

**Amendment 1 to Council Resolution No. 182-2015**

**BY: The Chairperson at the  
request of the County Executive  
and Cosponsored by Greg Fox**

**Legislative Day No.  
Date: February 1, 2016**

**Amendment No. 1**

*(This amendment substitutes a revised Financial Assurance Plan in order to comply with Maryland Department of the Environment Guidance issued on December 18, 2015.)*

- 1 Remove the Financial Assurance Plan including Appendix 1, attached to the Resolution as
- 2 introduced, and substitute a revised Plan, as attached to this Amendment.

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Permit Information

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Jurisdiction Name	Howard County
Contact Person	Mark S. Richmond, P.E., Chief
Contact Number	410-313-6413
Contact Address	Howard County Government, Department of Public Works, Bureau of Environmental Services, Stormwater Management Division, 6751 Columbia Gateway Drive, Suite 514, Columbia, MD 21046
Contact Email	<a href="mailto:msrichmond@howardcountymd.gov">msrichmond@howardcountymd.gov</a>
Impervious Acre Baseline	10221.60
Permit Number	11-DP-3318, MD0068322
Reporting Year	2016

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**Financial Assurance Plan (FAP)**  
**Actions & Costs (Expenditures)**

FY2016 Actions and Cost			Projected Restoration Costs				
	MS4 Permit Cost	ISRP Cost	FY 2017	FY 2018	FY 2019	FY 2020	Total
Best Management Practices (BMPs):							
Existing BMPs							
Restoration BMPs		8,515,487	27,555,179	32,091,364	32,328,247	32,110,558	
MS4 Permit:							
Operational Cost SOURCE_ID	95,000						
Capital Cost	0						
SWM Cost	1,616,000						
Erosion Sediment Control	2,890,000						
Illicit Detection Elimination	80,000						
Trash Elimination	200,000						
Prop Management	110,000						
Inlet Cleaning	10,000						
Street Sweeping	400,000						
Road Maintenance - Other	1,323,000						
Public Education	1,102,000						
Watershed Assessment	1,169,370						
Watershed Restoration	11,628,000						
Chem Mon Assessment	37,000						
Bio Mon Assessment	125,000						
Phys Stream Assessment	37,000						
Manual Monitoring	64,000						
TMDL Assessment	417,000						
Est. Cost to Meet MS4 Permit	21,303,370						21,303,370
Est. Cost for ISRP Requirement		8,515,487	27,555,179	32,091,364	32,328,247	32,110,558	132,600,835
Annual progress(%) towards the 20% MS4 Permit Requirement		1.108%	3.381%	4.022%	6.679%	3.970%	19.160%
BMPs Implemented for the 20% MS4 Permit Requirement		20	68	70	9,073	44	9,275

20.700% % Progress including 2015 BMPs

ISRP: Impervious Surface Restoration Program

NOTES:

1. EXPENDITURE data are based on FY2016 budgeted numbers and are not based on actual expenditures. Actual expenditures for FY2016 will not be available until after July 2016.
2. Howard County's current MS4 Permit requires the submittal of Financial Analyses as Database L included in the Attachment A Annual Report Databases. All of the "Permit Conditions" included in this FAP table are included in Database L except for "Operational Cost". Conversely, the data field for "SOURCE\_ID" is included in Database L, but is not included in the "Permit Conditions" listed in this FAP table. For consistency with the MS4 Annual Report database reporting requirements, "Operational Cost" is replaced with "SOURCE\_ID".
3. SOURCE\_ID is the total annual cost for source identification.
4. The cost of Existing BMPs is incorporated into the data reported under MS4 Permit and is not separately reported in order to avoid double-counting.
5. The ISRP Cost is part of the total MS4 Permit Cost. Specifically, the ISRP Cost is part of the Watershed Restoration Cost.
6. The overall operating costs of meeting this permit will annually be approximately \$4 million. In FY 2017, a majority of these costs will be absorbed by an unreserved fund balance in the County's Watershed Protection and Restoration Fund; however, in the following years this amount will be absorbed by the County's General Fund.

FY	Actual 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Total next 2-years FY 17-18	Total 5-year Cycle
Projected Annual Revenue for ISRP	\$ 8,515,487.00	\$ 23,666,384.00	\$ 27,039,069.00	\$ 35,298,793.00	\$ 38,081,103.00	\$50,705,453.00	\$132,600,836.00
Projected Costs to meet ISRP (All Projects)	\$ 8,515,487.00	\$ 27,555,179.00	\$ 32,091,365.00	\$ 32,328,247.00	\$ 32,110,558.00	\$59,646,544.00	\$132,600,836.00
					Percent	85%	

ISRP = Impervious Surface Restoration Program, or 20% Restoration Requirement

NOTES:

1. The projected costs to meet the Impervious Surface Restoration Program requirement of Howard County's MS4 permit are taken from the Countywide Implementation Strategy. Note that the total projected 5-year costs and revenues match.
2. These costs are estimated and will change based on modifications to stormwater remediation crediting procedures by the Maryland Department of the Environment, projected implementation of a Nutrient Trading Program, and continued improvements of technology.

**Article 4-201.1(j)(1)(I): Any sources of funds that will be utilized by the county or municipality to meet the Impervious Surface Restoration Program requirement of its NPDES MS4 Permit**

Source		FY 2017		FY 2018
Stormwater Remediation Fees	\$	5,500,000.00	\$	-
State Grant		3,200,000.00		2,000,000.00
Previous Year Reserved Fund Balance		4,700,049.00		-
Transfer Tax		-		1,000,000.00
Government Obligation Bonds		10,266,335.00		19,039,069.00
Pay-Go Funding		-		5,000,000.00
	\$	23,666,384.00	\$	27,039,069.00

NOTES:

1. Use of transfer tax funds is dependent on State legislation

### 2015 BMPs

As of the end of FY2015 (June 30, 2015), 157.4 acres of impervious surface restoration has been completed and will be applied to the current baseline and 20% restoration goal. See Howard County's Countywide Implementation Strategy (Table 25) and Attachment A, Table D of the County's 2015 Annual Report (AR20).

157.4 2015 Impervious restoration progress.

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	1.540%

**2016 BMPs**

PERMIT CONDITION	EXPENDITURE
Operational Expenditure SOURCE_ID	\$95,000.00
Capital Expenditure	\$0.00
SWM Expenditure	\$1,616,000.00
Erosion Sediment Control	\$2,890,000.00
Illicit Detection Elimination	\$80,000.00
Trash Elimination	\$200,000.00
Prop Management	\$110,000.00
Inlet Cleaning	\$10,000.00
Street Sweeping	\$400,000.00
Road Maintenance - Other	\$1,323,000.00
Public Education	\$1,102,000.00
Watershed Assessment	\$1,169,370.00
Watershed Restoration	\$11,628,000.00
Chem Mon Assessment	\$37,000.00
Bio Mon Assessment	\$125,000.00
Phys Stream Assessment	\$37,000.00
Manual Monitoring	\$64,000.00
TMDL Assessment	\$417,000.00
<b>TOTAL</b>	<b>\$21,303,370.00</b>

ANNUAL PROGRESS(%) TOWARDS THE 20% MS4 PERMIT REQUIREMENT	
Baseline:	10,221.60
% Progress:	1.108%

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_16	Wet Pond	Structural BMP	1	1.0	9/9/9999	\$ 400,000	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	10.0	9/9/9999	\$ 650,000	2016	Planning	
LPAX_16	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	\$ 656,484	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	3.5	9/9/9999	\$ 830,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	7.5	9/9/9999	\$ 80,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	6.4	9/9/9999	\$ 71,172	2016	Under Design	
MPAX_16	Filter	Structural BMP	1	3.5	9/9/9999	\$ 233,660	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	\$ 240,000	2016	Planning	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.0	9/9/9999	\$ 60,000	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.8	9/9/9999	\$ 311,000	2016	Under Design	



MPAX_16	Stream Restoration	Alternative BMP	1	5.0	9/9/9999	\$ 365,000	2016	Under Design
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	\$ 541,202	2016	Under Design
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	\$ 541,202	2016	Complete
PLNB_16	Extended Detention Structure, Wet	Structural BMP	1	2.9	9/9/9999	\$ 380,000	2016	Planning
PLNB_16	Wet Pond	Structural BMP	1	5.8	9/9/9999	\$ 316,995	2016	Under Design
PLNB_16	Bioretention	Structural BMP	1	1.0	9/9/9999	\$ 187,342	2016	Under Design
PLNB_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	\$ 460,000	2016	Under Design
PLNB_16	Stream Restoration	Alternative BMP	1	17.0	9/9/9999	\$ 965,000	2016	Under Design
PLNB_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	\$ 576,430	2016	Under Design
PLNB_16	Stream Restoration	Alternative BMP	1	11.1	9/9/9999	\$ 650,000	2016	Under Design
SEPTICUG_16	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2016	Planning
			20	113.3		\$8,515,487		

**NOTES:**

1. EXPENDITURE data are based on FY2016 budgeted numbers and are not based on actual expenditures. Actual expenditures for FY2016 will not be available until July 2016.

2. Howard County's current MS4 Permit requires the submittal of Financial Analyses as Database L included in the Attachment A Annual Report Databases. All of the "Permit Conditions" included in this FAP table are included in Database L except for "Operational Expenditure". Conversely, the data field for "SOURCE\_ID" is included in Database L, but is not included in the "Permit Conditions" listed in this FAP table. For consistency with the MS4 Annual Report database reporting requirements, "Operational Expenditure" is replaced with "SOURCE\_ID".

3. SOURCE\_ID is the total annual cost for source identification.

4. The ISRP Cost is part of the total MS4 Permit Cost. Specifically, the ISRP Cost is part of the Watershed Restoration Cost.

**2017 BMPs**

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_17	Wet Pond	Structural BMP	1	6.6	9/9/9999	\$ 330,000	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	5	31.9	9/9/9999	\$ 1,748,892	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	4	13.4	9/9/9999	\$ 2,145,848	2017	Planning	
LPAX_17	Outfall Stabilization	Alternative BMP	5	6.5	9/9/9999	\$ 1,118,665	2017	Planning	
LPAX_17	Step Pool Storm Conveyance	Alternative BMP	2	9.4	9/9/9999	\$ 506,563	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	\$ 640,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	\$ 650,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	13	248.1	9/9/9999	\$ 19,374,289	2017	Planning	
LPAX_17	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	5	7.0	9/9/9999	\$ 790,922	2017	Planning	
RGOR_17	Wet Pond	Structural BMP	1	8.9	9/9/9999	\$ 250,000	2017	Planning	
SEPTICUG_17	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2017	Planning	
			68	345.6		\$27,555,179			

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	3.381%

**2018 BMPs**

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_18	Multiple Types	Structural BMP	2	14.3	9/9/9999	\$ 787,001	2018	Planning	
LPAX_18	Multiple Types	Structural BMP	2	6.0	9/9/9999	\$ 965,632	2018	Planning	
LPAX_18	Outfall Stabilization	Alternative BMP	2	2.9	9/9/9999	\$ 503,399	2018	Planning	
LPAX_18	Step Pool Storm Conveyance	Alternative BMP	1	4.2	9/9/9999	\$ 227,953	2018	Planning	
LPAX_18	Stream Restoration	Alternative BMP	6	111.7	9/9/9999	\$ 8,718,430	2018	Planning	
LPAX_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	2	3.1	9/9/9999	\$ 355,915	2018	Planning	
MPAX_18	Multiple Types	Structural BMP	1	6.2	9/9/9999	\$ 515,579	2018	Planning	
MPAX_18	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	\$ 285,209	2018	Planning	
MPAX_18	Step Pool Storm Conveyance	Alternative BMP	0	1.9	9/9/9999	\$ 73,440	2018	Planning	
MPAX_18	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	\$ 6,948,607	2018	Planning	
MPAX_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	3	7.6	9/9/9999	\$ 870,899	2018	Planning	
UPAX_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2018	Planning	
RGOR_18	Stream Restoration	Alternative BMP	1	20.1	9/9/9999	\$ 1,554,424	2018	Planning	
TRIA_18	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	\$ 2,331,636	2018	Planning	
PSBR_18	Step Pool Storm Conveyance	Alternative BMP	1	5.1	9/9/9999	\$ 248,602	2018	Planning	
PSBR_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2018	Planning	
PSBR_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.1	9/9/9999	\$ 237,375	2018	Planning	
PLNB_18	Multiple Types	Structural BMP	1	7.2	9/9/9999	\$ 461,913	2018	Planning	
PLNB_18	Multiple Types	Structural BMP	1	4.0	9/9/9999	\$ 643,754	2018	Planning	
PLNB_18	Step Pool Storm Conveyance	Alternative BMP	2	8.6	9/9/9999	\$ 422,624	2018	Planning	
PLNB_18	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	\$ 3,886,060	2018	Planning	
PLNB_18	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	2	4.4	9/9/9999	\$ 498,488	2018	Planning	
SEPTICUG_18	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2018	Planning	
			70	411.1		\$32,091,364			

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	4.022%

**2019 BMPs**

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_19	Multiple Types	Structural BMP	3	17.5	9/9/9999	\$ 961,891	2019	Planning	
LPAX_19	Multiple Types	Structural BMP	2	7.4	9/9/9999	\$ 1,180,216	2019	Planning	
LPAX_19	Outfall Stabilization	Alternative BMP	3	3.6	9/9/9999	\$ 615,266	2019	Planning	
LPAX_19	Step Pool Storm Conveyance	Alternative BMP	1	5.2	9/9/9999	\$ 278,610	2019	Planning	
LPAX_19	Stream Restoration	Alternative BMP	7	136.5	9/9/9999	\$ 10,655,859	2019	Planning	
LPAX_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	3	3.8	9/9/9999	\$ 435,007	2019	Planning	
MPAX_19	Multiple Types	Structural BMP	1	6.2	9/9/9999	\$ 515,579	2019	Planning	
MPAX_19	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	\$ 285,209	2019	Planning	
MPAX_19	Step Pool Storm Conveyance	Alternative BMP	1	1.9	9/9/9999	\$ 73,440	2019	Planning	
MPAX_19	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	\$ 6,948,607	2019	Planning	
MPAX_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	3	7.6	9/9/9999	\$ 870,899	2019	Planning	
TRIA_19	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	\$ 2,331,636	2019	Planning	
PSBR_19	Step Pool Storm Conveyance	Alternative BMP	1	5.1	9/9/9999	\$ 248,602	2019	Planning	
PSBR_19	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2019	Planning	
PSBR_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.1	9/9/9999	\$ 237,375	2019	Planning	
PLNB_19	Multiple Types	Structural BMP	1	7.2	9/9/9999	\$ 461,913	2019	Planning	
PLNB_19	Multiple Types	Structural BMP	1	4.0	9/9/9999	\$ 643,754	2019	Planning	
PLNB_19	Step Pool Storm Conveyance	Alternative BMP	2	8.6	9/9/9999	\$ 422,624	2019	Planning	
PLNB_19	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	\$ 3,886,060	2019	Planning	
PLNB_19	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	2	4.4	9/9/9999	\$ 498,488	2019	Planning	
SEPTICPO_19	Septic Pump Out	Alternative BMP	9000	270.0	9/9/9999		2019	Planning	
SEPTICUG_19	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999		2019	Planning	
			9073	682.7		\$32,328,247			

Annual progress(%) towards the 20% MS4 Permit Requirement

Baseline: 10,221.60  
 % Progress: 6.679%

**2020 BMPs**

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	PROJECTED IMPL YR	IMPL STATUS	IMPL COMP YR
LPAX_20	Multiple Types	Structural BMP	4	26.4	9/9/9999	\$ 1,548,069	2020	Planning	
LPAX_20	Multiple Types	Structural BMP	4	12.6	9/9/9999	\$ 2,011,733	2020	Planning	
LPAX_20	Outfall Stabilization	Alternative BMP	3	3.2	9/9/9999	\$ 559,333	2020	Planning	
LPAX_20	Step Pool Storm Conveyance	Alternative BMP	3	13.6	9/9/9999	\$ 688,336	2020	Planning	
LPAX_20	Stream Restoration	Alternative BMP	10	201.5	9/9/9999	\$ 15,671,677	2020	Planning	
LPAX_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	4	7.1	9/9/9999	\$ 810,867	2020	Planning	
MPAX_20	Multiple Types	Structural BMP	1	4.1	9/9/9999	\$ 340,947	2020	Planning	
MPAX_20	Outfall Stabilization	Alternative BMP	1	1.5	9/9/9999	\$ 188,606	2020	Planning	
MPAX_20	Step Pool Storm Conveyance	Alternative BMP	0	1.2	9/9/9999	\$ 48,565	2020	Planning	
MPAX_20	Stream Restoration	Alternative BMP	3	60.1	9/9/9999	\$ 4,595,046	2020	Planning	
MPAX_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	5.0	9/9/9999	\$ 575,917	2020	Planning	
PSBR_20	Step Pool Storm Conveyance	Alternative BMP	1	5.1	9/9/9999	\$ 248,602	2020	Planning	
PSBR_20	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2020	Planning	
PSBR_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.1	9/9/9999	\$ 237,375	2020	Planning	
PLNB_20	Multiple Types	Structural BMP	1	5.1	9/9/9999	\$ 327,188	2020	Planning	
PLNB_20	Multiple Types	Structural BMP	1	2.8	9/9/9999	\$ 455,993	2020	Planning	
PLNB_20	Step Pool Storm Conveyance	Alternative BMP	3	17.0	9/9/9999	\$ 832,818	2020	Planning	
PLNB_20	Stream Restoration	Alternative BMP	1	25.1	9/9/9999	\$ 1,943,030	2020	Planning	
PLNB_20	Planting Trees, Reforestation on Pervious Urban	Alternative BMP	1	2.2	9/9/9999	\$ 249,244	2020	Planning	
			44	405.8		\$ 32,110,558			

Annual progress(%) towards the 20% MS4 Permit Requirement	
Baseline:	10,221.60
% Progress:	3.970%

**All BMPs**

REST_BMP_ID	REST_BMP_TYPE	BMP_CLASS	NUM_BMP	IMP_ACRES	BUILT_DATE	IMPL_COST	PROJECTED_IMPL_YR	IMPL_STATUS	IMPL_COMP_YR
LPAX_16	Wet Pond	Structural BMP	1	1.0	9/9/9999	\$ 400,000	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	10.0	9/9/9999	\$ 650,000	2016	Planning	
LPAX_16	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	\$ 656,484	2016	Under Design	
LPAX_16	Stream Restoration	Alternative BMP	1	3.5	9/9/9999	\$ 830,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	7.5	9/9/9999	\$ 80,000	2016	Under Design	
MPAX_16	Wet Pond	Structural BMP	1	6.4	9/9/9999	\$ 71,172	2016	Under Design	
MPAX_16	Filter	Structural BMP	1	3.5	9/9/9999	\$ 233,660	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	\$ 240,000	2016	Planning	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.0	9/9/9999	\$ 60,000	2016	Under Design	
MPAX_16	Outfall Stabilization	Alternative BMP	1	1.8	9/9/9999	\$ 311,000	2016	Under Design	
MPAX_16	Stream Restoration	Alternative BMP	1	5.0	9/9/9999	\$ 365,000	2016	Under Design	
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	\$ 541,202	2016	Under Design	
MPAX_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	\$ 541,202	2016	Complete	
PLNB_16	Extended Detention Stru	Structural BMP	1	2.9	9/9/9999	\$ 380,000	2016	Planning	
PLNB_16	Wet Pond	Structural BMP	1	5.8	9/9/9999	\$ 316,995	2016	Under Design	
PLNB_16	Bioretention	Structural BMP	1	1.0	9/9/9999	\$ 187,342	2016	Under Design	
PLNB_16	Outfall Stabilization	Alternative BMP	1	2.0	9/9/9999	\$ 460,000	2016	Under Design	
PLNB_16	Stream Restoration	Alternative BMP	1	17.0	9/9/9999	\$ 965,000	2016	Under Design	
PLNB_16	Stream Restoration	Alternative BMP	1	7.0	9/9/9999	\$ 576,430	2016	Under Design	
PLNB_16	Stream Restoration	Alternative BMP	1	11.1	9/9/9999	\$ 650,000	2016	Under Design	
LPAX_17	Wet Pond	Structural BMP	1	6.6	9/9/9999	\$ 330,000	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	5	31.9	9/9/9999	\$ 1,748,892	2017	Planning	
LPAX_17	Multiple Types	Structural BMP	4	13.4	9/9/9999	\$ 2,145,848	2017	Planning	
LPAX_17	Outfall Stabilization	Alternative BMP	5	6.5	9/9/9999	\$ 1,118,665	2017	Planning	
LPAX_17	Step Pool Storm Convey	Alternative BMP	2	9.4	9/9/9999	\$ 506,563	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	\$ 640,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	1	3.0	9/9/9999	\$ 650,000	2017	Planning	
LPAX_17	Stream Restoration	Alternative BMP	13	248.1	9/9/9999	\$ 19,374,289	2017	Planning	
LPAX_17	Planting Trees, Reforest	Alternative BMP	5	7.0	9/9/9999	\$ 790,922	2017	Planning	
RGOR_17	Wet Pond	Structural BMP	1	8.9	9/9/9999	\$ 250,000	2017	Planning	
SEPTICPO_19	Septic Pumping	Alternative BMP	9000	270.0	9/9/9999	\$ 450,000	2019	Planning	
SEPTICUG_16	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	\$ 390,000	2016	Planning	

SEPTICUG_17	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	\$ 390,000	2017	Planning
SEPTICUG_18	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	\$ 390,000	2018	Planning
SEPTICUG_19	Septic Denitrification	Alternative BMP	30	7.8	9/9/9999	\$ 390,000	2019	Planning
LPAX_18	Multiple Types	Structural BMP	2	14.3	9/9/9999	\$ 787,001	2018	Planning
LPAX_18	Multiple Types	Structural BMP	2	6.0	9/9/9999	\$ 965,632	2018	Planning
LPAX_18	Outfall Stabilization	Alternative BMP	2	2.9	9/9/9999	\$ 503,399	2018	Planning
LPAX_18	Step Pool Storm Convey	Alternative BMP	1	4.2	9/9/9999	\$ 227,953	2018	Planning
LPAX_18	Stream Restoration	Alternative BMP	6	111.7	9/9/9999	\$ 8,718,430	2018	Planning
LPAX_18	Planting Trees, Reforest	Alternative BMP	2	3.1	9/9/9999	\$ 355,915	2018	Planning
LPAX_19	Multiple Types	Structural BMP	3	17.5	9/9/9999	\$ 961,891	2019	Planning
LPAX_19	Multiple Types	Structural BMP	2	7.4	9/9/9999	\$ 1,180,216	2019	Planning
LPAX_19	Outfall Stabilization	Alternative BMP	3	3.6	9/9/9999	\$ 615,266	2019	Planning
LPAX_19	Step Pool Storm Convey	Alternative BMP	1	5.2	9/9/9999	\$ 278,610	2019	Planning
LPAX_19	Stream Restoration	Alternative BMP	7	136.5	9/9/9999	\$ 10,655,859	2019	Planning
LPAX_19	Planting Trees, Reforest	Alternative BMP	3	3.8	9/9/9999	\$ 435,007	2019	Planning
LPAX_20	Multiple Types	Structural BMP	4	26.4	9/9/9999	\$ 1,548,069	2020	Planning
LPAX_20	Multiple Types	Structural BMP	4	12.6	9/9/9999	\$ 2,011,733	2020	Planning
LPAX_20	Outfall Stabilization	Alternative BMP	3	3.2	9/9/9999	\$ 559,333	2020	Planning
LPAX_20	Step Pool Storm Convey	Alternative BMP	3	13.6	9/9/9999	\$ 688,336	2020	Planning
LPAX_20	Stream Restoration	Alternative BMP	10	201.5	9/9/9999	\$ 15,671,677	2020	Planning
LPAX_20	Planting Trees, Reforest	Alternative BMP	4	7.1	9/9/9999	\$ 810,867	2020	Planning
LPAX_21	Multiple Types	Structural BMP	1	6.0	9/9/9999	\$ 384,927	2021	Planning
LPAX_21	Multiple Types	Structural BMP	1	3.3	9/9/9999	\$ 536,462	2021	Planning
LPAX_21	Step Pool Storm Convey	Alternative BMP	1	5.1	9/9/9999	\$ 248,602	2021	Planning
LPAX_21	Stream Restoration	Alternative BMP	2	44.2	9/9/9999	\$ 3,419,733	2021	Planning
LPAX_21	Planting Trees, Reforest	Alternative BMP	1	2.1	9/9/9999	\$ 237,375	2021	Planning
MPAX_18	Multiple Types	Structural BMP	1	6.2	9/9/9999	\$ 515,579	2018	Planning
MPAX_18	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	\$ 285,209	2018	Planning
MPAX_18	Step Pool Storm Convey	Alternative BMP	0	1.9	9/9/9999	\$ 73,440	2018	Planning
MPAX_18	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	\$ 6,948,607	2018	Planning
MPAX_18	Planting Trees, Reforest	Alternative BMP	3	7.6	9/9/9999	\$ 870,899	2018	Planning
MPAX_19	Multiple Types	Structural BMP	1	6.2	9/9/9999	\$ 515,579	2019	Planning
MPAX_19	Outfall Stabilization	Alternative BMP	1	2.3	9/9/9999	\$ 285,209	2019	Planning
MPAX_19	Step Pool Storm Convey	Alternative BMP	1	1.9	9/9/9999	\$ 73,440	2019	Planning

MPAX_19	Stream Restoration	Alternative BMP	4	90.9	9/9/9999	\$ 6,948,607	2019	Planning
MPAX_19	Planting Trees, Reforest	Alternative BMP	3	7.6	9/9/9999	\$ 870,899	2019	Planning
MPAX_20	Multiple Types	Structural BMP	1	4.1	9/9/9999	\$ 340,947	2020	Planning
MPAX_20	Outfall Stabilization	Alternative BMP	1	1.5	9/9/9999	\$ 188,606	2020	Planning
MPAX_20	Step Pool Storm Convey	Alternative BMP	0	1.2	9/9/9999	\$ 48,565	2020	Planning
MPAX_20	Stream Restoration	Alternative BMP	3	60.1	9/9/9999	\$ 4,595,046	2020	Planning
MPAX_20	Planting Trees, Reforest	Alternative BMP	1	5.0	9/9/9999	\$ 575,917	2020	Planning
MPAX_21	Multiple Types	Structural BMP	1	3.3	9/9/9999	\$ 274,421	2021	Planning
MPAX_21	Outfall Stabilization	Alternative BMP	0	1.2	9/9/9999	\$ 151,805	2021	Planning
MPAX_21	Step Pool Storm Convey	Alternative BMP	0	1.0	9/9/9999	\$ 39,089	2021	Planning
MPAX_21	Stream Restoration	Alternative BMP	3	48.4	9/9/9999	\$ 3,698,452	2021	Planning
MPAX_21	Planting Trees, Reforest	Alternative BMP	1	4.1	9/9/9999	\$ 463,543	2021	Planning
UPAX_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2018	Planning
RGOR_18	Stream Restoration	Alternative BMP	1	20.1	9/9/9999	\$ 1,554,424	2018	Planning
TRIA_18	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	\$ 2,331,636	2018	Planning
TRIA_19	Stream Restoration	Alternative BMP	2	30.2	9/9/9999	\$ 2,331,636	2019	Planning
PSBR_18	Step Pool Storm Convey	Alternative BMP	1	5.1	9/9/9999	\$ 248,602	2018	Planning
PSBR_18	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2018	Planning
PSBR_18	Planting Trees, Reforest	Alternative BMP	1	2.1	9/9/9999	\$ 237,375	2018	Planning
PSBR_19	Step Pool Storm Convey	Alternative BMP	1	5.1	9/9/9999	\$ 248,602	2019	Planning
PSBR_19	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2019	Planning
PSBR_19	Planting Trees, Reforest	Alternative BMP	1	2.1	9/9/9999	\$ 237,375	2019	Planning
PSBR_20	Step Pool Storm Convey	Alternative BMP	1	5.1	9/9/9999	\$ 248,602	2020	Planning
PSBR_20	Stream Restoration	Alternative BMP	1	10.1	9/9/9999	\$ 777,212	2020	Planning
PSBR_20	Planting Trees, Reforest	Alternative BMP	1	2.1	9/9/9999	\$ 237,375	2020	Planning
PSBR_21	Step Pool Storm Convey	Alternative BMP	1	2.5	9/9/9999	\$ 124,301	2021	Planning
PSBR_21	Stream Restoration	Alternative BMP	1	0.3	9/9/9999	\$ 388,606	2021	Planning
PSBR_21	Planting Trees, Reforest	Alternative BMP	1	1.0	9/9/9999	\$ 118,687	2021	Planning
PLNB_18	Multiple Types	Structural BMP	1	7.2	9/9/9999	\$ 461,913	2018	Planning
PLNB_18	Multiple Types	Structural BMP	1	4.0	9/9/9999	\$ 643,754	2018	Planning
PLNB_18	Step Pool Storm Convey	Alternative BMP	2	8.6	9/9/9999	\$ 422,624	2018	Planning
PLNB_18	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	\$ 3,886,060	2018	Planning
PLNB_18	Planting Trees, Reforest	Alternative BMP	2	4.4	9/9/9999	\$ 498,488	2018	Planning
PLNB_19	Multiple Types	Structural BMP	1	7.2	9/9/9999	\$ 461,913	2019	Planning



PLNB_19	Multiple Types	Structural BMP	1	4.0	9/9/9999	\$ 643,754	2019	Planning
PLNB_19	Step Pool Storm Convey	Alternative BMP	2	8.6	9/9/9999	\$ 422,624	2019	Planning
PLNB_19	Stream Restoration	Alternative BMP	3	50.3	9/9/9999	\$ 3,886,060	2019	Planning
PLNB_19	Planting Trees, Reforest	Alternative BMP	2	4.4	9/9/9999	\$ 498,488	2019	Planning
PLNB_20	Multiple Types	Structural BMP	1	5.1	9/9/9999	\$ 327,188	2020	Planning
PLNB_20	Multiple Types	Structural BMP	1	2.8	9/9/9999	\$ 455,993	2020	Planning
PLNB_20	Step Pool Storm Convey	Alternative BMP	3	17.0	9/9/9999	\$ 832,818	2020	Planning
PLNB_20	Stream Restoration	Alternative BMP	1	25.1	9/9/9999	\$ 1,943,030	2020	Planning
PLNB_20	Planting Trees, Reforest	Alternative BMP	1	2.2	9/9/9999	\$ 249,244	2020	Planning

**NOTES:**

1. IMPL\_STATUS is based on the status of each BMP as of December 2015. All other information is based on the December 2015 *Countywide Implementation Strategy*, which utilizes projected BMPs and costs as of October 2015.
2. IMPL\_COST is the total estimated design and construction cost.
3. PROJECTED\_IMPL\_YR is the fiscal year during which the construction is anticipated to be completed. It is assumed that all design and construction funds would be encumbered during the PROJECTED\_IMPL\_YR fiscal year.
4. It is unclear at this point without a full program in place to determine how the cost would be split between the homeowner, County and grant funding. Bay Restoration Funds are a primary funding mechanism for these upgrades.