VI. SUMMARY / CONCLUSIONS

The Nondegradation Standard set forth by the MPCA requires the City to evaluate if there has been an increase in runoff volume, total suspended solids loading, or phosphorus loading as a result of development that occurred from 1990 to 2006. The City must also determine if there will be an increase in these parameters as a result of projected development from 2006 to 2020. If an increase is anticipated in the future, taking into consideration projected stormwater management requirements for new development, the City must propose a mitigation plan to reduce volumes of runoff and pollutant loads to the levels estimated for 1990 conditions.

RESULTS

A summary of the results of the nondegradation analysis is provided below for each parameter:

	1990-2006	2006-2020	1990-2020
Annual Total Phosphorus Loading			
Projected annual increase in loading as a result of development prior to application of BMPs	162 lbs	1,326 lbs	1,488 lbs
TP Removal by new treatment ponds (60% removal)	-680 lbs	-1,048 lbs	-1,728 lbs
TP Reduction through phosphorus fertilizer ban (10% reduction in residential land use)	*	*	*
TP Reduction through street sweeping	*	*	*
TP Reduction through infiltration features (required beginning in 2006)	-	*	*
Total Phosphorus Removed by BMPs	**-680 lbs**	**-1,048 lbs**	**-1,728 lbs**
Net Change in Phosphorus	**-518 lbs**	**278 lbs**	**-240 lbs**
Annual Total Suspended Solids Loading			
Projected annual increase in loading as a result of development prior to application of BMPs	112 tons	302 tons	414 tons
TSS Removal by new treatment ponds (85% removal)	-216 tons	-318 tons	-534 tons
TSS Reduction through street sweeping (5% increase in frequency and efficiency)	*	*	*
TSS Reduction through infiltration features (required beginning in 2006)	-	*	*
Total Suspended Solids Removed by BMPs	**-216 tons**	**-318 tons**	**-534 tons**
Net Change in Total Suspended Solids	**-104 tons**	**-16 tons**	**-120 tons**

* Not quantified as a part of the analysis.

	1990-2006	2006-2020	1990-2020
Annual Runoff Volumes			
Projected annual increase in runoff volumes as a result of development prior to application of BMPs	931 ac-ft	1,753 ac-ft	2,684 ac-ft
Evaporation within treatment ponds (3 feet annually)	-189 ac-ft	-259 ac-ft	-448 ac-ft
Infiltration within treatment ponds (0.03 in/hr over 240 days) x 75%	-680 ac-ft	-931 ac-ft	-1,611 ac-ft
Infiltration within infiltration features (required beginning in 2006)	-	-758 ac-ft	-758 ac-ft
Runoff Volume Removed by BMPs	**-869 ac-ft**	**-1,948 ac-ft**	**-2,817 ac-ft**
Net Change in Runoff Volumes	**+62 ac-ft**	**-195 ac-ft**	**-133 ac-ft**

DETERMINATION OF IMPACTS / MITIGATION PLAN

Based on the Nondegradation Analysis, the City has, and will continue to experience a decrease in phosphorus and TSS loads compared to 1990 conditions by utilizing current stormwater management policies of the City. Although a slight increase in runoff volumes was estimated from 1990 to 2006, reductions expected from 2006 to 2020 will offset this increase and result in a net decrease in annual runoff volumes between 2006 and 2020. Since these parameters are projected to decrease between 1990 and 2020, no mitigation plan is necessary, and the City meets the Nondegradation Requirements of the MPCA.