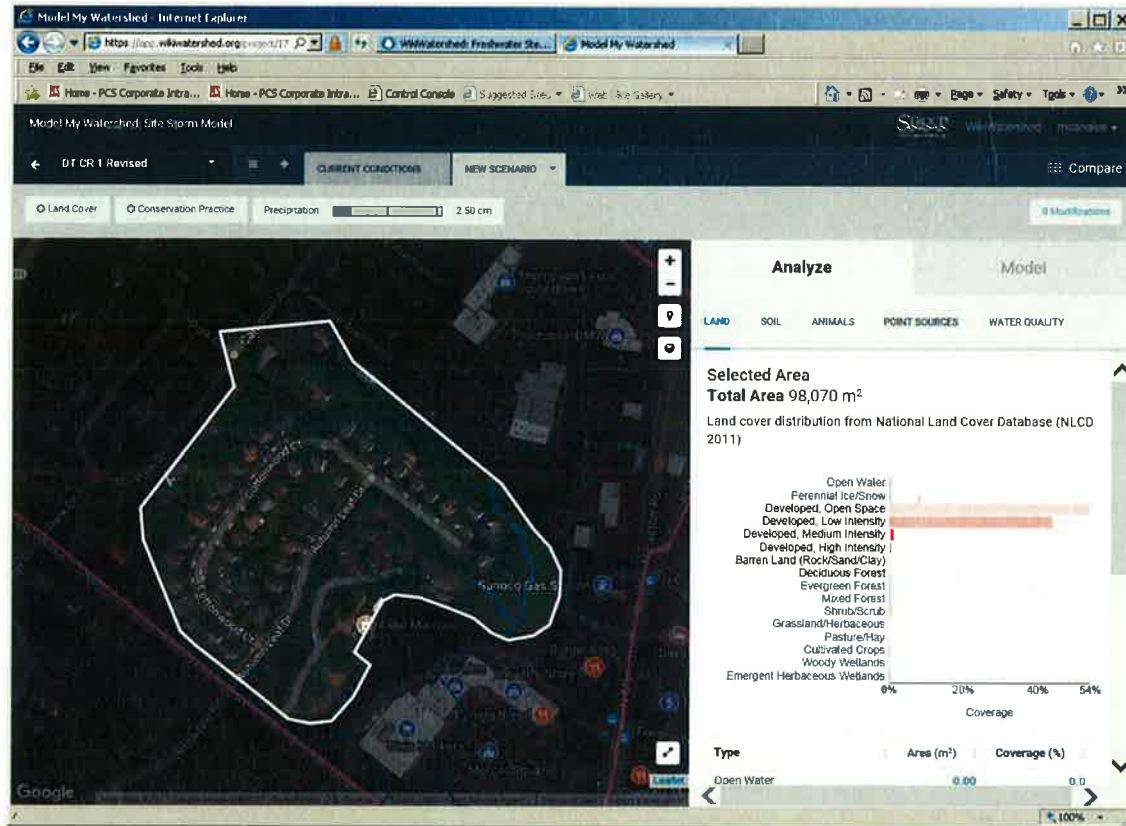
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 15

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	58,318.41	35.91	14.41
Developed, Low Intensity	82,542.98	50.83	20.40
Developed, Medium Intensity	2,691.62	1.66	0.67
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	17,046.92	10.50	4.21
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	1,794.41	1.10	0.44
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	162,394.34	100.00	40.13



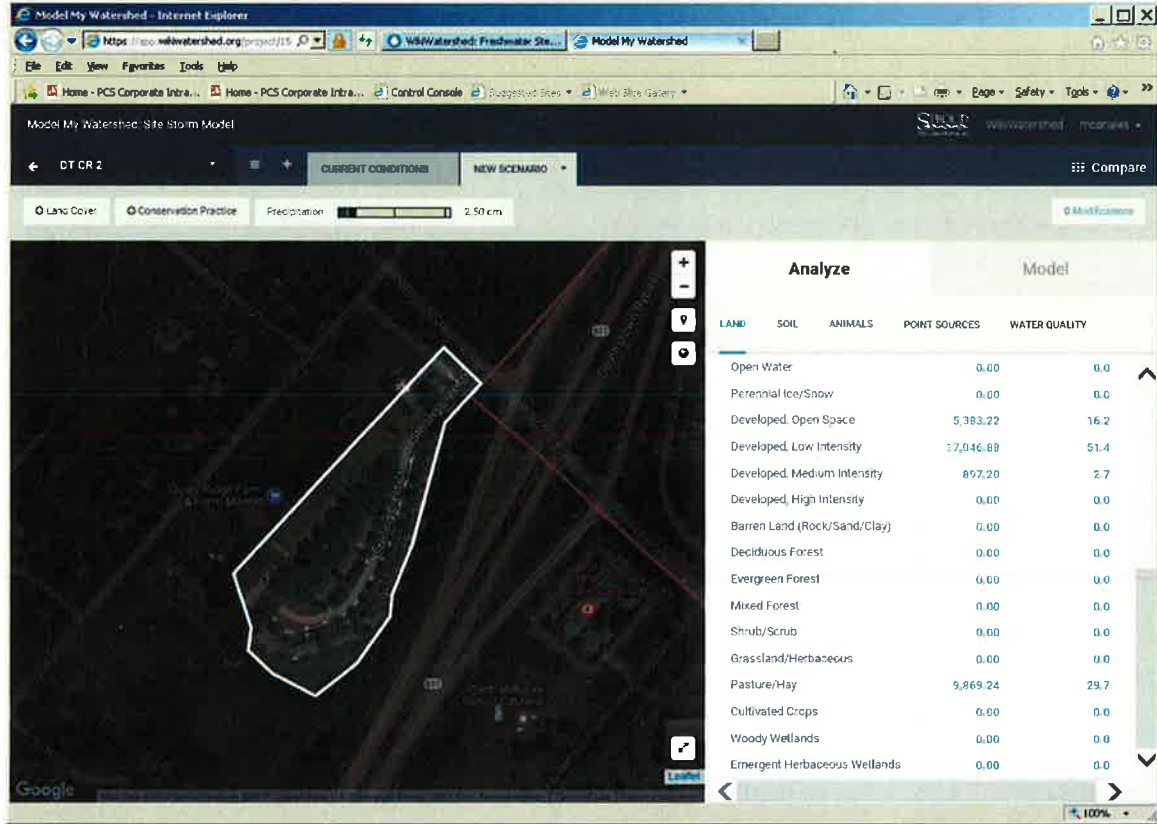
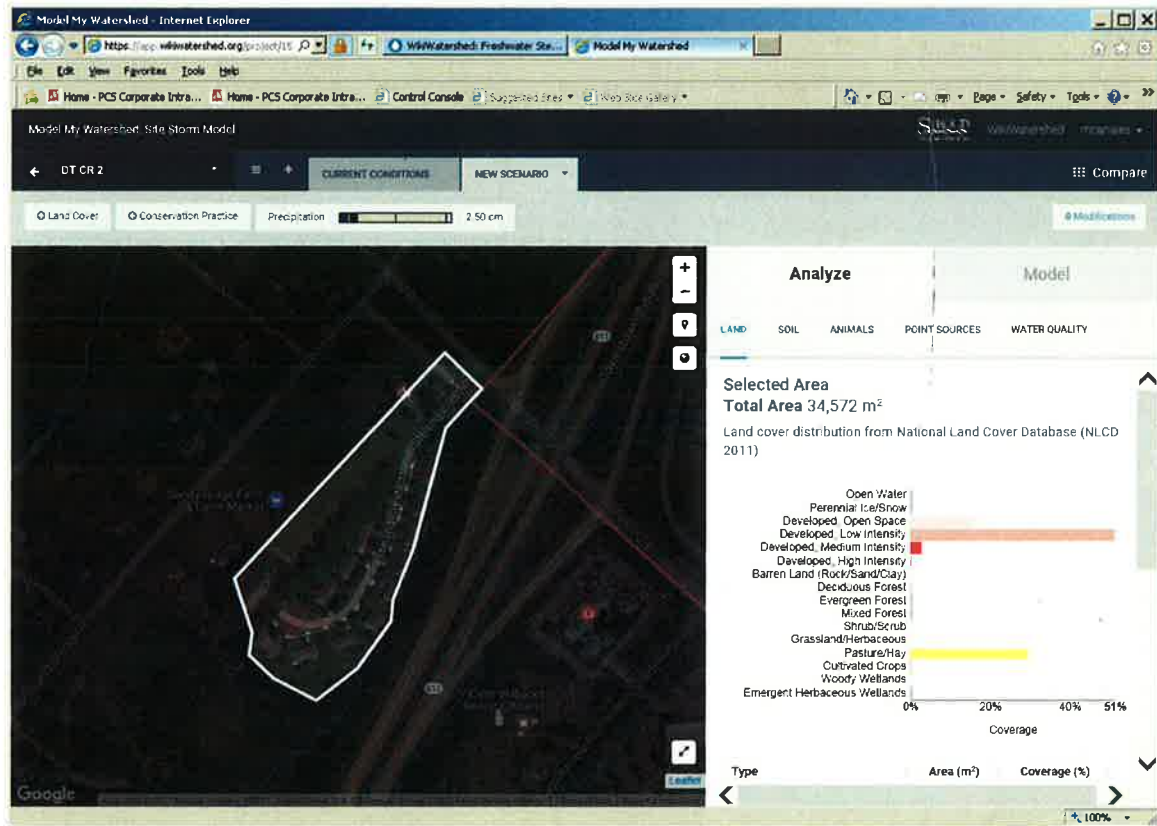
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 1

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	52,935.00	54.13	13.08
Developed, Low Intensity	43,065.76	44.04	10.64
Developed, Medium Intensity	897.20	0.92	0.22
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	897.20	0.92	0.22
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	97,795.16	100.00	24.17



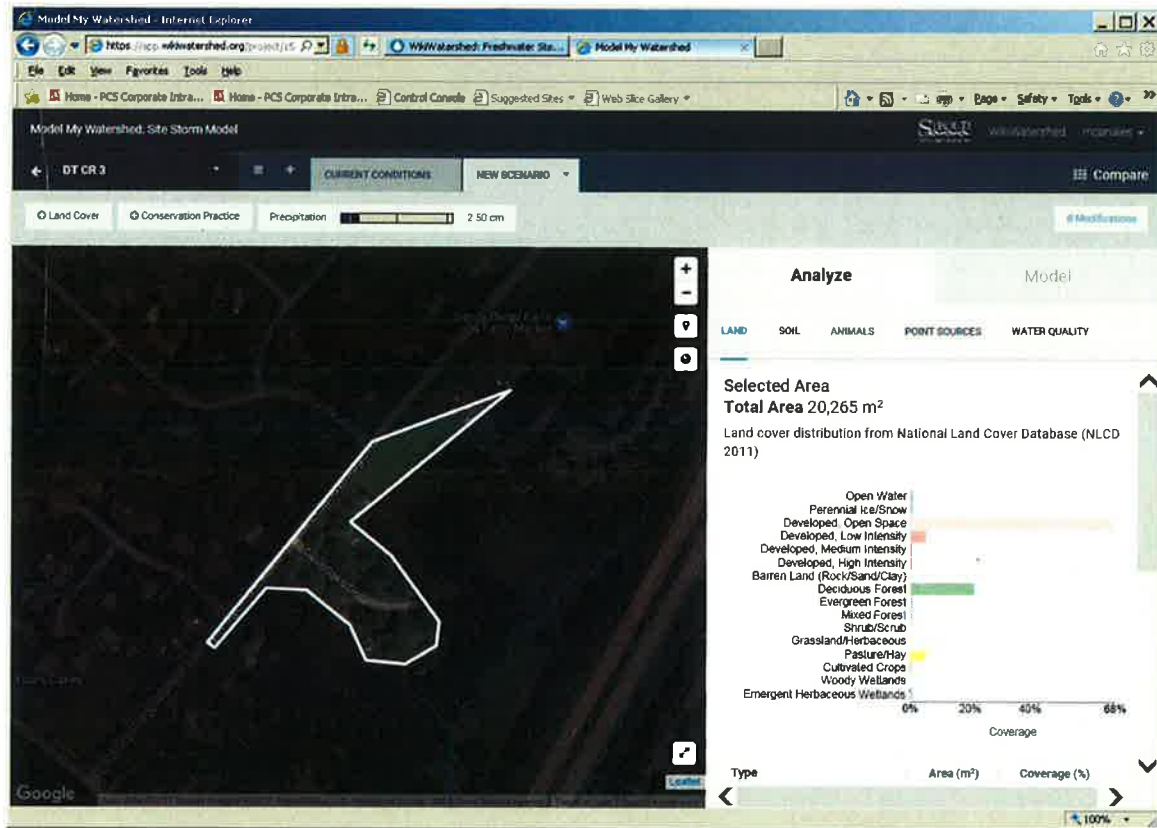
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 2

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.22	16.22	1.33
Developed, Low Intensity	17,046.88	51.35	4.21
Developed, Medium Intensity	897.20	2.70	0.22
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	9,869.24	29.73	2.44
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	33,196.54	100.00	8.20



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 3

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	11,663.66	68.42	2.88
Developed, Low Intensity	897.20	5.26	0.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	3,588.82	21.05	0.89
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.20	5.26	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	17,046.88	100.00	4.21



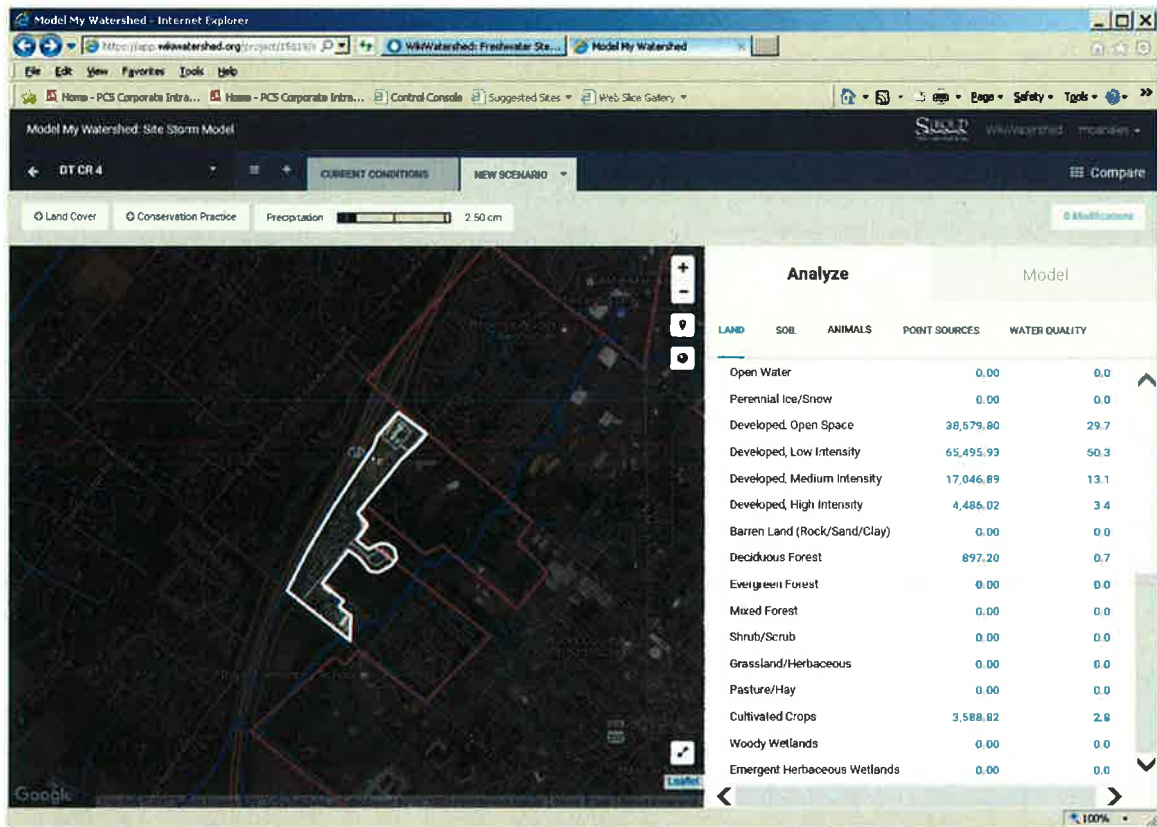
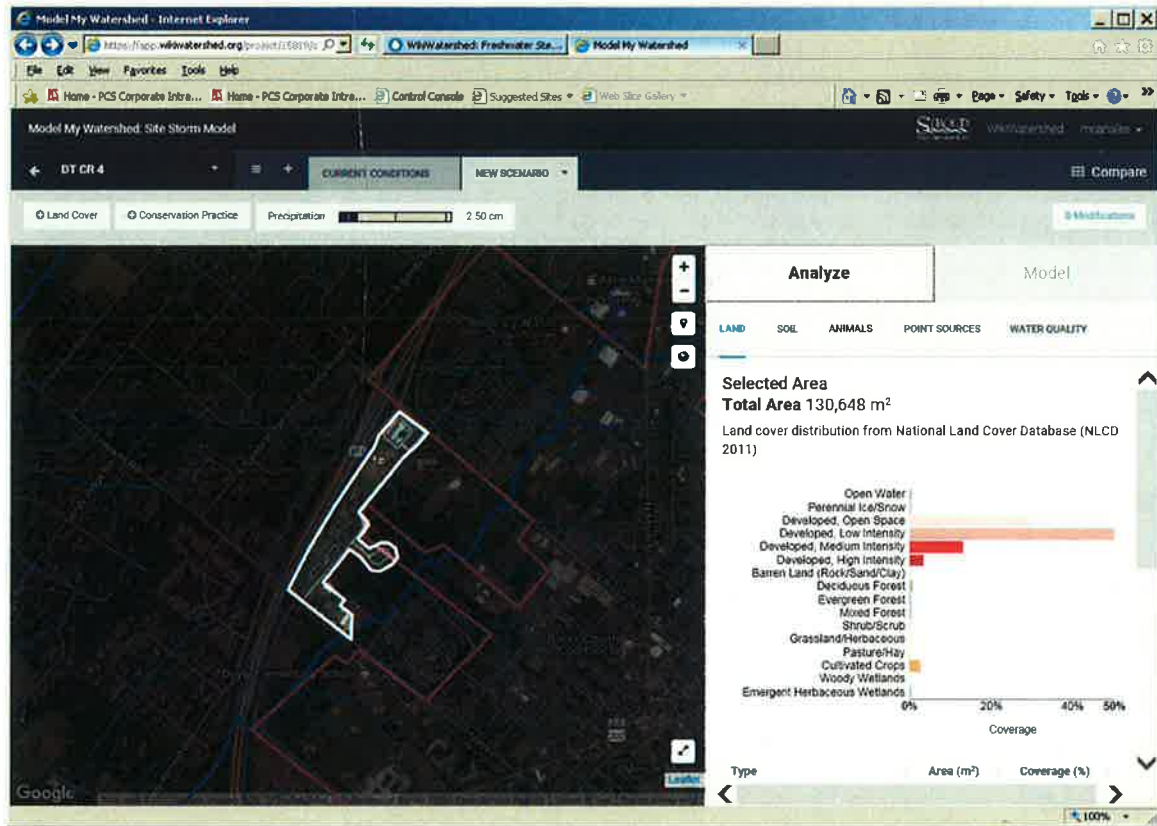
Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	11,663.66	68.4
Developed, Low Intensity	897.20	5.3
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	3,588.82	21.1
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	897.20	5.3
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

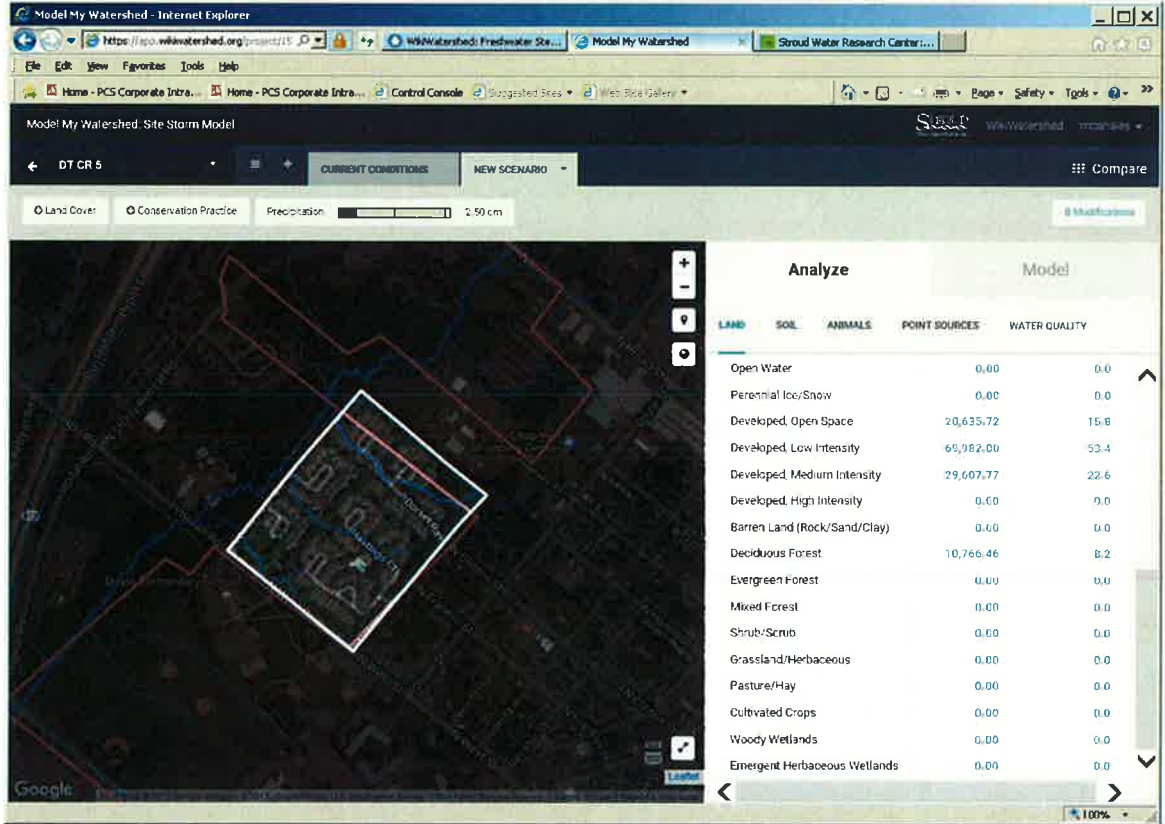
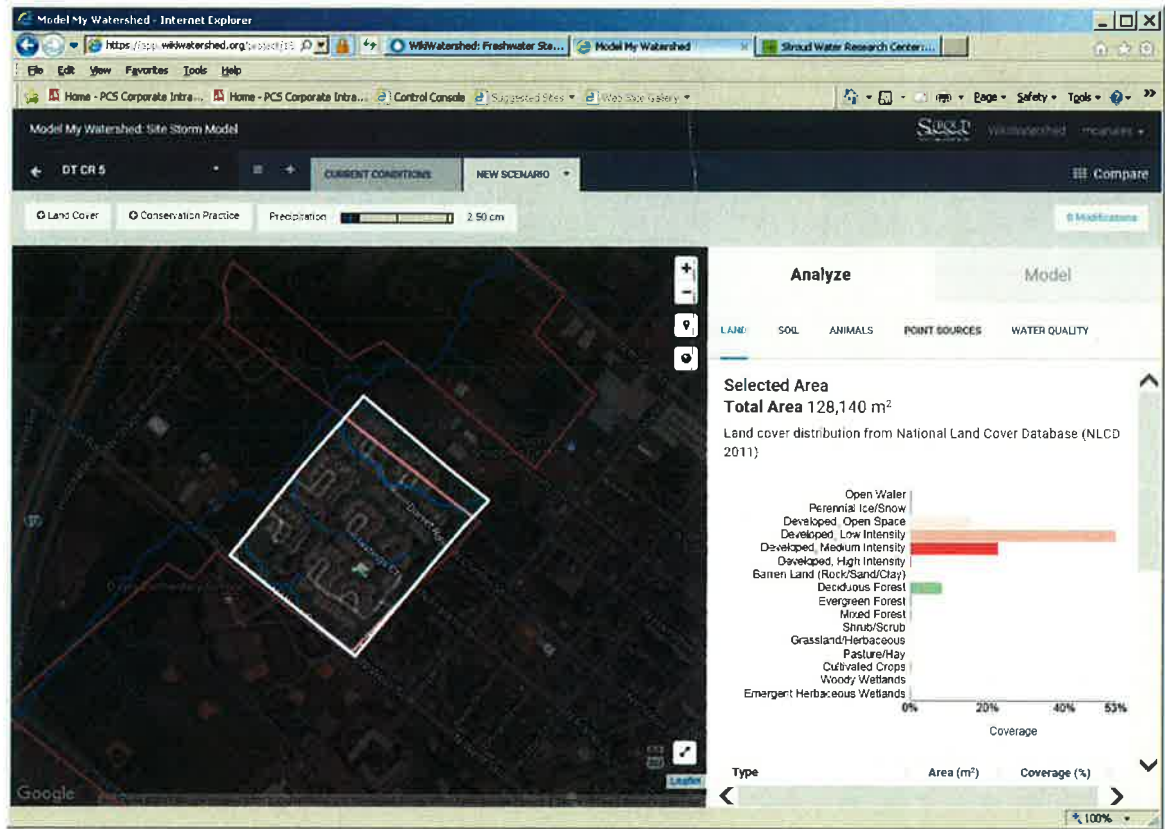
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 4

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	38,579.80	29.66	9.53
Developed, Low Intensity	65,495.93	50.34	16.18
Developed, Medium Intensity	17,046.89	13.10	4.21
Developed, High Intensity	4,486.02	3.45	1.11
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.20	0.69	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	3,588.82	2.76	0.89
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	130,094.66	100.00	32.15



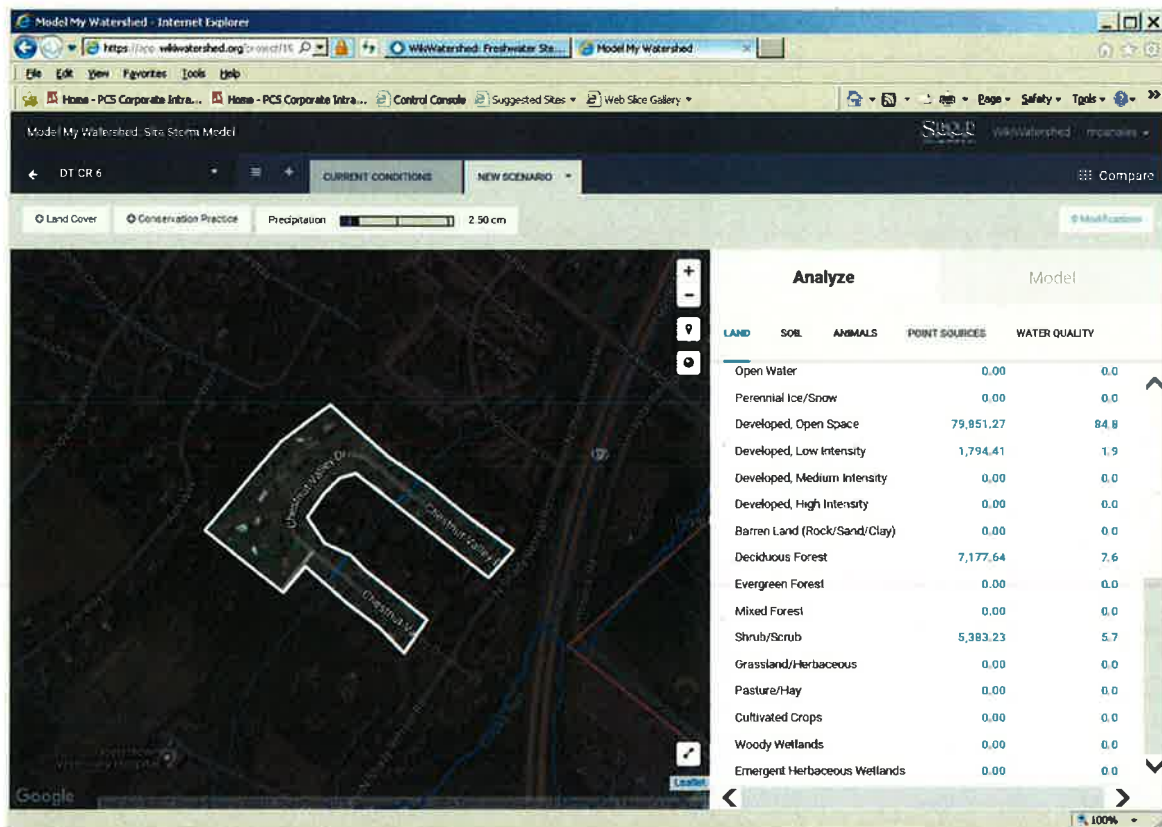
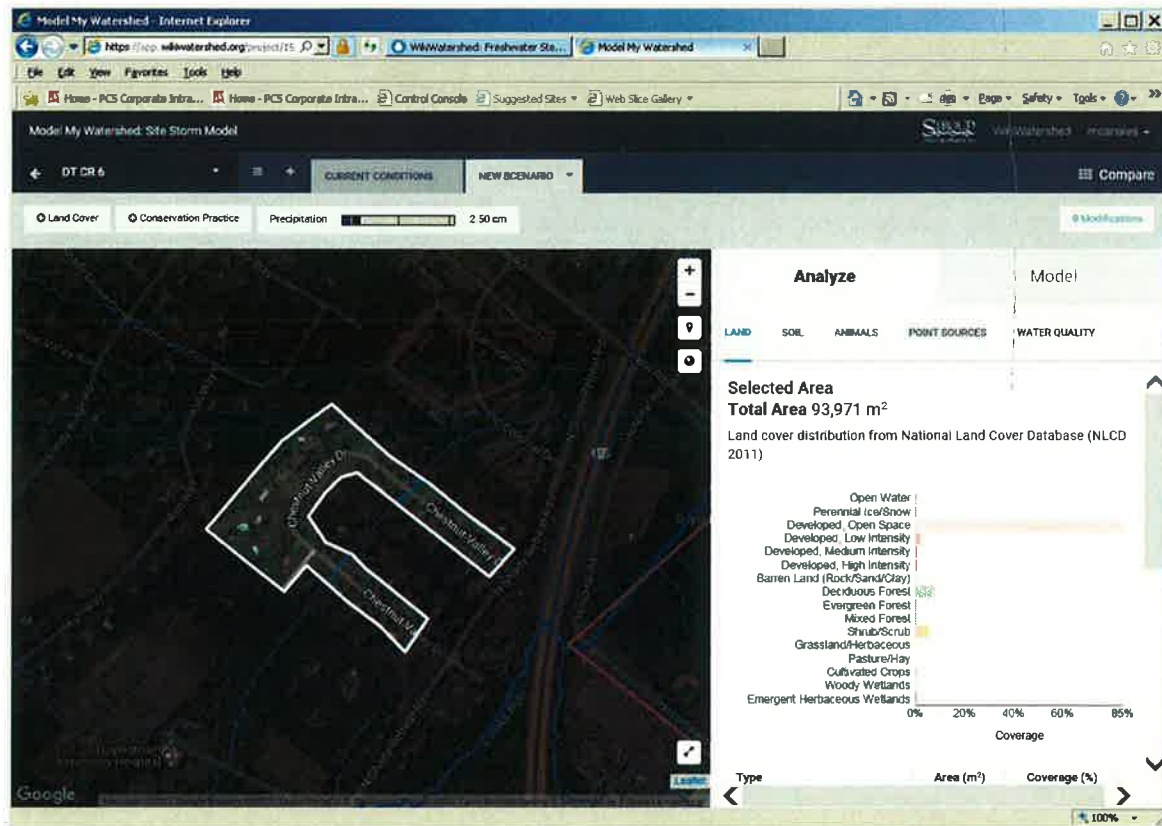
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 5

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	20,635.72	15.75	5.10
Developed, Low Intensity	69,982.00	53.42	17.29
Developed, Medium Intensity	29,607.77	22.60	7.32
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	10,766.46	8.22	2.66
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	130,991.95	100.00	32.37



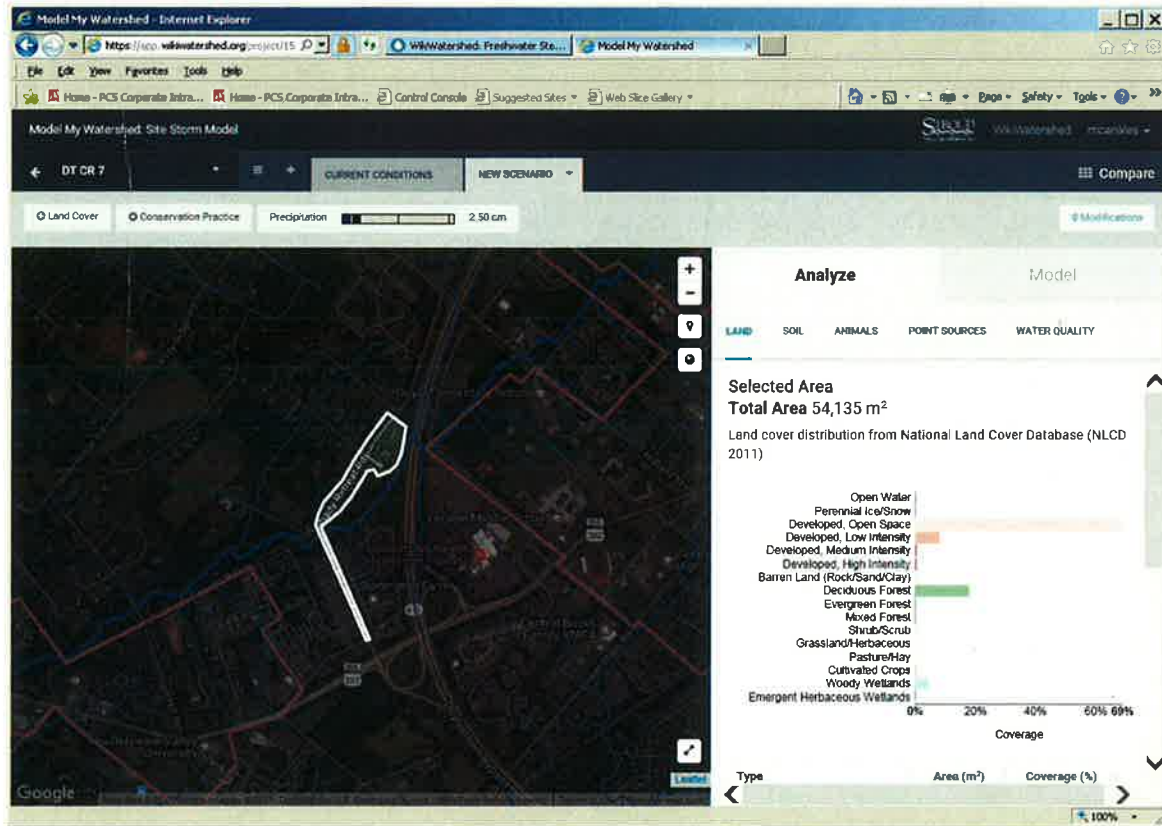
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 6

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	79,851.27	84.76	19.73
Developed, Low Intensity	1,794.41	1.90	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	7,177.64	7.62	1.77
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	5,383.23	5.71	1.33
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	94,206.55	100.00	23.28



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 7

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	37,682.65	68.85	9.31
Developed, Low Intensity	4,486.03	8.20	1.11
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	9,869.26	18.03	2.44
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	2,691.62	4.92	0.67
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	54,729.56	100.00	13.52



Model My Watershed - Internet Explorer

https://www.watershed.org/project/15

Model My Watershed

Model My Watershed, Site Storm Model

DT CR 7

CURRENT CONDITIONS NEW SCENARIO

Land Cover Conservation Practice Precipitation 2.50 cm

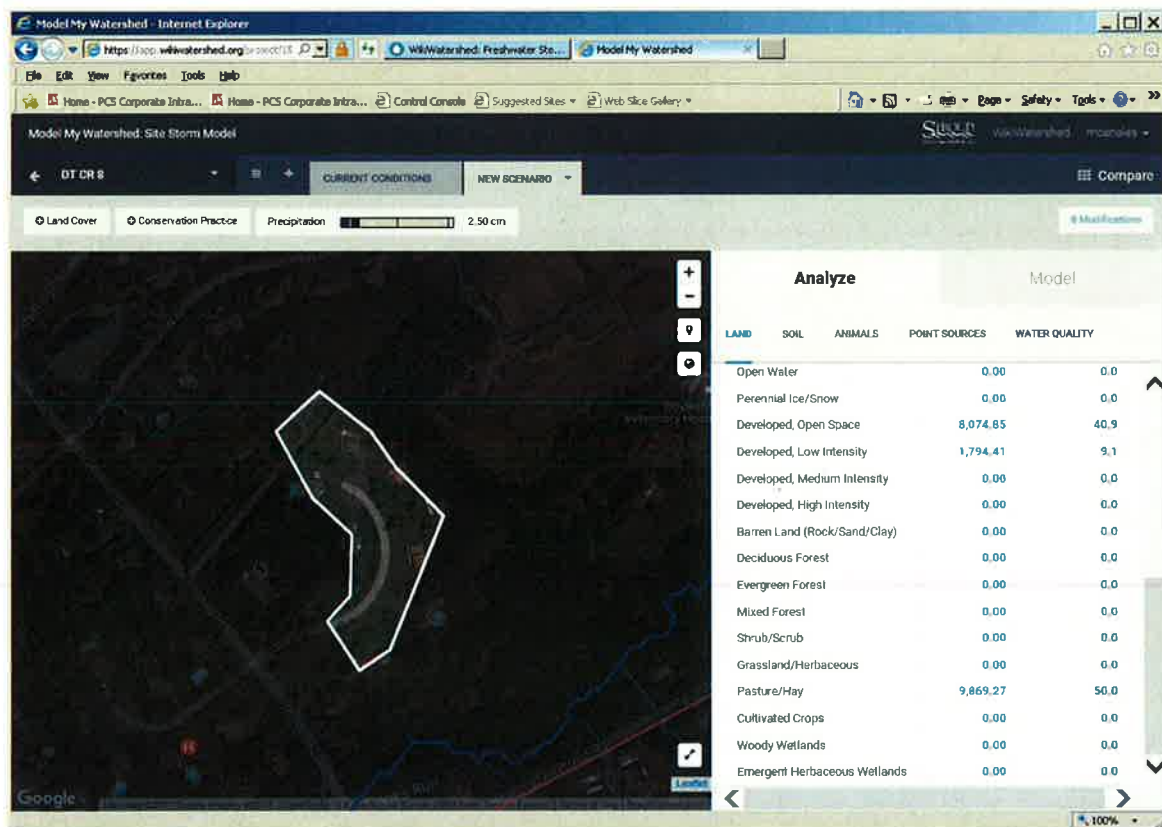
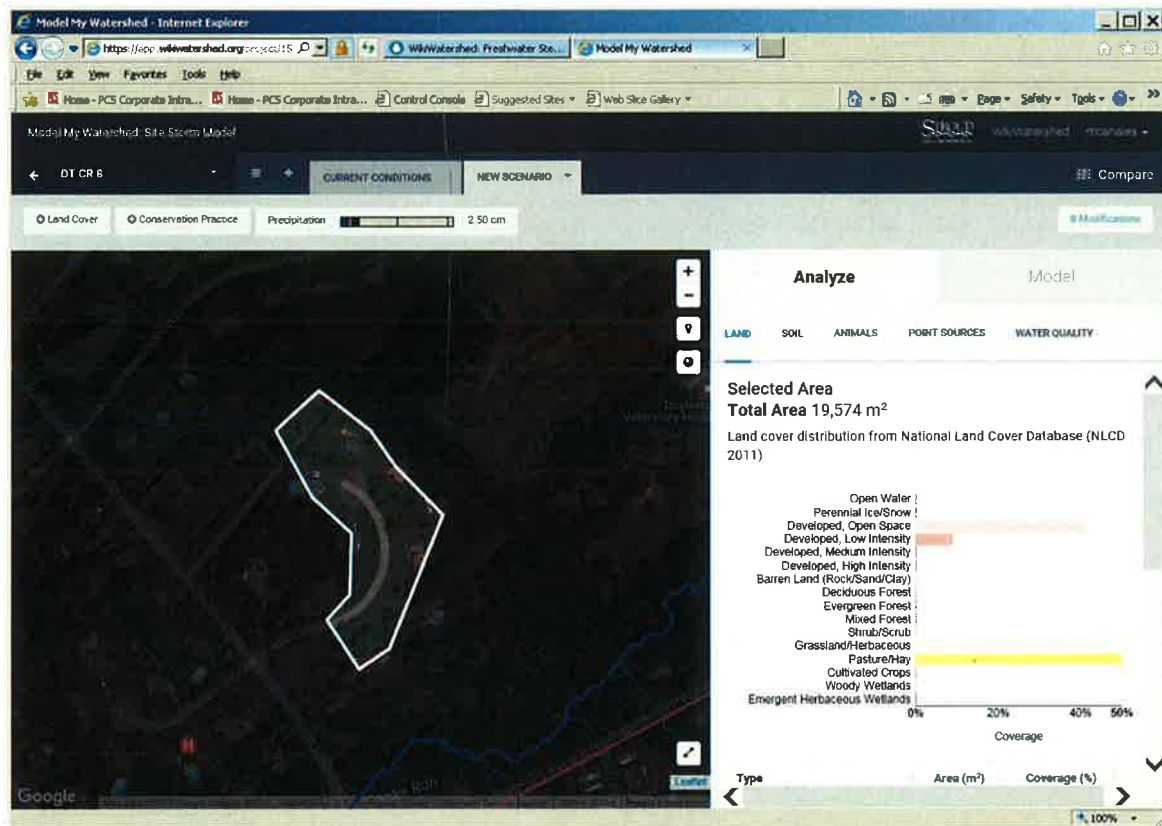
Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

LAND	SOIL	ANIMALS	POINT SOURCES	WATER QUALITY
Open Water			0.00	0.0
Perennial Ice/Snow			0.00	0.0
Developed, Open Space			37,682.65	68.9
Developed, Low Intensity			4,486.03	8.2
Developed, Medium Intensity			0.00	0.0
Developed, High Intensity			0.00	0.0
Barren Land (Rock/Sand/Clay)			0.00	0.0
Deciduous Forest			9,869.26	18.0
Evergreen Forest			0.00	0.0
Mixed Forest			0.00	0.0
Shrub/Scrub			0.00	0.0
Grassland/Herbaceous			0.00	0.0
Pasture/Hay			0.00	0.0
Cultivated Crops			0.00	0.0
Woody Wetlands			2,691.62	4.9
Emergent Herbaceous Wetlands			0.00	0.0

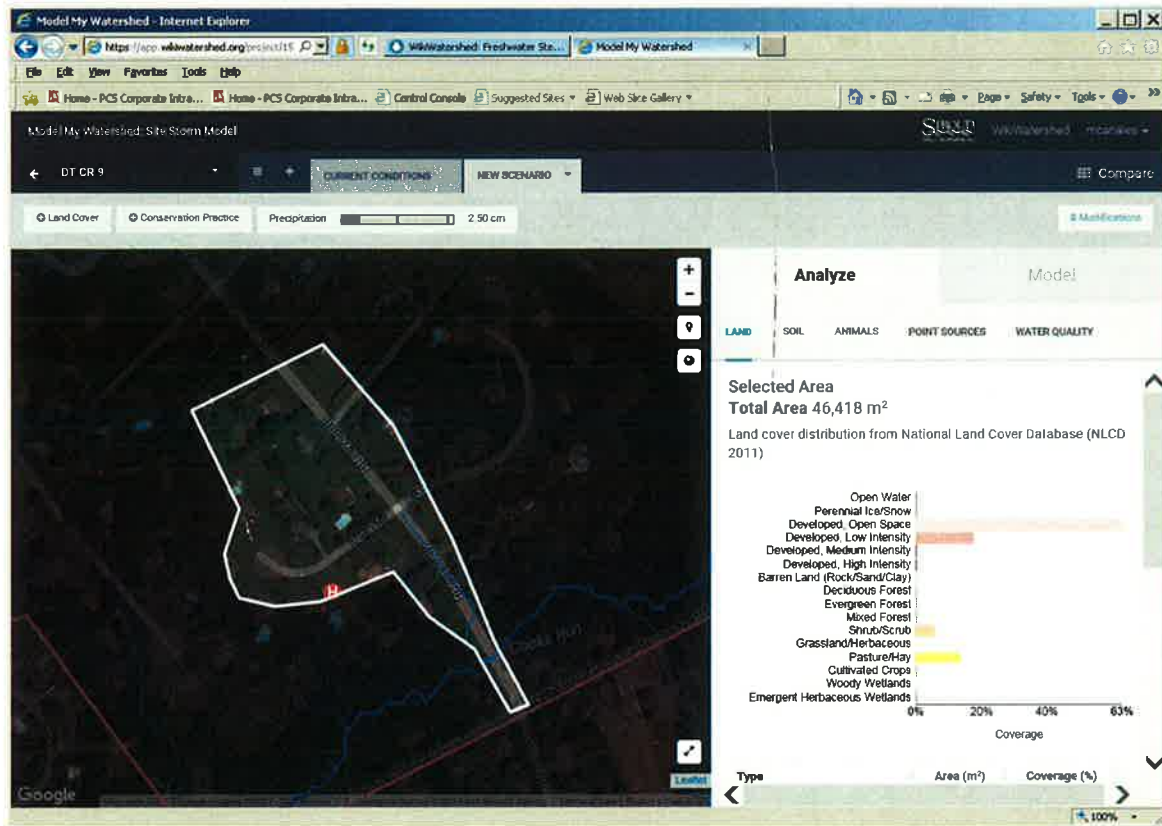
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 8

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	8,074.85	40.91	2.00
Developed, Low Intensity	1,794.41	9.09	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	9,869.27	50.00	2.44
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	19,738.53	100.00	4.88



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 9

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	28,710.60	62.75	7.09
Developed, Low Intensity	8,074.86	17.65	2.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	2,691.62	5.88	0.67
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	6,280.44	13.73	1.55
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	45,757.52	100.00	11.31



Model My Watershed - Internet Explorer

https://app.watershed.org/... Model My Watershed

Model My Watershed: Site Storm Model

DT CR 9

Land Cover Conservation Practice Precipitation 2.50 cm

Analyze Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

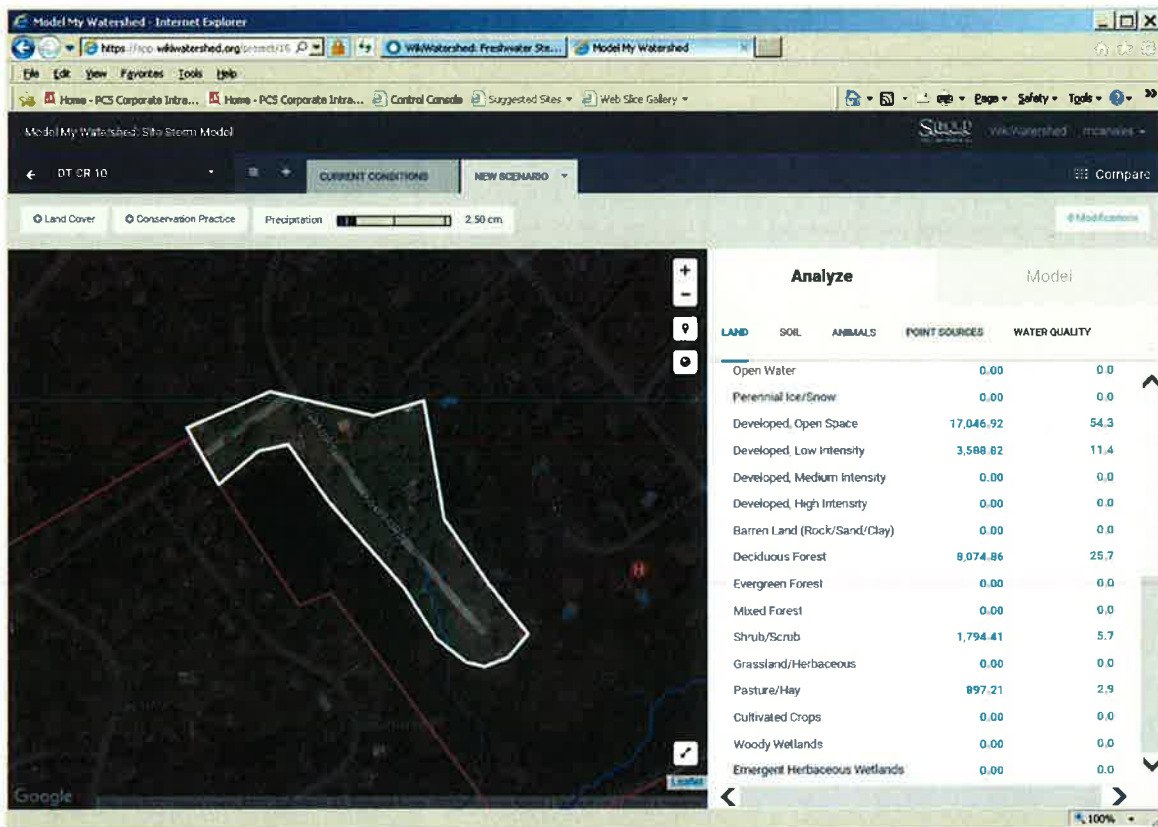
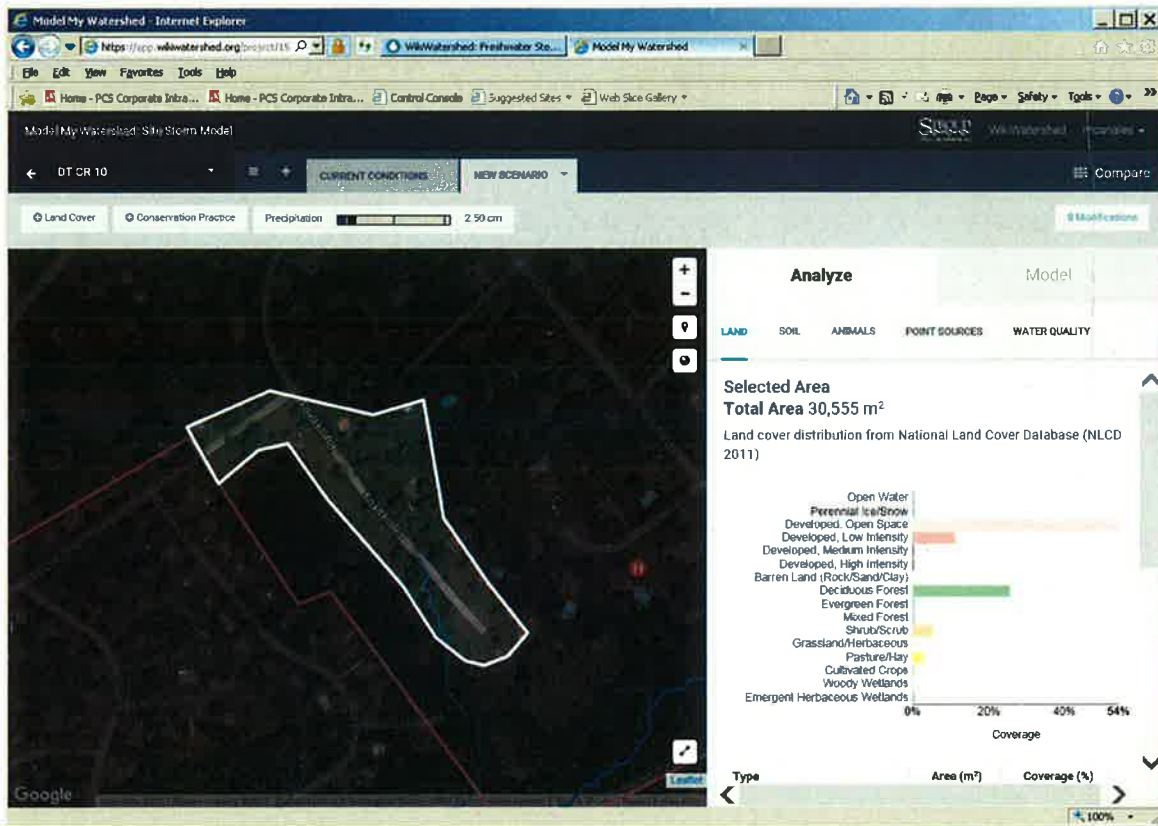
Land Cover Type	Area (m ²)	Coverage (%)
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, Open Space	28,710.60	62.7
Developed, Low Intensity	8,074.86	17.6
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Evergreen Forest	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	2,691.62	5.9
Grassland/Herbaceous	0.00	0.0
Pasture/Hay	6,280.44	13.7
Cultivated Crops	0.00	0.0
Woody Wetlands	0.00	0.0
Emergent Herbaceous Wetlands	0.00	0.0

Type Area (m²) Coverage (%)

100%

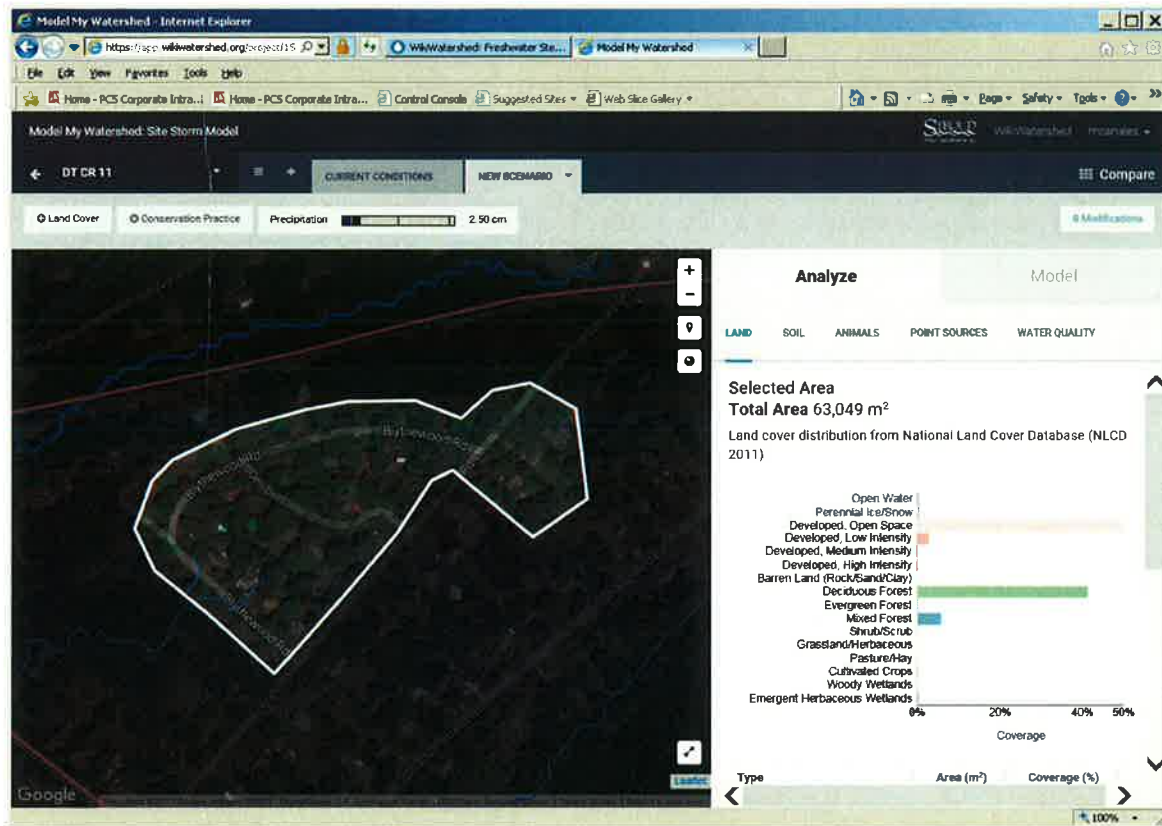
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 10

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	17,046.92	54.29	4.21
Developed, Low Intensity	3,588.82	11.43	0.89
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	8,074.86	25.71	2.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	1,794.41	5.71	0.44
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	897.21	2.86	0.22
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	31,402.22	100.00	7.76



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 11

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	31,402.25	50.00	7.76
Developed, Low Intensity	1,794.41	2.86	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	26,019.01	41.43	6.43
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	3,588.83	5.71	0.89
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	62,804.50	100.00	15.52



Model My Watershed - Internet Explorer

https://acc.watershed.org/project/15

Model My Watershed: Site Storm Model

DT CR 11

PRECIPITATION 2.50 cm

Analyze

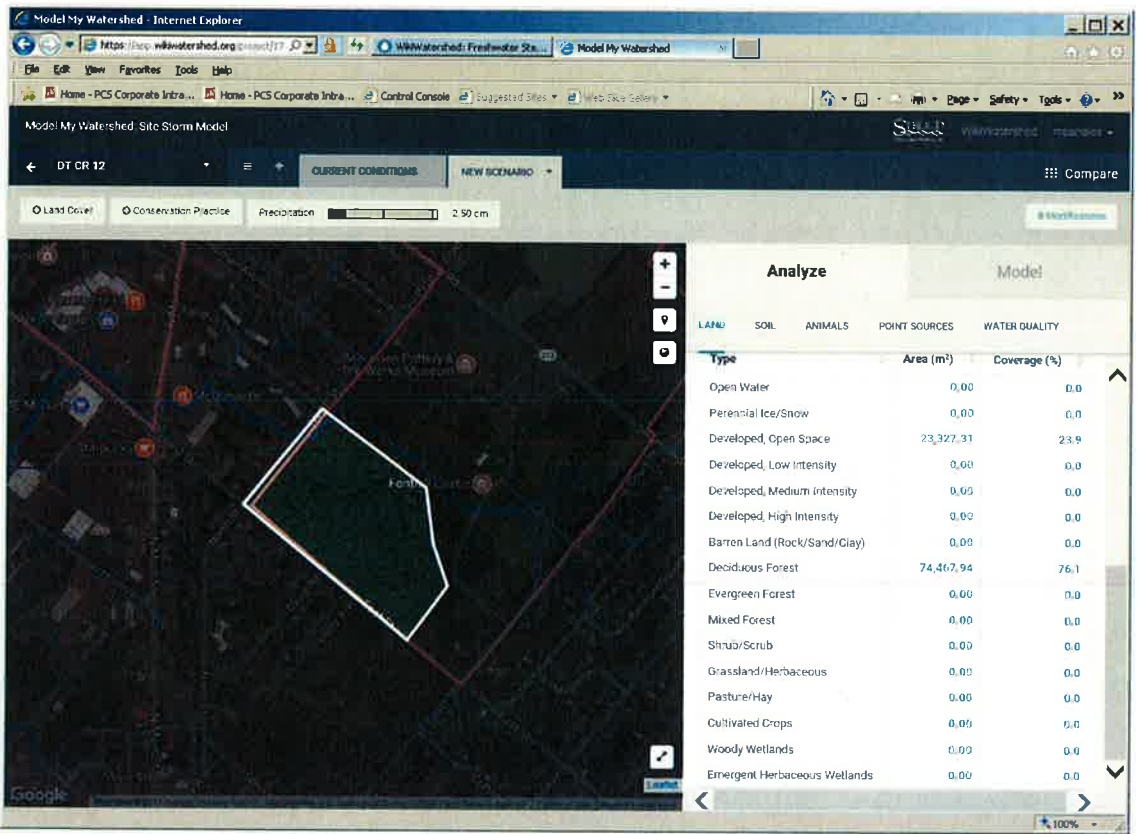
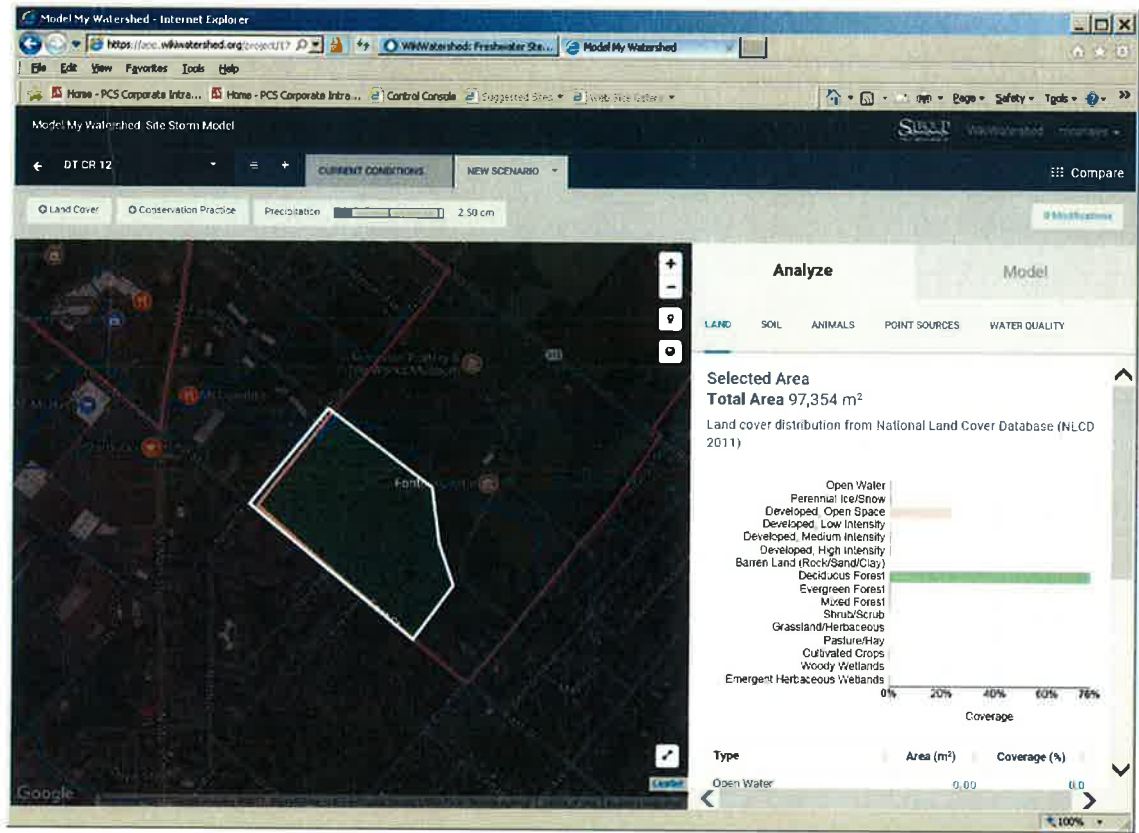
Model

LAND SOIL ANIMALS POINT SOURCES WATER QUALITY

LAND	SOIL	ANIMALS	POINT SOURCES	WATER QUALITY
Open Water	0.00	0.0		
Perennial Ice/Snow	0.00	0.0		
Developed, Open Space	31,402.25	50.0		
Developed, Low Intensity	1,794.41	2.9		
Developed, Medium Intensity	0.00	0.0		
Developed, High Intensity	0.00	0.0		
Barren Land (Rock/Sand/Clay)	0.00	0.0		
Deciduous Forest	26,019.01	41.4		
Evergreen Forest	0.00	0.0		
Mixed Forest	3,588.83	5.7		
Shrub/Scrub	0.00	0.0		
Grassland/Herbaceous	0.00	0.0		
Pasture/Hay	0.00	0.0		
Cultivated Crops	0.00	0.0		
Woody Wetlands	0.00	0.0		
Emergent Herbaceous Wetlands	0.00	0.0		

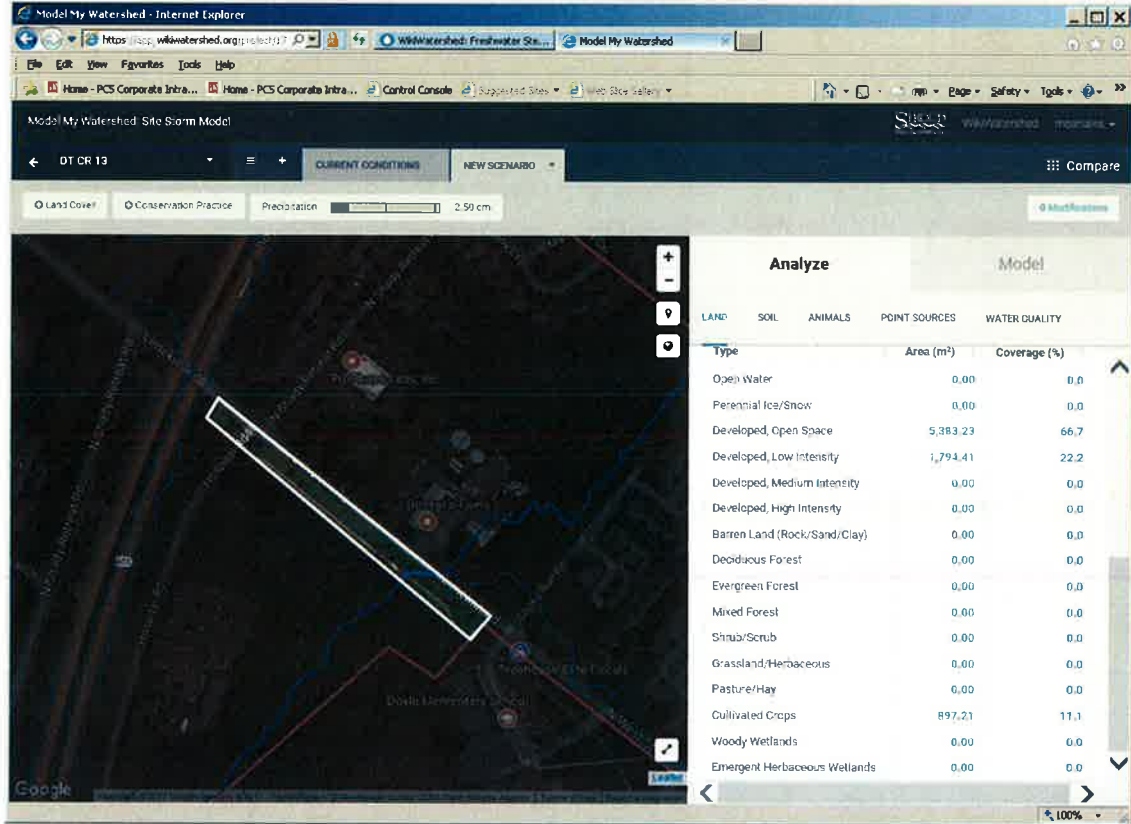
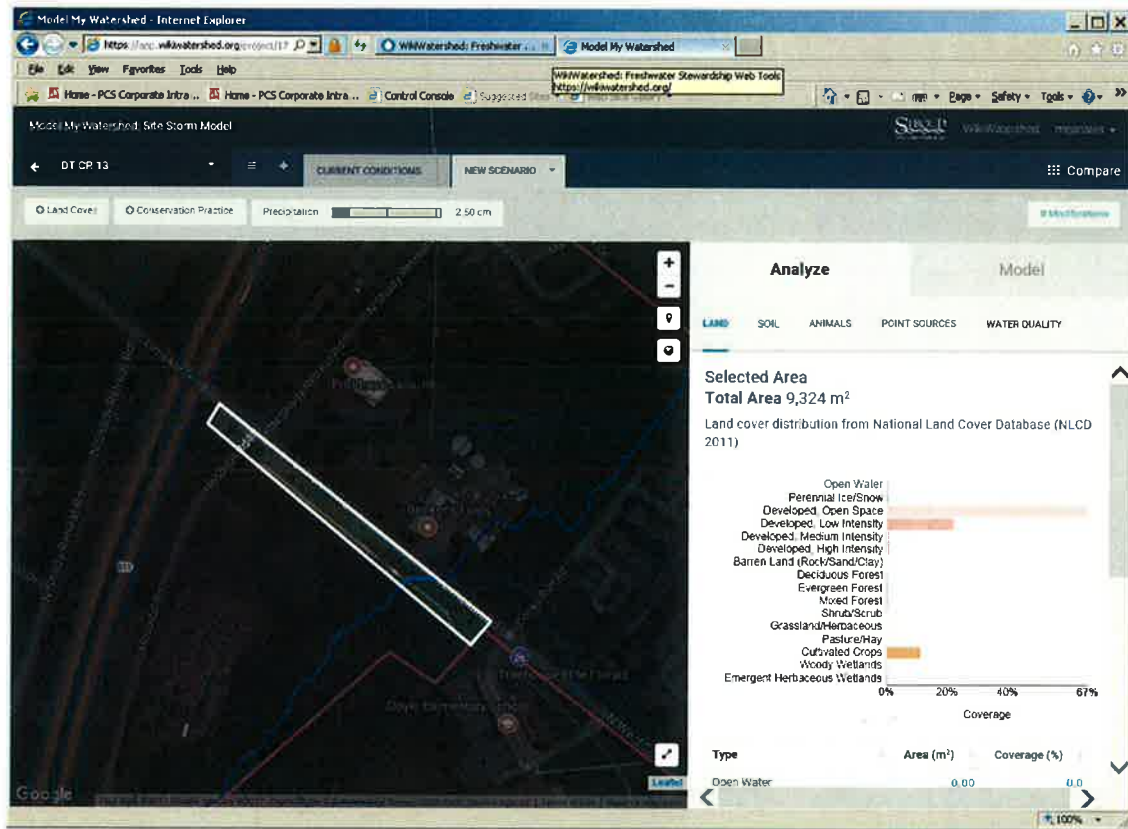
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 12

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	23,327.31	23.85	5.76
Developed, Low Intensity	0.00	0.00	0.00
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	74,467.94	76.15	18.40
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	97,795.25	100.00	24.17



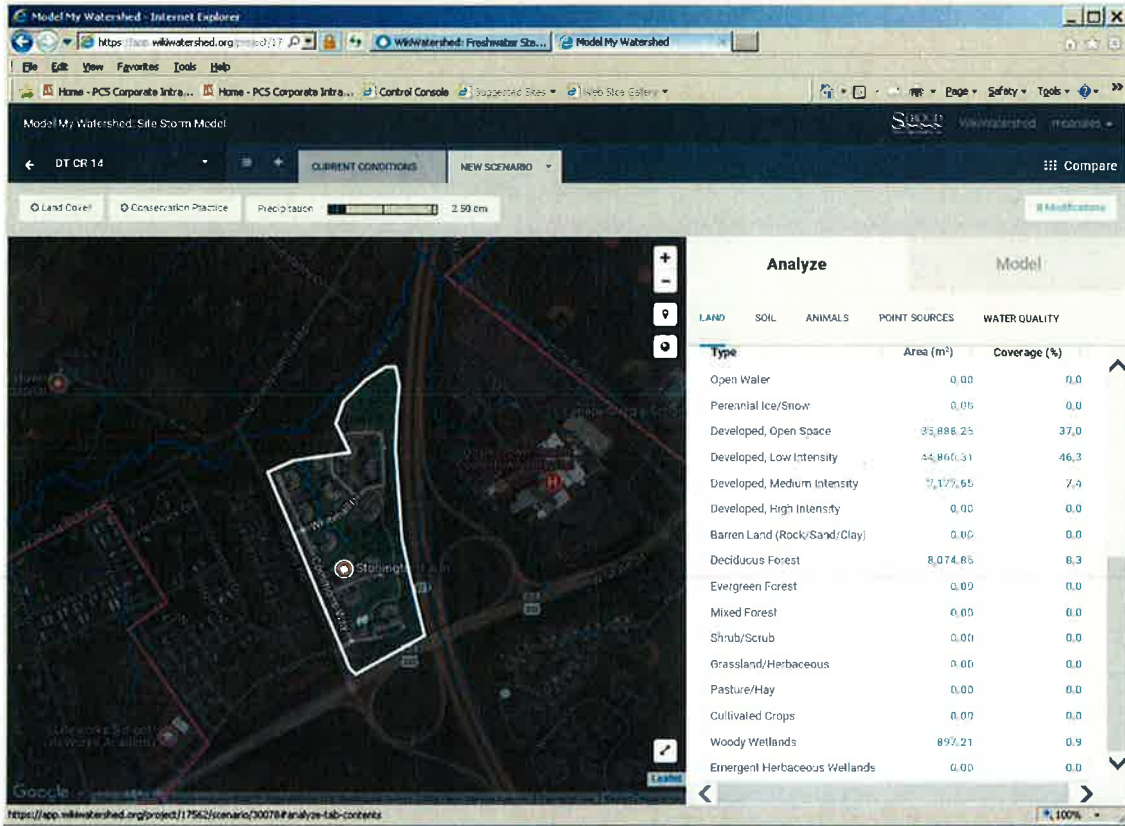
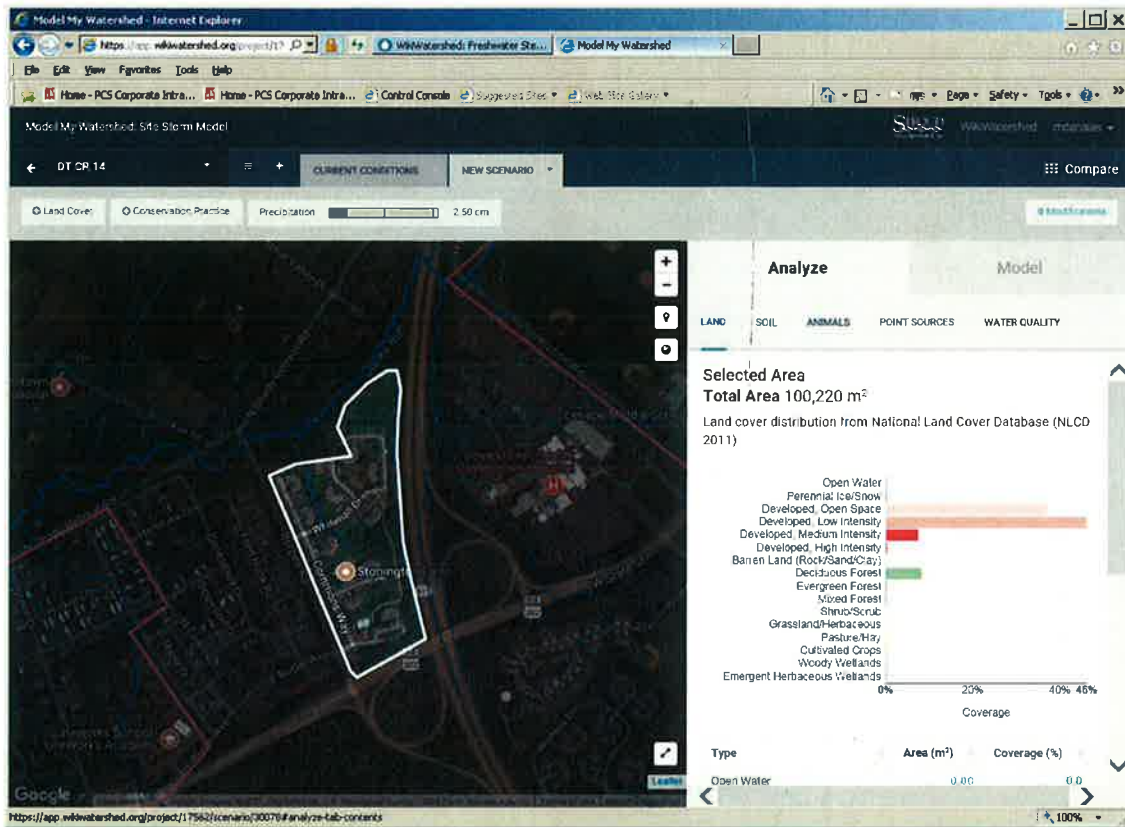
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 13

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	5,383.23	66.67	1.33
Developed, Low Intensity	1,794.41	22.22	0.44
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	897.21	11.11	0.22
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	8,074.85	100.00	2.00



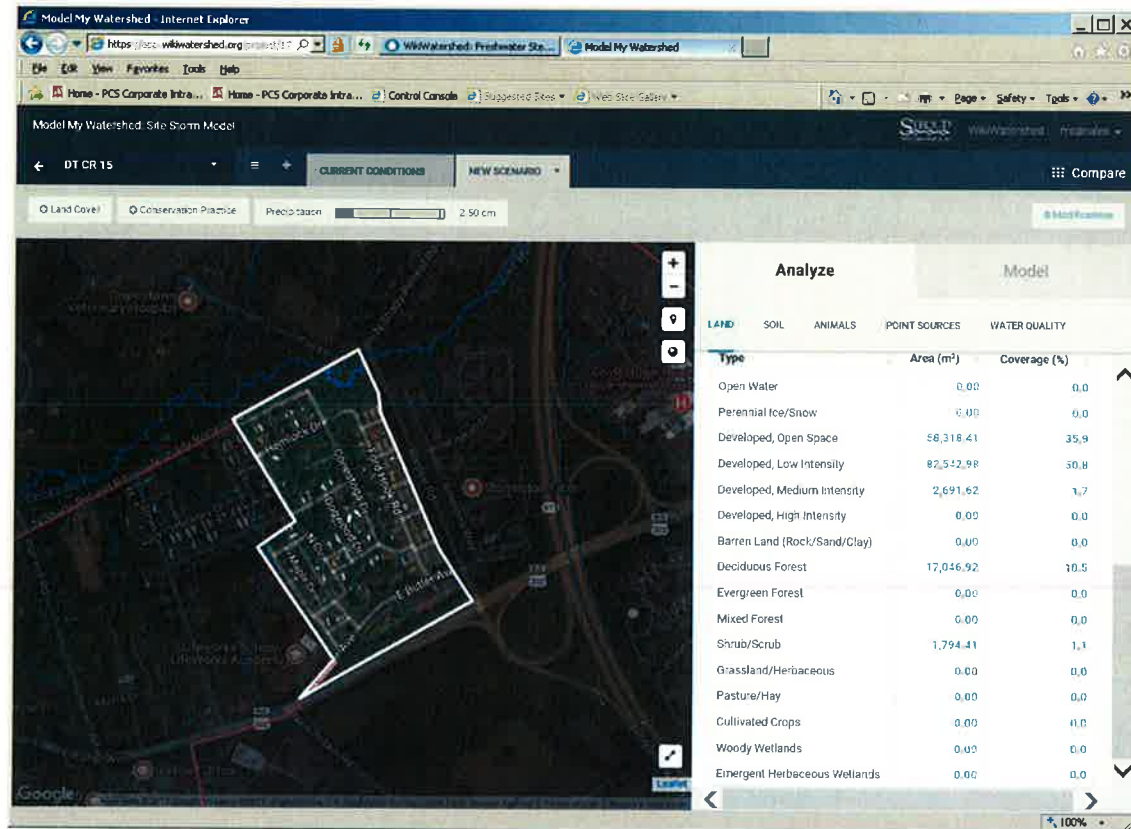
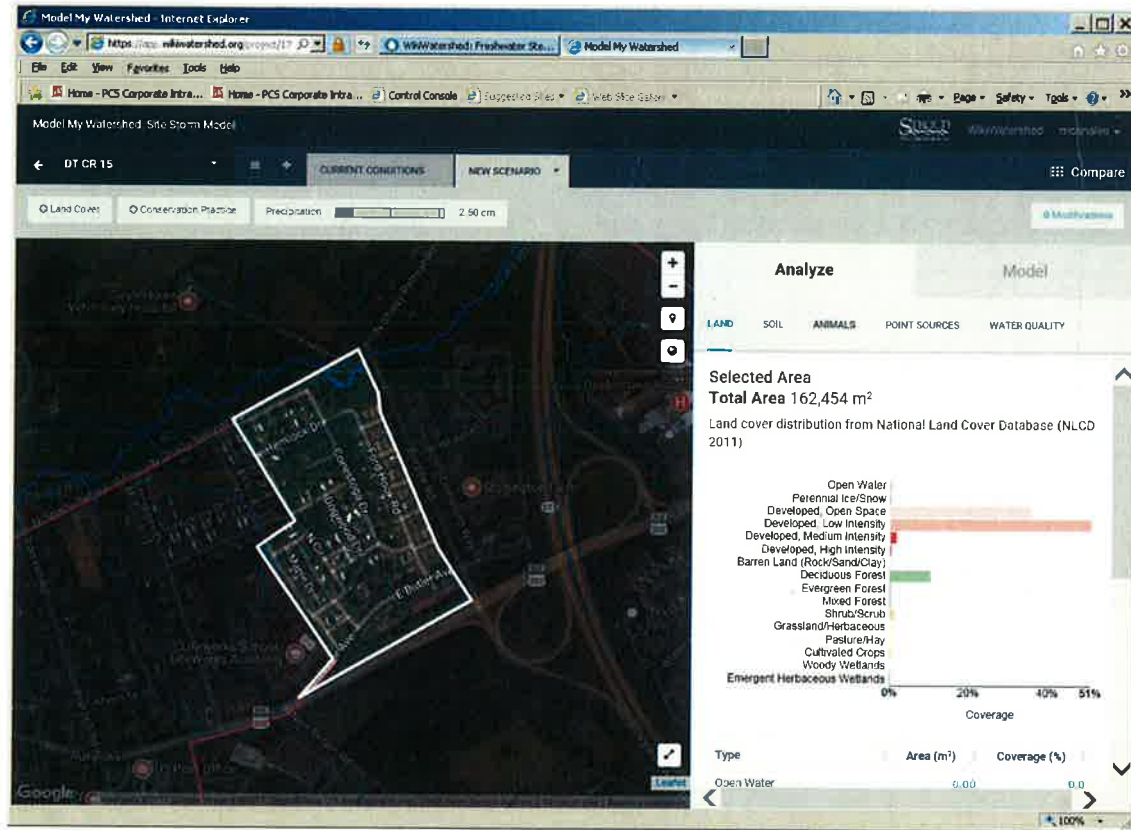
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 14

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	35,888.25	37.04	8.87
Developed, Low Intensity	44,860.31	46.30	11.08
Developed, Medium Intensity	7,177.65	7.41	1.77
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	8,074.86	8.33	2.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	897.21	0.93	0.22
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	96,898.28	100.00	23.94



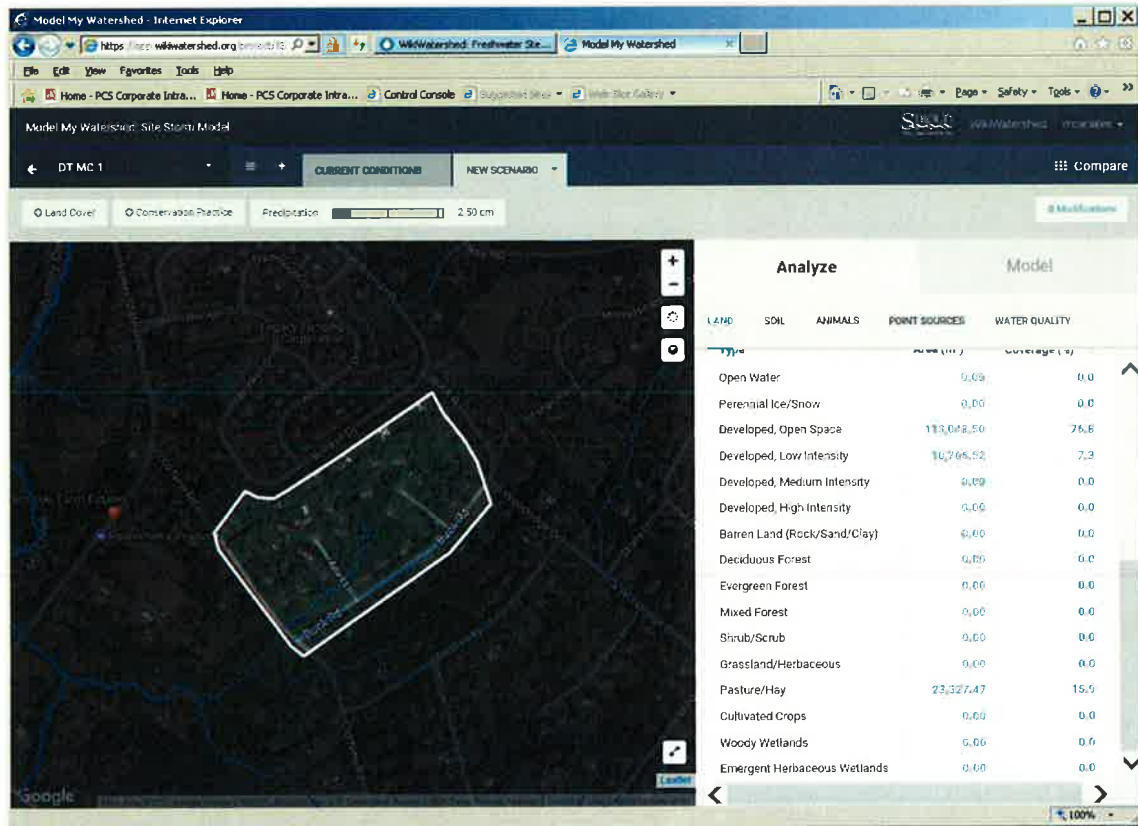
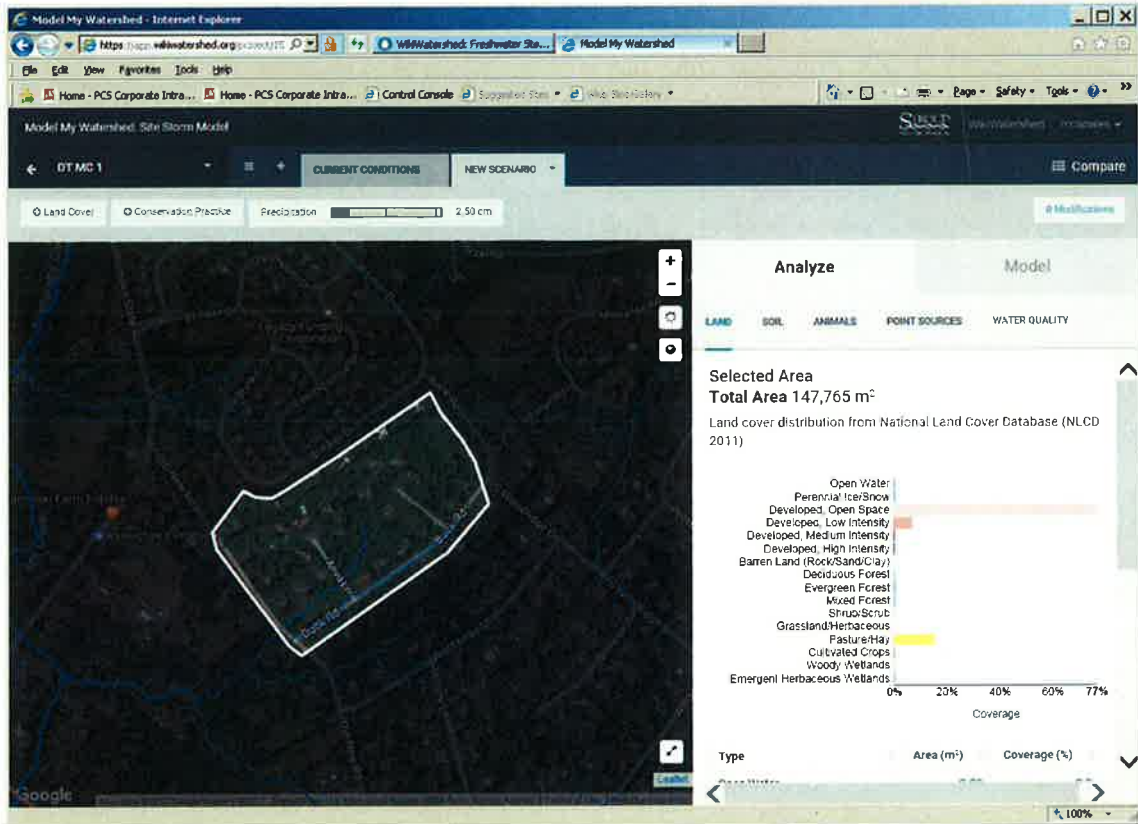
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Cooks Run - Subwatershed 15

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	58,318.41	35.91	14.41
Developed, Low Intensity	82,542.98	50.83	20.40
Developed, Medium Intensity	2,691.62	1.66	0.67
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	17,046.92	10.50	4.21
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	1,794.41	1.10	0.44
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	162,394.34	100.00	40.13



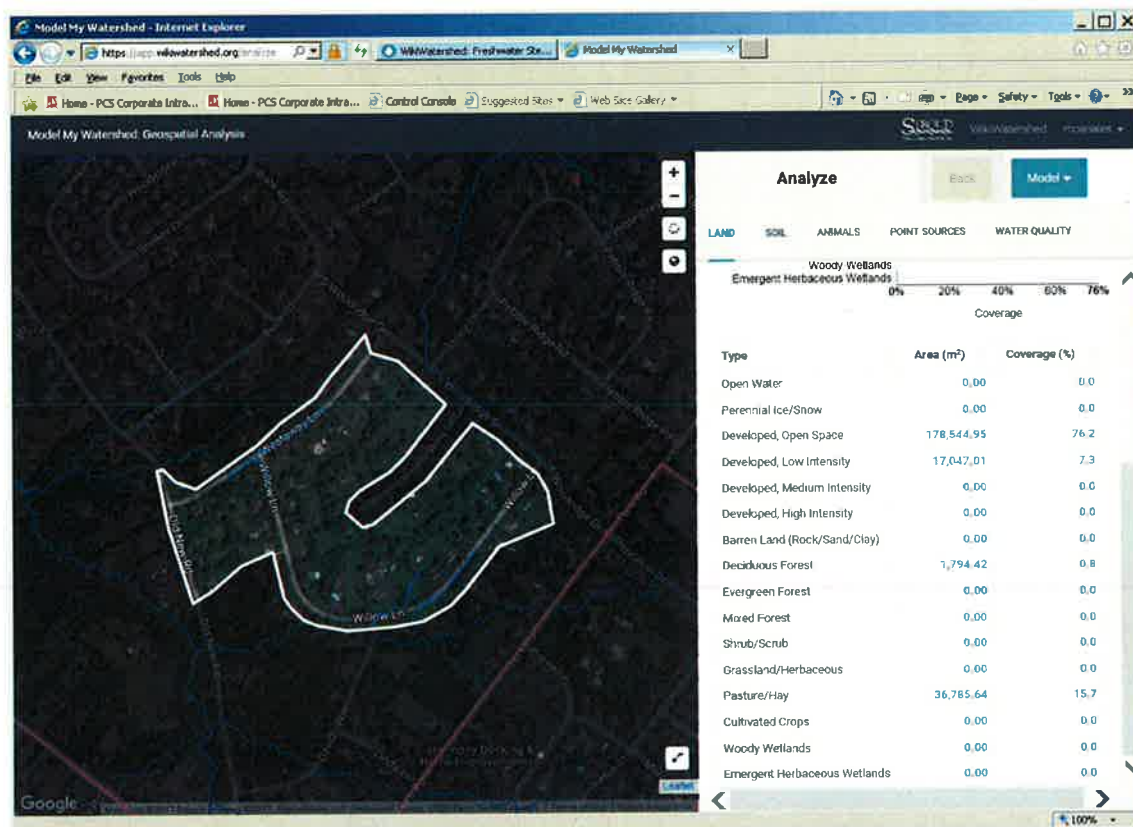
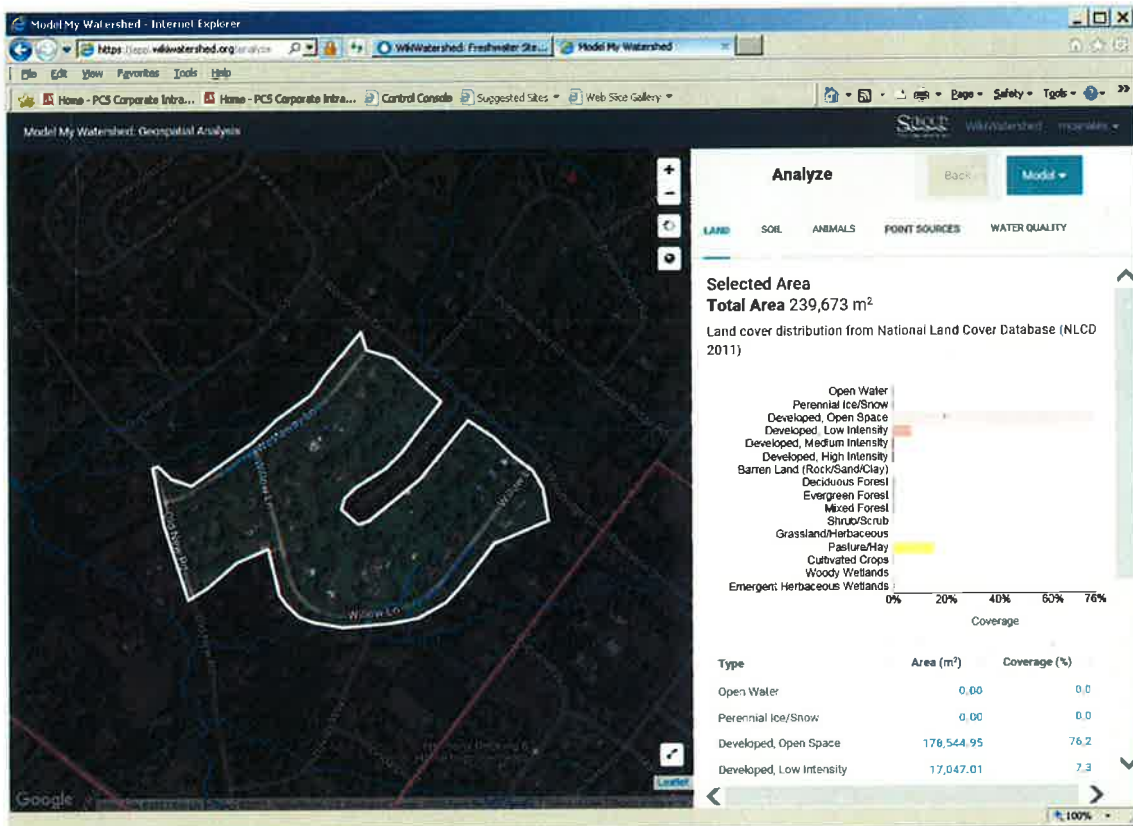
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Mill Creek - Subwatershed 1

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	113,048.50	76.83	27.93
Developed, Low Intensity	10,766.52	7.32	2.66
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	23,327.47	15.85	5.76
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	147,142.49	100.00	36.36



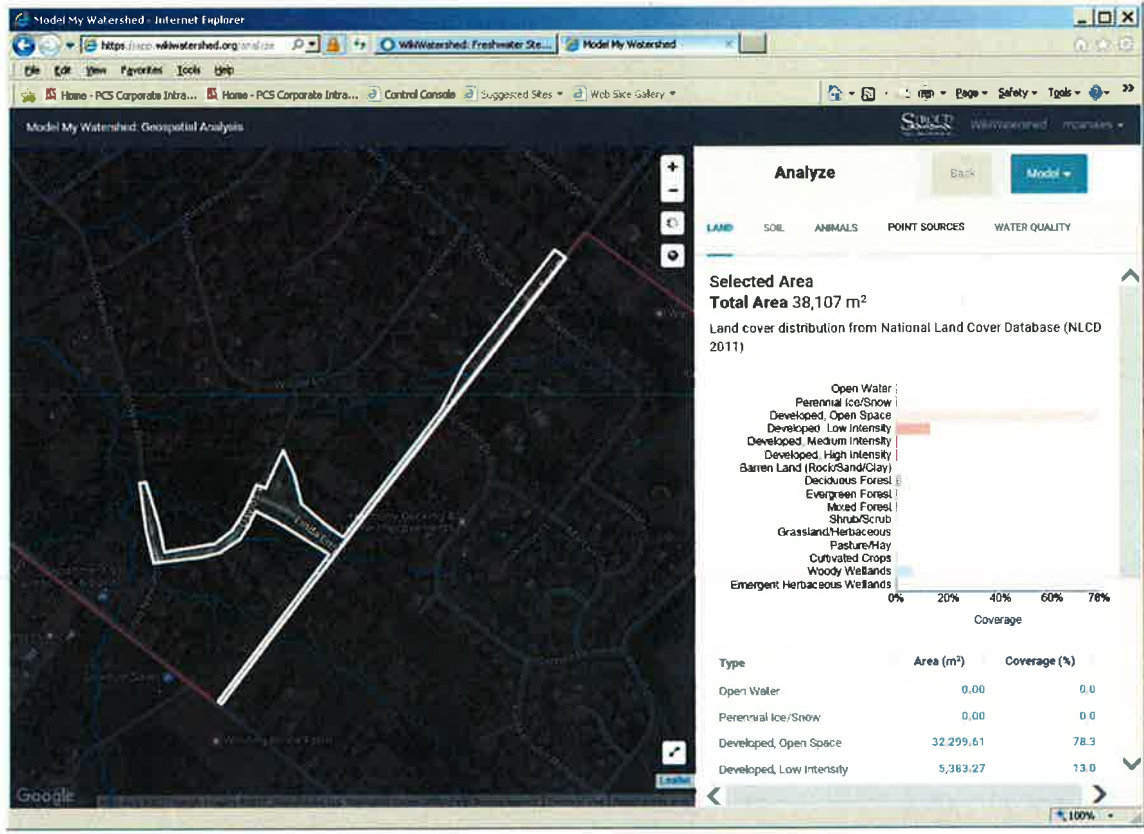
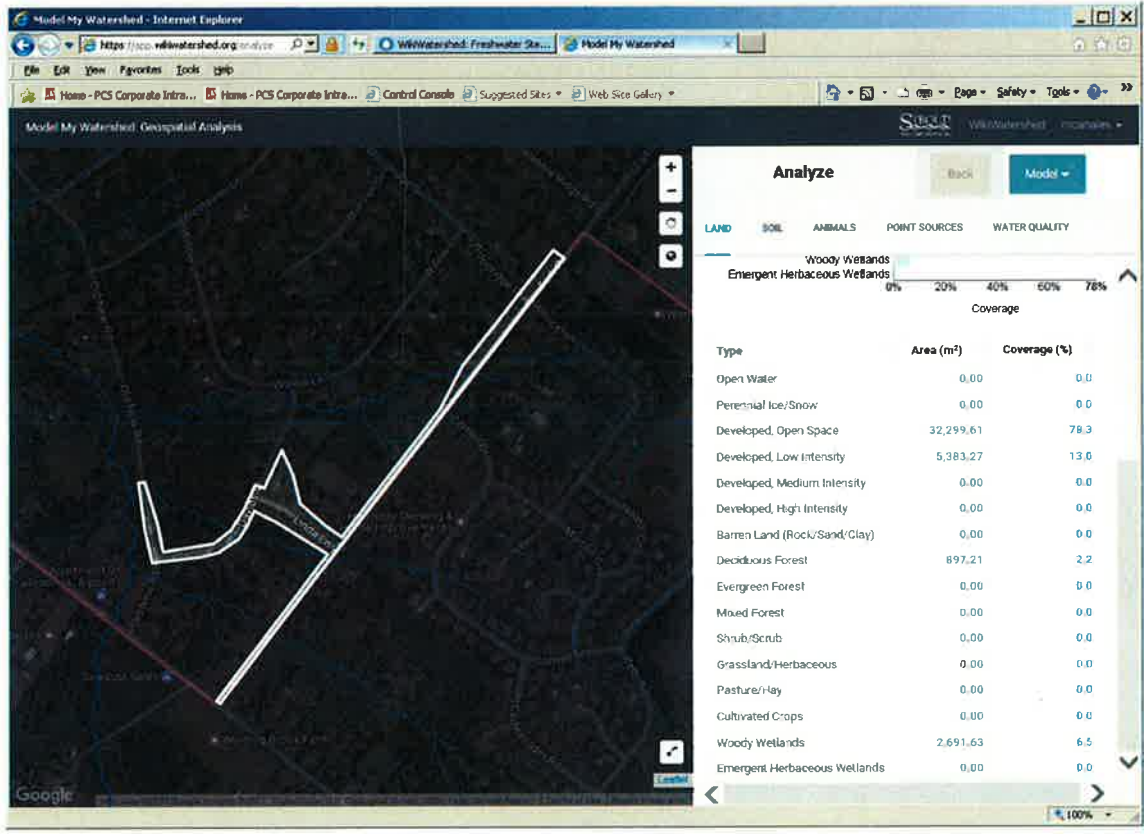
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Mill Creek - Subwatershed 2

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	178,544.95	76.25	44.12
Developed, Low Intensity	17,047.01	7.28	4.21
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	1,794.42	0.77	0.44
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	36,785.64	15.71	9.09
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	234,172.02	100.00	57.86



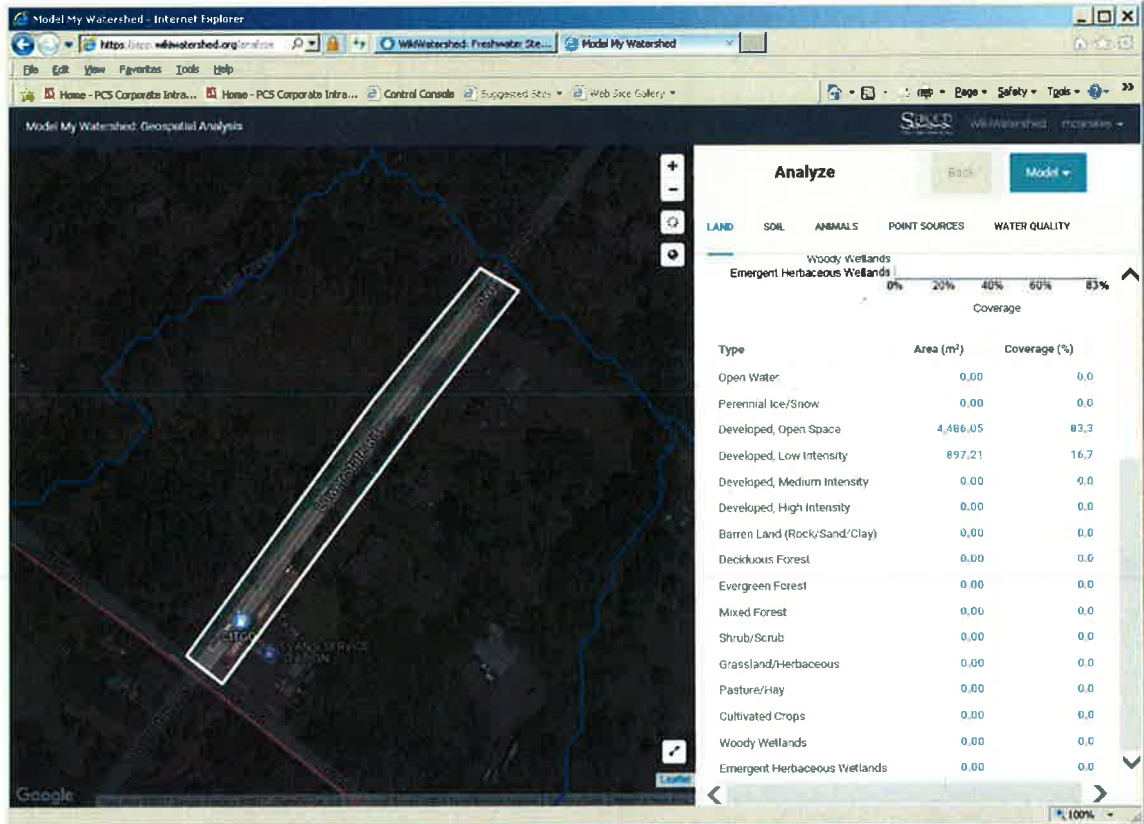
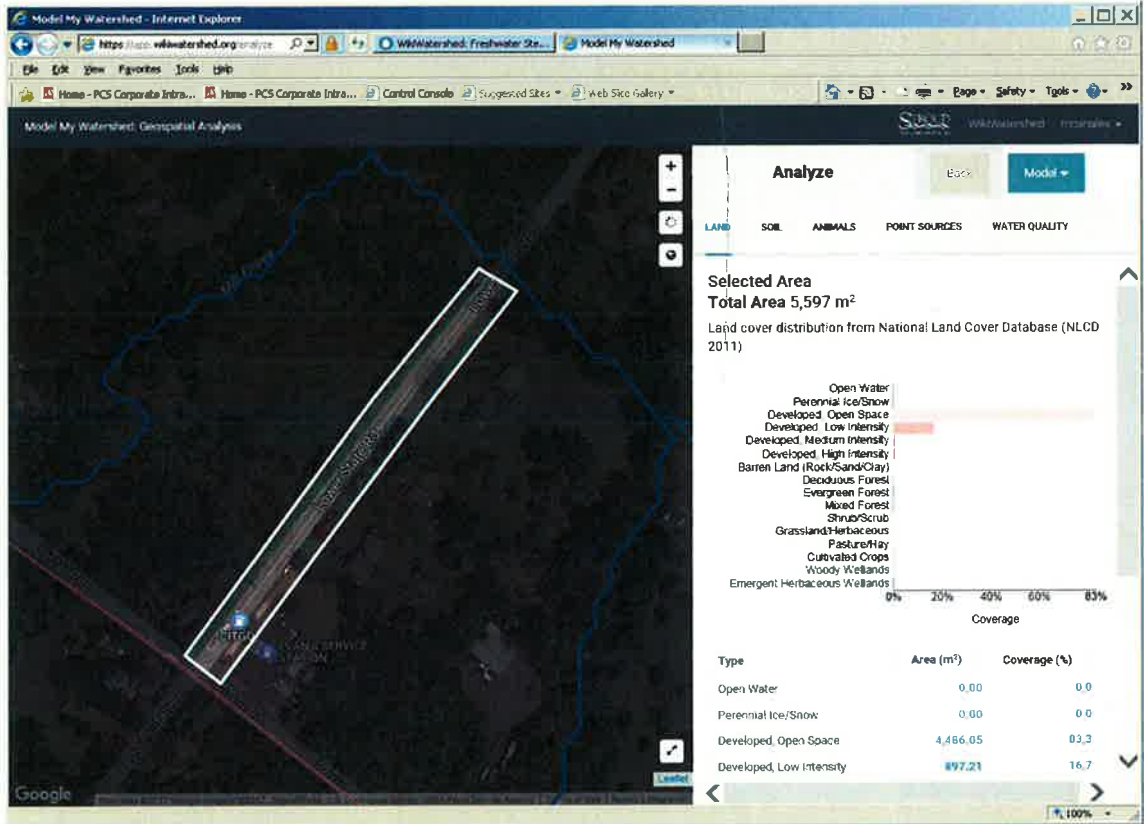
Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Mill Creek - Subwatershed 3

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	32,299.61	78.26	7.98
Developed, Low Intensity	5,383.27	13.04	1.33
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	897.21	2.17	0.22
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	2,691.63	6.52	0.67
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	41,271.72	100.00	10.20



Doylestown Township Land Use from 2011 National Land Cover Database (NLCD 2011)
Mill Creek - Subwatershed 4

Land Use	Area (m ²)	Coverage (%)	Area (acres)
Open Water	0.00	0.00	0.00
Developed, Open Space	4,486.05	83.33	1.11
Developed, Low Intensity	897.21	16.67	0.22
Developed, Medium Intensity	0.00	0.00	0.00
Developed, High Intensity	0.00	0.00	0.00
Barren Land (Rock/Sand/Clay)	0.00	0.00	0.00
Deciduous Forest	0.00	0.00	0.00
Evergreen Forest	0.00	0.00	0.00
Mixed Forest	0.00	0.00	0.00
Shrub/Scrub	0.00	0.00	0.00
Grassland/Herbaceous	0.00	0.00	0.00
Pasture/Hay	0.00	0.00	0.00
Cultivated Crops	0.00	0.00	0.00
Woody Woodlands	0.00	0.00	0.00
Emergent Herbaceous Wetlands	0.00	0.00	0.00
Total	5,383.26	100.00	1.33



Attachment D-3

Structural BMPs to be Utilized to Reduce Existing Load

**Doylestown Township Pollutant Reduction Plan/TMDL Plan
Attachment D-2 - Structural BMPs to be Utilized to Reduce Existing Loading**

BMP ID	Description	Latitude / Longitude	Watershed	Installation Date	Drainage Area (Acres)	Hydrologic Soil Group	BMP Efficiency	TSS Load Reduction (Lbs)
20	Detention Basin	40.306304° / -75.147991°	Cooks Run	2004	23	D	60%	9,817
21	Detention Basin	40.311773° / -75.164675°	Pine Run	2005	31	C	60%	9,592
24	Detention Basin	40.301440° / -75.141761°	Neshaminy	2008	50	B	60%	17,410
25	Subsurface Stormwater Detention Facility	40.318989° / -75.172614°	Pine Run	2008	1	D	60%	309
26	Detention basin	40.292544° / -75.151223°	Neshaminy	2008	9	C	60%	3,134
27	Bioretention Rain Garden w/ Underground Outlets	40.305093° / -75.121785°	Neshaminy	2009	1	D	55%	319
29	Detention Basin	40.285579° / -75.137111°	Neshaminy	2010	32	B	60%	11,143
30	Detention Basin	40.298256° / -75.085774°	Neshaminy	2012	5	C	60%	1,741
32	Retention Basin	40.318402° / -75.138994°	Cooks Run	2012	14	B	80%	7,967
34	Detention Basin	40.288739° / -75.141304°	Cooks Run	2012	26	B	60%	11,097
35	Rain Garden	40.319405° / -75.154693°	Pine Run	2012	2	B	90%	928
36	Rain Garden	40.295540° / -75.110280°	Neshaminy	2013	2	B	90%	1,045
37	Rain Garden	40.279494° / -75.120528°	Neshaminy	2013	2	D	55%	638
39	Underground Stormwater Basin	40.328737° / -75.131342°	Cooks Run	2013	16	D	60%	6,829
40	Detention Basin	40.298768° / -75.145133°	Neshaminy	2014	17	B	60%	5,920
43	2 detention basins and 2 infiltration basins	40.267006° / -75.131373°	Neshaminy	2014	20	C	60%	6,964
44	Underground Detention Basin	40.305817° / -75.098676°	Neshaminy	2014	2	B	60%	696
45	Subsurface Infiltration Bed	40.302517° / -75.102577°	Neshaminy	2014	3	C	95%	1,654
46	Rain Garden	40.279694° / -75.120609°	Neshaminy	2014	2	D	55%	638
49	Retention Basin	40.307070° / -75.169982°	Pine Run	7/9/2013	2	D	55%	567
50	Retention Basin	40.307021° / -75.145144°	Cooks Run	2009	10	D	55%	3,913
51	Detention Basin	40.294796° / -75.129625°	Neshaminy	2014	9	B	60%	3,134
52	Subsurface Detention Bed	40.303527° / -75.103337°	Neshaminy	2015	4	C	60%	1,393
53	Subsurface Infiltration system	40.301290° / -75.093384°	Neshaminy	2015	1	B	95%	551
54	subsurface infiltration bed	40.293228° / -75.096805°	Neshaminy	2015	1	B	95%	551
55	Rain Garden	40.330485° / -75.152865°	Pine Run	2015	2	D	55%	567
56	Rain Garden	40.330665° / -75.152437°	Pine Run	2015	2	D	55%	567
57	subsurface trench	40.310917° / -75.163020°	Pine Run	2014	3	C	80%	1,238
60	infiltration trench	40.280519° / -75.117435°	Neshaminy	2015	1	B	95%	551
61	Generator Pad- seepage bed and stone trench	40.319137° / -75.172581°	Pine Run	2016	1	D	80%	413
62	rain garden	40.273411° / -75.152977°	Neshaminy	2016	2	D	55%	638
63	Rain Garden	40.331158° / -75.152458°	Pine Run	UNKNOWN	2	D	55%	567
64	Rain Garden	40.299870° / -75.112150°	Mills Creek	UNKNOWN	1	D	55%	556
Total					364			118,248
Neshaminy River Watershed Total					207			58,678
Pines Run Creek Watershed Total					89			19,391
Cooks Run Creek Watershed Total					61			39,623
Mill Creek Watershed Total					1			556

Attachment E-1

Photographs – Selected BMPs



Photo 1 - Proposed BMP-A: UNT Neshaminy Creek Stream Restoration



Photo 2 - Proposed BMP-A: UNT Neshaminy Creek Stream Restoration



Attachment E-1 Photographs - Selected BMPs



Photo 3 - Proposed BMP-B: Ridings at Covered Bridge BMP Retrofits



Photo 4 - Proposed BMP-B: Ridings at Covered Bridge BMP Retrofits



Photo 5 - Proposed BMP-B: Ridings at Covered Bridge BMP Retrofits



Attachment E-1 Photographs - Selected BMPs



Photo 6 - Proposed BMP-C: Pine Run Road Stream Restoration



Photo 7 - Proposed BMP-C: Pine Run Road Stream Restoration



Attachment E-1 Photographs - Selected BMPs



Photo 8 - Proposed BMP-D: Cottonwood Court BMP Retrofit



Photo 9 - Proposed BMP-D: Cottonwood Court BMP Retrofit



Attachment E-1 Photographs - Selected BMPs



Photo 10 - Proposed BMP-F: Old New Road Stream Restoration



Attachment E-1 Photographs - Selected BMPs