Lockheed Martin Corporation Stormwater Retrofit Master Plan

LOCKHEED MARTIN

Association of Metropolitan Soil and Water Conservation Districts

City of Eagan

Project: Comprehensive master plan to retrofit an existing 51 acre commercial site with innovative stormwater management practices. SWMM modeling indicates the LID practices will reduce runoff from the 1-inch 24-hour storm event by approximately 93% after all of the BMPs have been installed.

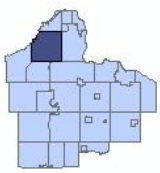
Phasing: The installation of the various BMPs are planned to be integrated into 5 future site renovations and parking lot replacement projects scheduled over 5 years beginning in 2009.

Monitoring: Ongoing volume monitoring data is being collected at key site discharge points to measure volume reduction and estimate water quality benefits as each phase of BMP installations are completed.

Location:

Eagan

Minnesota



Funding: Dakota County SWCD provided technical assistance and the Association of Metropolitan Soil and Water Conservation Districts provided partial funding of $ 22,250 to complete.

Practice:

Stormwater Retrofit Planning for Better Site Design (BSD) and Low Impact Development (LID)

Benefits:

Reduces pollutant loading to downstream water body

Improves wildlife habitat

Opportunity for public education and outreach

Partners:

City of Eagan

Association of Metropolitan Soil and Water Conservation Districts

Watershed:

Minnesota River

Construction:

May

2009

Dakota County Soil and Water Conservation District
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Revised 5/19/09

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FEATURES LEGEND:

1. TREE MASSING BARRIER
2. PEDESTRIAN PLAZA W/ PERVIOUS PAVERS
3. RAINWATER GARDEN BARRIER
4. BOULDER FIELD BARRIER
5. PERENNIAL FOOD PLANTINGS
6. BUILDING SHADING
7. PHOTOVOLTAIC PANELS
8. WIND BREAK PLANTING
9. GEOTHERMAL FIELD
10. WIND TURBINE
11. BARRIER WALL
12. SCULPTURAL ELEMENT
13. COURTYARD GARDEN
14. GREEN ROOF
15. POROUS BITUMINOUS TEST AREA
16. COVERED WALKWAY
17. EARTHEN BERM BARRIER
18. ROOF RAINWATER COLLECTION/DRAINAGE
19. PERVIOUS CONCRETE SIDEWALKS

LANDCOVER LEGEND:

- PARKING
- MANICURED LAWN & MOWED PATH
- PRAIRIE
- INFILTRATION BASIN
- SHADE TREES & TREE MASSING
- PINE WINDBREAKS
- SPECIALTY FOOD PLANTINGS
- SECURITY BARRIERS

SWMM Modeling

Estimated At Site Discharge Point:

Storm Event	24-Hour Rainfall		Existing Condistions	Proposed Conditions	Percent Reduction
1 Inch	1.0 inch	Max Flow (cfs)	15.2	1.1	93%
		Volume (ac-ft)	1.3	0.1	93%
1 Year	2.3 Inches	Max Flow (cfs)	63.5	10.1	84%
		Volume (ac-ft)	4.1	0.7	84%
2 Year	2.75 Inches	Max Flow (cfs)	78.4	19.2	76%
		Volume (ac-ft)	5.2	1.5	71%
5 Year	3.6 inches	Max Flow (cfs)	99.8	43.5	56%
		Volume (ac-ft)	7.3	3.1	57%
10 Year	4.2 Inches	Max Flow (cfs)	112.8	55.9	50%
		Volume (ac-ft)	8.6	4.2	51%
100 Year	6.0 Inches	Max Flow (cfs)	141.5	68.1	52%
		Volume (ac-ft)	12.5	7.0	44%

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