AGENDA ITEM #16
April 5, 2005
Briefing

MEMORANDUM

April 1, 2005

TO: County Council

FROM: Glenn Orlin, Deputy Council Staff Director

SUBJECT: **Briefing**—Infrastructure Maintenance Task Force Report

At Council President Perez's request, this winter Councilmember Praisner chaired a task force of County agency staffers from County Government, Montgomery County Public Schools, Montgomery College, and the Maryland-National Capital Park and Planning Commission to identify the types of infrastructure most in need of substantial maintenance or replacement and the resources needed to address them. The results are summarized and displayed in the Infrastructure Maintenance Task Force Report (attached; it is also available on the Council's website at www.montgomerycountymd.gov/content/council/2005NEWS/0321infrastructure.pdf). The Council held a public forum on Saturday, March 19 on this report; the forum was taped and is being rebroadcast on the County's cable channel.

Council President Perez and Councilmember Praisner will brief the Council on the results of the study and feedback heard at the public forum. Several members of the Task Force will also be present to comment and answer questions.

There are some anticipated follow-up actions from this report. Over the next few weeks, the Council and its Committees can use it as a guide to determine where (or whether) to add funds for infrastructure maintenance in the FY06 Budget. (Most infrastructure maintenance capital projects have been announced as potential amendments, so the Council will have the opportunity to supplement their funding in this Capital Improvements Program 'off-year.') The Council may also wish to provide funds to allow agencies to improve their inventories and analyses of infrastructure maintenance. In the longer term, the report will be enhanced with more information about infrastructure maintenance programs in the Operating Budget, and updated and refined information about programs in the Capital Budget.

Report of the

Infrastructure Maintenance Task Force

March 2005

MONTGOMERY COUNTY COUNCIL
ROCKVILLE, MARYLAND

MARILYN J. PRAISNER
DISTRICT 4

March 18, 2005

The Honorable Thomas E. Perez, President
Montgomery County Council
100 Maryland Avenue
Rockville, Maryland 20850

Dear Council President Perez:

Thank you for the opportunity to lead this focus on the state of infrastructure maintenance across County agencies. I hope you and the other Councilmembers will find the information helpful. The condition of the County agencies' infrastructure is an important issue that requires the attention of us all, if we are to maintain the quality of life that we all desire.

Representatives from County Government (Department of Public Works and Transportation and Office of Management and Budget), Montgomery College (Department of Facilities), Maryland-National Capital Park and Planning Commission (Park Development Division), and Montgomery County Public Schools have prepared this report for your consideration. We believe that more work needs to be done in this area but wanted to prepare some information for your use during this FY06 budget deliberations. We are also prepared to follow up with any additional work the Council may require. The report includes the individual agency reports and some individual agency and crosscutting issues that surfaced in our work.

In addition to the comments in the report I would like to note the following points:

- There are significant gaps in information regarding the infrastructure, whether one considers the current condition of the infrastructure or the magnitude of the inventory.
- If the Council is inclined to add additional funding for specific infrastructure items, the first order of funding should be associated with developing the data and record-keeping tools on current inventory and conditions. Without adequate information and better record-keeping capacity, the problems will not be resolved. Consequently, I would urge serious consideration of the comments regarding data needs included

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within the report. This is especially true if one is focusing on the operating budget funded items for which there were little hard data.

- Montgomery College, followed closely by Montgomery County Public Schools, appears to have better information than the County Government and M-NCPPC.
- M-NCPPC has good data on fields and parks but less so on buildings.
- This is not a one-time effort; there is a need to tie work done to existing and to-be-developed databases in order to ensure the ongoing accuracy of information and to support budget development.
- Agency priorities will vary such that an item appearing in more than one budget may carry a different priority.
- Life cycles for the same items may also vary depending upon use. For example although HVAC systems and roof replacement should be consistent, carpet and tile replacement will vary depending upon use (e.g., office space, libraries, schools). However, we believe that with more work in this area, there should be greater consistency across agencies.
- There are other elements of infrastructure that were not included in this initial report that should be incorporated before this work is completed. I am especially concerned about the condition of technology tools, computers, printers, servers, scanners, telephones, and systems. The work of the ITPCC and the MFP Committee on this issue should be incorporated into this discussion.

We look forward to the public forum on March 19th.

Sincerely,

Marilyn J. Praisner

Marilyn J. Praisner
Councilmember

Report of the Infrastructure Maintenance Task Force

March 2005

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Members of the
Infrastructure Maintenance Task Force

Montgomery County Government (Executive Branch)

Beverley Swaim-Staley, Director, Office of Management and Budget
Arthur Holmes, Jr., Director, Department of Public Works and Transportation (DPWT)
Al Roshdieh, Chief, DPWT Division of Operations

Montgomery County Public Schools

Richard Hawes, Director, Department of Facilities Management
Sean Gallagher, Assistant Director, Department of Facilities Management

Montgomery College

David Capp, Chief Facilities Officer
Donna Pina, Capital Budget Manager

Maryland-National Capital Park and Planning Commission

Charles Loehr, Director of Park and Planning
Michael Riley, Chief, Park Development Division

County Council

Councilmember Marilyn Praisner, Chair
Glenn Orlin, Deputy Council Staff Director
Mary Jane Berry, Administrative Specialist

Report of the
Infrastructure Maintenance Task Force

March 2005

1. Mission

In his December 7, 2004 acceptance address, newly elected Council President Thomas Perez indicated his concern about the state of County agency infrastructure, and the resources the Council has traditionally appropriated for its basic maintenance and rehabilitation. His sense was that while the Council has dedicated billions of dollars over the past several years for new and modernized infrastructure—including school buildings, libraries, recreation centers, administrative buildings, roads, sidewalks and bikeways, garages, music and arts centers, correctional facilities—not enough funds have been dedicated to keeping the existing infrastructure adequately maintained.

Lacking concrete information about the extent of the problem, he selected Councilmember Marilyn Praisner, Chair of the Council's Management and Fiscal Policy Committee, to head a task force of facilities managers from the largest County agencies to begin to develop this information. The immediate objective was to identify the direst needs as candidates for additional funding in the FY 2006 Capital and Operating Budgets. The longer-term goal was to initiate an ongoing, regular process to update and improve the inventory and analysis of infrastructure maintenance needs.

The mission was focused on the four largest County agencies: Montgomery County Government (the departments and offices under the County Executive and Council); Montgomery County Public Schools, Montgomery College, and the Maryland-National Capital Park and Planning Commission. These four agencies are the largest that are most directly funded by the Council. They compete for general funds in the operating budget and general obligation bond funding in the capital budget. Generally, agencies and programs that are supported primarily with special funding were not included in the analysis: the Washington Suburban Sanitary Commission, the Revenue Authority, and the county's Parking Lot Districts are examples. However, M-NCPPC's local park programs, funded by the Park and Planning Tax, were included.

The mission was also focused on capital programs that rehabilitated infrastructure or replaced it in kind, and on operating programs engaged in preventive maintenance—the kind of maintenance that preserves the quality of a capital asset so that it can be functional throughout its useful life. A few examples of such programs are: planned life-cycle asset replacement (PLAR); exterior painting; roof replacement; resurfacing; bridge renovation and rehabilitation; and window caulking. Some types of programs *not* included in this study include: modernizations; interior painting; and litter collection.

2. *Information on Infrastructure Maintenance*

From late January to early March, the Task Force met four times to review information that the members developed. Most of the effort was spent on capital programs; for various reasons, budget information is more readily available for infrastructure maintenance activities included in the Capital Improvements Program (CIP). Early on the Task Force agreed on a standard format for this data, and it is arrayed in the tables on ©1-20. The data items are:

- **Capital Project** title (Column A), often broken down to each **Major Element** within it (Column B). For example, the Sidewalk and Infrastructure Revitalization project is on Lines 29 and 30 on page 3, with the sidewalk element on Line 29 and the curb and gutter replacement element on Line 30. Any further clarifications or assumptions are included under **Notes** (Column C).

- **Acceptable Life Span (years)** is not the optimal life span of the asset, but what each agency feels is a tolerable life span—assuming at least some level of regular maintenance—before it has to be replaced or comprehensively rehabilitated. For example, the Department of Public Works and Transportation (DPWT) believes that the acceptable life span for curb and gutter is 30 years (Line 30, Column D).

- **Inventory** is the quantity of the asset, in **Units** that are either shown in Column E or F (depending on the agency).. There are an estimated 2,071 miles of curb and gutter on County streets (Column E). Note the '?' in the cell; this indicates that the 2,071-mile figure is a calculated estimate, and not based on a validated inventory.

- **How much/many should be replaced annually** is generally the **Inventory** divided by the **Acceptable Life Span**. In this example, 68 miles of curb and gutter should be replaced every year (Column G).

- **Average Cost** is the mean cost of replacing/rehabilitating the particular type of infrastructure, in current-year dollars. The mean cost of replacing curb and gutter is $62,000/mile in 2006 dollars (Column H).

- **Acceptable Annual Replacement Cost** is how much money should be budgeted annually to replace/rehabilitate the particular type of infrastructure so that the entire **Inventory** will last over the **Acceptable Life Span**. This is calculated by multiplying the **How much/many should be replaced annually** figure by the **Average Cost** figure. In the case of curb and gutter replacement, 68 miles x $62,000/mile = $4,216,000 (Column I). ***This is the baseline against which the budget should be compared.***

- **FY05-10 CIP: FY05 Approved** is the amount budgeted for FY05—explicitly or implicitly—for this item in the CIP as approved by the Council last May. In this case there was $5,750,000 programmed to the Sidewalk and Infrastructure Revitalization project for FY05, of which $2,542,000 implicitly was for curb and gutter replacement (Column J).

- **FY05-10 CIP: FY06 Request** is the amount requested for FY06—explicitly or implicitly—for this item in the CIP as recently requested by the agency. In this case the Executive has requested $3,250,000 for the Sidewalk and Infrastructure Revitalization project in FY06, of which $1,462,000 implicitly is for curb and gutter replacement (Column K).

- **FY05-10 CIP: Future Funding Level** indicates whether the CIP programs the same level as FY06 in each of FYs 07-10, or whether it eventually attains a higher or lower level. For curb and gutter replacement a higher level than $1,462,000 is programmed in at least one later year (Column L).

- **Backlog** is the amount of funds that would need to be programmed in one year to eliminate the backlog immediately. DPWT estimates (note the '?') that a one-time expenditure of $26,722,000 would eliminate the backlog in curb and gutter replacement (Column M).

- **Criticality** is a 1-to-5 rating on an ordinal scale indicating the relative importance of replacing this particular type of infrastructure. The scale is defined as follows:

  5 = Life safety and systems absolutely necessary to occupy the buildings or very important to the preservation of the facility.
  4 = Systems that are very important to the operation of the facility.
  3 = Systems that do not typically fail to perform suddenly, but are fairly important to operation of the facility.
  2 = Passive systems that are not vital to the operation of the facility.
  1 = Systems that are primarily aesthetic in nature or perform a less important function.

  DPWT rates curb and gutter replacement as a '3' for Criticality (Column N).

Note in the tables that the same type of infrastructure does not always have the same **Acceptable Life Span** or **Average Cost** from one agency to the next. Task Force members were urged to compare each other's figures, and in some cases there was agreement to concur on a common figure. Just as often, however, an individual agency had reasons to use a different **Acceptable Life Span** and/or **Average Cost**, due to the special circumstances of their assets.

The **Acceptable Annual Replacement Cost** could be less than what is displayed in the tables depending upon how aggressive facilities are otherwise modernized or improved. School and other building modernizations not only provide more core space, but also replace HVAC, roof, and other building systems. Road widenings include resurfacing.

The agencies were asked to rank the **Criticality** of their items on a bell curve. As a result, **Criticality** often differed because of the differing emphases among the agency missions. Over time it is possible that some of these values will become more consistent across agencies. Also, the Council may wish to weigh in on—and perhaps alter—some of the **Criticality** ratings.

Unfortunately, the Task Force was unable to generate much information about preventive maintenance needs and activity funded by the operating budget. Partial information has been provided by M-NCPPC on ©21-23 and by MCPS on ©24. As the inventory and data collection for these operating budget programs improve over time, shortfalls in these programs will be quantified as well.

3. *Critical Shortfalls in Infrastructure Maintenance*

Reviewing these tables, certain types of infrastructure stand out as those in direst need for funding. The following list was developed by examining: (1) the proportional difference between the **FY05-10 CIP: FY06 Request** versus the **Acceptable Annual Replacement Cost (AARC)** (2) the **Backlog**; and (3) **Criticality**. The important caveat here, of course, is that the list is based on those items—mostly in the CIP—for which data are available. They are presented in the order that they appear on ©1-20. Some examples of facilities in need of maintenance and rehabilitation are shown on ©25-34.

Capital Project (Major Element)	**FY06 Budget Request**	**FY06 Shortfall**	**FY06 Request as % of Acceptable Annual Replacement Cost**
Co. Govt.: HVAC/Electrical Replacement	$800,000	$3,250,000	20%
Co. Govt.: PLAR (plumbing)	$20,000	$66,000	23%
Co. Govt.: PLAR (electrical)	$150,000	$365,000	29%
Co. Govt.: Resurfacing: Residential/Rural	$1,667,000	$3,221,000	34%
Co. Govt.: Traffic Signal Replacement	$ 0	$1,560,000	0%
MCPS: PLAR (emergency light and power)	$75,000	$8,445,000	Less than 1%
MCPS: PLAR (electronics)	$20,000	$4,255,000	Less than 1%
MCPS: HVAC Replacement	$3,175,000	$13,445,000	22%
MCPS: Emergency Management Systems	$500,000	$2,620,000	16%
MCPS: Roof Replacement	$3,000,000	$3,894,000	44%
College: PLAR	$1,500,000	$1,153,000	57%
M-NCPPC: PLAR Non-Local (athletic fields)	$54,000	$302,000	15%
M-NCPPC: PLAR (park buildings)	$175,000	$2,164,000	7%
M-NCPPC: Stormwater Mgmt. Struct. Rehab.	$350,000	$1,116,000	24%
M-NCPPC: Trails – Hard Surface Renovation	$168,000	$421,000	29%

4. *Data and Analysis Needs*

This study has noted that there is work to be done within each agency to improve the inventory and analysis of its infrastructure maintenance assets and needs. The agencies have provided the following information about how they generated their respective data for this study and what their future needs are.

Montgomery County Government. The County Government has several data bases used to collect general information on specific elements of the County's building and transportation infrastructure. These data bases have been used in the past to help identify capital and operating budget needs for targeted elements of the County's infrastructure and to provide status reports.

Information shown on the CIP Infrastructure Maintenance spreadsheet for Montgomery County Government was partly derived from this collection of data bases for buildings and for transportation items. In FY05, the County had also contracted with a facilities management consulting firm to begin development of a comprehensive asset management database for the County's building infrastructure, and in January 2005 the County received an inventory and assessment report on 24 facilities. These 24 facilities represented approximately 10% of the County's total building square footage. Where applicable, building information shown on the CIP Infrastructure Maintenance spreadsheet was updated to include the results of the consultant's inventory and assessment.

County Government needs a comprehensive and complete asset management data base for both its building and transportation infrastructures. The cost would be $495,000 for inventory/assessment of the building infrastructure and $725,000 for inventory/assessment of the transportation infrastructure.

Montgomery County Public Schools. In 2003, Vanderweil Facility Advisors (VFA), Inc., a facilities management consulting firm, surveyed 52 schools, which equates to 27 percent of the floor area of MCPS schools. The schools were selected to provide a representative sample by age, school type, and previous major projects (modernizations and additions). A primary focus of the survey was to document the condition of major building systems and the remaining useful life. The backlog is based on this survey scaled to the entire inventory. This survey also provides a source for inventory data and life expectancy.

Developing an asset management database is a vital part of managing the MCPS's infrastructure renewal needs. An asset management database provides the link between maintenance work orders and the previous condition assessment. A major component of developing this system is to identify the various infrastructure components with bar codes. This system of organization is essential to manage the infrastructure renewal program.

A facilities condition assessment is a thorough survey of each facility by qualified architects and engineers who assess the condition of the entire infrastructure. Current condition and estimated remaining life is recorded for each building component. **These two efforts are interrelated and are estimated to cost approximately $2,500,000 for the MCPS inventory of facilities.** Given the size and scope of this project, a more accurate cost will be obtained through a procurement process.

Montgomery College. In 2002, Montgomery College hired VFA to perform a web enabled, software-based facilities condition analysis of its three campuses including all buildings and site infrastructure components. The cost of the study was $297,000. This study provides the College with a complete inventory of its facilities including the following information:

- The dollar amount of the deferred maintenance backlog.
- The deficiency of the building/component by item and cost.
- The dollar amount that should be spent yearly to maintain the current facilities condition.

In addition, this information may be sorted by building/site component, system type (HVAC, electrical, etc.), priority, and by deficiency category (code compliance, life safety, etc.).

The College has a high degree of confidence in the data collected and this data has been used as the basis for appropriation requests in both the FY03/FY04 and FY05/FY06 Biennial Capital Budgets. In addition, the VFA data base is updated annually for cost increases based on RS Means. The data provided by the College is reproducible on an annual basis.

The College currently needs (and is working on) a way to update the data base for work that has been completed and should be removed from the data base as a deficient item. In addition, the College has purchased a computerized maintenance management system (CMMS), DataStream, to enter work orders as they are requested. The College's long-term goal is to have CMMS integrated with the VFA system, so that when work is completed, the deficient item can be removed from the data base.

If the College contracts with VFA to update the VFA data base, including all the deferred maintenance work that has been completed since the initial assessment, the cost will be approximately $200,000.

Maryland-National Capital Park and Planning Commission. Where M-NCPPC has programs in the CIP that focus on major rehabilitation or lifecycle replacement of specific components of infrastructure such as playgrounds, athletic fields, and park roads, it has a high level of confidence in the information submitted. M-NCPPC generally has completed inventories and known lifecycle repair/replacement intervals for these facilities. Its reliability declines where it has not had specific facility-based programs in the CIP; examples would include park buildings, underground utilities, and storm drain systems. Complete facility inventories and assessments do not presently exist for many components of infrastructure, leaving lifecycle replacement and deferred maintenance calculations incomplete.

This exercise has been more easily applied to the capital budget than preventative maintenance funded through the operating budget, as the operating budget is not built as a facility-based program budget. M-NCPPC applied desired maintenance standards for specific elements of infrastructure to determine what it should be spending for preventative maintenance, and compared those costs to what it plans to spend in FY05 and what is in the proposed operating budget for FY06.

The greatest need for information is a complete facility inventory and assessment of major infrastructure on M-NCPPC's 30,000-plus acres of park. Parks infrastructure falls more into the category of 'grounds' than 'buildings,' as opposed to agencies such as MCPS and Montgomery College. While MCPS, DPWT, and the College have funded specific consultant studies to do infrastructure inventory and assessment, M-NCPPC has never done this. As stated previously, inventories have been compiled by various staff over the years where facility-based programs exist in the budget. However, complete inventories and assessments do not exist for

many elements of park infrastructure. **M-NCPPC's most significant concern is the unknown liability for repair / replacement of infrastructure that is not in any inventory.**

Montgomery County Public Schools and Montgomery College both have had facilities inventory and assessments performed by consultants specializing in facilities engineering. M-NCPPC would use a similar approach. A small portion ($85,000) of the new initiatives (Penny for the Parks) in the proposed FY06 Operating Budget is to begin this effort. It would likely be a phased effort over several years costing at least $500,000 to prepare a complete facility inventory and assessment.

A Technology Innovation Fund (TIF) grant in FY02 funded M-NCPPC's current and on-going SMARTPARKS effort, which entails development of a computerized facility inventory, and a work order management system for park maintenance. The system has been purchased and installed, and has been in use since July 2004. The land records and the facility inventories have been created in the system based on the current information available. Portions of this data are highly accurate, and other parts are incomplete or missing. It is an ongoing effort to make this data base the accurate source for all data about land facilities and equipment for the Parks Department.

5. Follow-up

Although incomplete, the attached tables can be a guide to the Council and its Committees in its budget deliberations this spring. There are several types of infrastructure where additional resources can be effectively directed. One of the first calls on funding should be for improving the agencies' data and record-keeping tools on current inventory and conditions, as noted in the previous section.

Subsequent to the public forum and a briefing to the Council, the Task Force will reconvene later this spring to discuss the feedback on this report, and how the infrastructure maintenance information might be improved and enhanced.

The Task Force recommends that it reconvene annually in each of the next two winters (FY06 and FY07) to update and improve the spreadsheets, especially if funds can be allocated to the agencies to improve their inventories and databases. From that point on the Task Force should continue meeting biennially (FY09, FY11, etc.) in order to prepare information well in advance of the subsequent biennial CIP.

Furthermore, there are certain types of infrastructure the Task Force did not address this year but likely would in future updates—such as computers and printers—where there should be a regular replacement cycle. In a November 2003 report on information technology (IT) investment needs, County agency staffs estimated replacement costs for the major IT systems to be $350 million dollars. The annual average replacement requirement was predicted to be $84 million with actual requirements varying from year to year. Staff indicated that most of this inventory would need to be replaced at least once in the next 10-12 years and that there was no systematic long-range planning for this replacement requirement in any agency. In addition a

personal computer inventory review completed in that general timeframe identified an annual replacement requirement of $21 million with only a portion of that funded. Although some work has been done since 2003, significant funding gaps remain. For example, the County Government's Enterprise Resource Planning project—designed to replace current procurement, payment, human resources, and financial reporting, and identified by the Department of Technology Services as its number one priority—has not been funded. Potential impacts of system failure could affect the processing of vendor or social service invoices and checks, requisition orders and even county employee paychecks.

Montgomery County Government
Infrastructure Maintenance Schedule

Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05-10 CIP			Backlog	Criticality
									FY05 Approved	FY06 Request	Future Funding Level		
HVAC/Elec Replacement: MCG	HVAC & Electrical Systems	Backlog based on consultant's survey and report on 10% of County's square footage	25	230 systems		9 systems	$450,000	$4,050,000	$820,000	$800,000	Same	$8,118,340 ?	5
PLAR: MCG		Backlog based on consultant's survey and report on 10% of County's square footage	Varies 20-50 years	230 facilities		PLAR Total $2,740,000		PLAR Total $2,740,000	$535,000	$500,000	Same	PLAR Total $8,991,120 ?	
Plumbing	Plumbing Systems/Fix-tures		30	230 facilities		8 facilities	$10,750	$86,000	$20,000	$20,000		$304,790 ?	4
Electrical	Electrical - Special		20	230 facilities		11 facilities	$13,270	$146,000	$80,000	$60,000		$667,530 ?	4
	Electical Service & Distribution		35	230 facilities		7 facilities	$25,570	$179,000	$35,000	$30,000		$255,184 ?	4
	Electical Lighting & Power		20	230 facilities		11 facilities	$17,270	$190,000	$60,000	$60,000		$333,476 ?	5
Building Structural	Floor System		20	230 facilities		11 facilities	$19,100	$210,000	$30,000	$30,000		$161,720 ?	3
	Ceiling System		20	230 facilities		11 facilities	$20,500	$225,000	$30,000	$30,000		$617,920 ?	2
	Foundation/Col. & Exterior Wall Sys.		50	230 facilities		5 facilities	$124,000	$620,000	$100,000	$100,000		$2,821,930 ?	4
	Window System		20	230 facilities		11 facilities	$11,600	$128,000	$20,000	$20,000		$533,500 ?	3
	Door System		30	230 facilities		8 facilities	$59,750	$478,000	$10,000	$10,000		$1,292,420 ?	3
	Stairways		30	230 facilities		8 facilities	$7,750	$62,000	$10,000	$10,000		$294,070 ?	3
Site	Site Electrical		20	230 facilities		11 facilities	$5,550	$61,000	$30,000	$30,000		$657,520 ?	4
	Site Plumbing		30	230 facilities		8 facilities	$1,250	$10,000	$0	$0		$95,639 ?	2
	Site Structural		30	230 facilities		8 facilities	$43,130	$345,000	$110,000	$100,000		$955,430 ?	3
		NOTES FOR ?: Dollar amounts estimated from consultant's survey of 10% of County's square footage.											

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
21														
22										FY05-10 CIP				
23	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
24	Resurfacing Parking Lots: MCG	Asphalt lots and drainage	Backlog based on consultant's survey and report on 10% of County's square footage	20	131 lots		6 lots	$240,000	$1,440,000	$400,000	$400,000	Same	$8,599,000 ?	3
25	Roof Replacement: MCG	Roofing Systems	Backlog based on consultant's survey and report on 10% of County's square footage	20	199 roofs		10 roofs	$250,000	$2,500,000	$1,000,000	$1,100,000	Higher	$12,569,160 ?	5
26	HVAC/Elec Replacement: Fire Stns	HVAC & Electrical Systems	No funding in FY09 and beyond	20	33 stations		2 systems	$108,000	$216,000	$215,000	$215,000	Lower in FY07/08. Funding Stops in FY09	0	5
27	Resurfacing: Fire Stations	Paved Surfaces		20	33 stations		2 stations	$150,000	$300,000	$300,000	$300,000	Same	0	4
28	Roof Replacement: Fire Stations	Roofing Systems		20	33 stations		2 roofs	$125,000	$250,000	$150,000	$210,000	Higher	0	5
29	Bridge Preservation Program	Paint Systems		15	117 bridges		8 bridges	$63,000	$504,000	$1,217,000	$504,000	Same	44 bridges $2,772,000	3
30	Bridge Renovation	All bridge components	County-owned bridges	NA	266 bridges		14 bridges	$30,000	$420,000	$420,000	$420,000	Same	75 bridges $2,250,000	4
31	Resurfacing: Primary/Arterial	Bituminous Concrete Resurfacing		12	872 lane miles		73 lane miles	$97,890	$7,145,970	$8,125,000	$3,606,000	Higher	281 lane miles $27,507,090 ?	4
32	Resurfacing: Rural Residential	Permanent Patching	Provides permanent patching to keep up with 5 year resurfacing schedule	NA	3829 lane miles		766 lane miles	$6,380	$4,887,080	$1,333,000	$1,667,000	Higher	1000 lane miles $6,380,000 ?	4
33	Sidewalk & Infrastructure Revit.	Sidewalks		30	1011 miles ?		34 miles	$97,212	$3,305,208	$3,208,000	$1,788,000	Higher	118 miles $11,471,016 ?	3
34		Curb & Gutter		30	2071 miles ?		68 miles	$62,000	$4,216,000	$2,542,000	$1,462,000	Higher	431 miles $26,722,000 ?	3
35			NOTES FOR ?: Dollar amounts estimated from consultant's survey of 10% of County's square footage.											

(2)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
36										FY05-10 CIP				
37	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
38	Guardrail Projects	Guardrails & End Treatments	The CIP scope does not include lifecycle replacement of guardrail	30	?		?	$211,200	?	$0	$0	N/A No funding for lifecyle replace-ment	?	3
39	Streetlighting	Pole & luminare/fix-tures	Replacement of streetlights in Silver Spring ends in FY06. No lifecycle replacement funding in FY07 and beyond	25	23000 streetlights		920 streetlights	$1,500	$1,380,000	$262,000	$262,000	N/A No funding for lifecyle replace-ment in FY07 and beyond	?	4
40	Traffic Signals	County owned signalized intersections	The CIP funding does not include lifecycle replacement costs of signals	25	325 signals		13 signals	$120,000	$1,560,000	$0	$0	N/A No funding for lifecyle replace-ment	?	5
41														
42	Fiber Net	Fiber Optic Cable	System is currently less than 20 years old	20	350 miles ?		18 miles	$25,000	$450,000	$0	$0	N/A No funding in FY06 and beyond	0	2
43														
44	Elevator Modernization	Elevator Systems	CIP was not funded in FY05-10 program. Currently listed as pending closeout	25	95 elevators		4 elevators	$250,000	$1,000,000	$0	$0	N/A	$3,750,000 ?	4
45														
46	Life Safety Systems:MCG	Life Safety Systems	CIP was not funded in FY05-10 program. Currently listed as pending closeout	25	80 systems		3 systems	$152,000	$456,000	$0	$0	N/A	$760,000 ?	5
47	NOTES FOR ?: Dollar amounts estimated from consultant's survey of 10% of County's square footage.													
48														

(W)

Montgomery County Public Schools
Infrastructure Maintenance Schedule

Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05-10 CIP			Backlog	Criticality
									FY05 Approved	FY06 Request	Future Funding Level		
PLAR: Door/Window	Exterior Doors/ Hollow metal doors		30	11,525	each	384	$750	$288,000	$14,000	$90,000		$58,159,000	3
	Exterior Windows		30	2,254,500	sf	75,150	$65	$4,885,000	$47,000	$70,000			3
	Interior Doors/Solid wood doors		20	35,200	each	1,760	$350	$616,000		$325,000			2
PLAR: Electrical	Elec Service/Distribu tion		35	21,300,000	sf	608,571	$2	$1,217,000	$60,000			$137,944,000	4
	Emergency Light and Power		25	21,300,000	sf	852,000	$10	$8,520,000	$122,000	$75,000			5
	Lighting and Branch Wiring		20	21,300,000	sf	1,065,000	$10	$10,650,000					4
	Other Electrical Systems		15	21,300,000	sf	1,420,000	$1	$1,420,000	$64,000				4
PLAR: Electronics	Electronics	Fire Alarm, Security, PA	20	570	systems	29	$150,000	$4,275,000	$102,000	$20,000		$11,211,000	5
PLAR: Elevators	Elevators		20	274	each	14	$200,000	$2,740,000		$430,000		$3,846,000	4
PLAR: Finishes	Ceiling		20	21,300,000	sf	1,065,000	$3	$3,195,000	$66,000				1
	Floor		20	21,300,000	sf	1,065,000	$2	$2,130,000	$249,000	$90,000		$95,365,000	1
	Wall		10	48,316,000	sf	4,831,600	$1	$3,382,000	$61,000				1
PLAR: Plumbing	Plumbing system		35	21,300,000	sf	608,571	$6	$3,651,000				$18,911,000	4
	Plumbing fixtures		25	21,300,000	sf	852,000	$6	$5,112,000	$60,000				4
PLAR: Equipment	Lockers		20	63	schools	3	$150,000	$473,000	$175,000	$100,000			
PLAR: Site	Pavement	Parking lot/driveway	30	21,412,500	sf	713,750	$2	$1,428,000	$377,000	$85,000			1
	Curb/Gutter		30	672,360	lf	22,412	$12	$269,000					1
	Paved play area		30	2,500,000	sf	83,333	$2	$167,000				N/A	1
	Bleacher/Grand stand		30	25	each	1	$425,000	$354,000		$350,000			3
	Fencing								$14,000				
	Playground		20	525	pieces	26	$25,000	$656,000	$75,000	$75,000			2
	Stormwater Mgt		45	95	schools	2	$600,000	$1,267,000	$45,000	$45,000			2

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
77										FY05-10 CIP				
78	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
79	PLAR: QZAB Funding									$428,000				
80	PLAR: Total								$56,694,000	$2,539,000	$2,164,000	Higher	$325,436,000	
81														
82	HVAC	Chillers		25	250	each	10	$215,000	$2,150,000					5
83		Distribution Systems		30	21,300,000	sf	710,000	$17	$12,070,000					5
84		Boilers		25	400	each	16	$75,000	$1,200,000					5
85		Package DX Units		20	800	each	40	$30,000	$1,200,000					5
86	HVAC: Total								$16,620,000	$3,570,000	$3,175,000	Lower	$77,437,000	
87														
88	Restroom Renovation	Plumbing fixtures	Restroom Renovation	25	(see plumbing fixtures above)					$0	$120,000	Higher		4
89														
90	Energy Mgt System	EMS	Energy Mgt System	20	192	systems	10	$325,000	$3,120,000	$500,000	$500,000	Higher	$8,443,000	4
91														
92	Roof Replacement	Roof	Roof Replacement	20	15,320,000	sf	766,000	$9	$6,894,000	$3,000,000	$3,000,000	Same	$18,677,000	5
93														
94		Total							$83,328,000	$9,609,000	$8,959,000		$429,993,000	
95														
96														
97														

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
98	**Montgomery College**													
99	**Infrastructure Maintenance Schedule**													
100														
101										FY05-10 CIP				
102	**Capital Project**	**Major Element**	**Notes**	**Acceptable Life Span (Years)**	**Inventory**	**Units**	**How much/many should be replaced annually**	**Average Cost**	**Acceptable Annual Replacement Cost**	**FY05 Approved**	**FY06 Request**	**Future Funding Level**	**Backlog**	**Criticality**
103	Elevator Modernization: College		Includes repair and replacement	30	39		5.5 elevators	$79,000	$537,000	$ 537,000	$ 537,000	Same	$2,200,000	3
104														
105	Roof Replacement: College		Includes repair and replacement	20	54 bldgs		3 roofs	Varies	Varies	$ 434,000	$ 548,000	Different	$2,400,000	5
106														
107	Life Safety Systems: College		Fire alarms systems and sprinklers	25	54 bldgs								$5,000,000	
108			Emergency Light and Power	25	54 bldgs								$1,800,000	
109	Total Life Safety						8 bldgs	$125,000	$1,000,000	$2,000,000	$1,000,000	Same	$6,800,000	5
110														
111	Planned Lifecycle Asset Replacement: College													
112	Electrical System		Electrical Service & Distribution	35	54 bldgs		1.4 bldgs	$26,002	$36,403	$0	$0	$0	$1,404,130	5
113			Lighting & Branch Wiring	15	54 bldgs		3.25 bldgs	$52,148	$169,481				$2,816,000	2
114			Communications & Security	15	54 bldgs		3.25 bldgs	$114,889	$373,389				$6,204,000	3
115			Other Electrical Systems	15	54 bldgs		3.25 bldgs	$3,981	$12,938				$215,000	1
116			Total						$592,211	$400,000	$400,000	Higher		
117														
118	HVAC		Heat Generating Systems	40	54 bldgs		2.2 bldgs	$114,815	$252,593				$6,200,000	3
119			Cooling Generating Systems	25	54 bldgs		3.5 bldgs	$5,556	$19,446				$300,000	3
120			Distribution Systems	40	54 bldgs		2.2 bldgs	$125,926	$277,037				$6,800,000	4
121			Other HVAC	15	54 bldgs		5.9 bldgs	$5,556	$32,780				$300,000	3
122			Total						$581,857	$600,000	$600,000	Higher		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
123										FY05-10 CIP				
124	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
125	Plumbing		Plumbing Fixtures	30	54 bldgs		1.8 bldgs	$10,741	$19,334				$580,000	2
126			Plumbing Systems (Domestic Water Distribution, Sanitary Waste, Other)	30	54 bldgs		1.8 bldgs	$5,981	$10,766				$323,000	4
127			Total						$30,100	$0				
128														
129	Exterior Enclosure		Exterior windows	30	54 bldgs		1.8 bldgs	$27,778	$50,000				$1,500,000	3
130			Exterior doors	30	54 bldgs		1.8 bldgs	$3,704	$6,667				$200,000	3
131			Total						$56,668	$0				
132														
133	Interior Construction		Ceiling Finishes	20	54 bldgs		2.7 bldgs	$55,750	$150,525				$1,115,000	3
134			Floor Finishes	10	54 bldgs		5.4 bldgs	$110,000	$594,000				$1,100,000	3
135			Wall Finishes	10	54 bldgs		5.4 bldgs	$24,500	$132,300				$245,000	3
136			Interior Doors	50	54 bldgs		1.1 bldgs	$6,200	$6,820				$310,000	3
137			Stairs	30	54 bldgs		1.8 bldgs	$8,367	$15,060				$251,000	2
138			Partitions	50	54 bldgs		1.1 bldgs	$9,600	$10,560				$480,000	4
139			Total						$909,265	$0	$500,000	Higher		
140														
141	Site		Pavement (roadways, parking lots, walkways)	20	3 campus		35,718	$0	$35,718				$230,000	4
142			Site Lighting	25	3 campus		96,905	$0	$96,905				$780,000	2
143			Site Communications & Security	25	3 campus		236,050	$0	$236,050				$1,900,000	2
144			Storm Sewer	30	3 campus		20,710	$0	$20,710				$200,000	4
145			Total						$389,383	$0				
146														
147	Athletic Fields								$94,000	$0	$0	Same		
148	Site Development -- Soccer Field		Complete Turf Renovation	10	1		-	$10,000		$0	$0	$0	$10,000	2
149			Backstops -- includes fencing & benches	15	1		-	$14,600		$0	$0	$0	$14,600	2
150			Infields -- Complete reconstruction	10	1		-	$12,000		$0	$0	$0	$12,000	2
151														

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
152														
153										FY05-10 CIP				
154	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
155	Site Development -- Football Field		Complete Turf Renovation	5	1		-	$10,000		$0	$0	$0	$10,000	2
156			Treat wood and paint seats, walkways & stairs	20	1		-	$78,000		$0	$0	$0	$78,000	2
157														
158	Site Development -- Baseball Field		Backstops -- includes fencing & benches	15	2		-	$18,800		$0	$0	$0	$37,600	2
159			Complete Turf Renovation	10	2		-	$15,000		$0	$0	$0	$30,000	2
160			Infields -- Complete reconstruction	10	2		-	$20,000		$0	$0	$0	$40,000	2
161														
162	Site Development -- Tennis Courts		Pavement	20	18		-	$30,000		$0	$0	$0	$540,000	2
163			Fencing	20	18		-	$18,000		$0	$0	$0	$324,000	2
164			Color Coating	10	18		-	$8,000		$0	$0	$0	$144,000	2
165														
166	Site Development - Track		Re-pave	20	1		-	$61,000		$0	$0	$0	$61,000	2
167														
168	Site Development - Wet Ponds		Dredge and rehab	20	2		-	$50,000					$100,000	2
169														
170	Total Planned Lifecycle Asset Replacement: College							Varies	$2,653,483	$1,000,000	$1,500,000	Higher	$34,754,330	
171														
172	Macklin Tower Alterations		Mechanical, electrical, HVAC, plumbing, life safety	Varies	1		1,000,000	N/A	$1,040,000	$1,040,000	$1,040,000	Higher	$7,740,000	5
173														
174														

175 (a) Does not include design or administration.

176 (b) Total Athletic Field needs divided by average life of 15 years.

177 (c) Excludes the Health Sciences Building, finished in December of 2003.

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M-NCPPC, Montgomery County Department of Park and Planning
Infrastructure Maintenance Schedule

Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05-10 CIP			Backlog	Criticality
									FY05 Approved	FY06 Request	Future Funding Level		
PLAR: Athletic Fields Local	**Baseball Fields**												
PLAR: Athletic Fields	Backstops	Replace backstop, player protection fencing, and benches	25	10	fields	0.40	$15,000	$6,156	$0	$20,000		?	3
PLAR: Athletic Fields	Infields	Reconstruction including grading and new infield soil	10	10	infields	1.00	$15,000	$15,390	$0	$0		?	3
PLAR: Athletic Fields	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	10	10	fields	1.00	$20,000	$20,520	$20,000	$0		?	4
PLAR: Athletic Fields	Bleachers	Replacement	25	10	bleachers	0.40	$10,000	$4,104	$0	$0		?	3
PLAR: Athletic Fields Local	**Softball Fields**												
PLAR: Athletic Fields	Backstops	Replace backstop, player protection fencing, and benches	25	145	fields	5.80	$15,000	$89,262	$30,000	$30,000		?	3
PLAR: Athletic Fields	Infields	Reconstruction including grading and new infield soil	10	145	infields	14.50	$12,000	$178,524	$0	$0		?	3
PLAR: Athletic Fields	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	10	145	fields	14.50	$15,000	$223,155	$75,000	$75,000		?	4
PLAR: Athletic Fields	Bleachers	Replacement	25	145	bleachers	5.80	$10,000	$59,508	$0	$0		?	3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
193										FY05-10 CIP				
194	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
195	**PLAR: Athletic Fields Local**	**Soccer/Football Fields**												
196	PLAR: Athletic Fields	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	5	82	fields	16.40	$15,000	$252,396	$75,000	$75,000		?	4
197	PLAR: Athletic Fields	Bleachers	Replacement	25	82	bleachers	3.28	$10,000	$33,653	$0	$0		?	3
198	PLAR: Athletic Fields Local Parks	TOTAL EXPENDITURES							$882,668	$200,000	$200,000	Same		
199														
200	**PLAR: Athletic Fields Non-Local**	**Baseball Fields**												
201	PLAR: Athletic Fields	Backstops	Replace backstop, player protection fencing, and benches	25	11	fields	0.44	$20,000	$9,029	$20,000	$0		?	3
202	PLAR: Athletic Fields	Infields	Reconstruction including grading, drainage, and new infield soil	10	11	infields	1.10	$20,000	$22,572	$0	$0		?	3
203	PLAR: Athletic Fields	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	10	11	fields	1.10	$15,000	$16,929	$0	$15,000		?	4
204	PLAR: Athletic Fields	Lights	Replacement	30	5	light systems	0.17	$135,000	$23,085	$0	$0		?	3
205	PLAR: Athletic Fields	Perimeter fencing	Replacement	25	11	fields	0.44	$20,000	$9,029	$0	$9,000		?	2
206	PLAR: Athletic Fields	Bleachers	Replacement	25	11	bleachers	0.44	$25,000	$11,286	$0	$0		?	3
207	**PLAR: Athletic Fields Non-Local**	**Softball Fields**												
208	PLAR: Athletic Fields	Backstops	Replace backstop, player protection fencing, and benches	25	26	fields	1.04	$14,600	$15,579	$0	$0		?	3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
209										FY05-10 CIP				
210	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
211	PLAR: Athletic Fields	Infields	Reconstruction including grading, drainage, and new infield soil	10	26	infields	2.60	$12,000	$32,011	$0	$0		?	3
212	PLAR: Athletic Fields	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	10	26	fields	2.60	$10,000	$26,676	$10,000	$10,000		?	4
213	PLAR: Athletic Fields	Lights	Replacement	30	15	light systems	0.50	$115,000	$58,995	$0	$0		?	3
214	PLAR: Athletic Fields	Perimeter fencing	Replacement	25	26	fields	1.04	$15,000	$16,006	$9,000	$0		?	2
215	PLAR: Athletic Fields	Bleachers	Replacement	25	26	bleachers	1.04	$25,000	$26,676	$0	$0		?	3
216	**PLAR: Athletic Fields Non-Local**	**Soccer/Football Fields**												
217	PLAR: Athletic Fields	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	5	16	fields	3.20	$15,000	$49,248	$15,000	$15,000		?	4
218	PLAR: Athletic Fields	Lights	Replacement	30	3	light systems	0.10	$90,000	$9,234	$0	$0		?	3
219	PLAR: Athletic Fields	Perimeter fencing	Replacement	25	16	fields	0.64	$20,000	$13,133	$0	$4,000		?	2
220	PLAR: Athletic Fields	Bleachers	Replacement	25	16	bleachers	0.64	$25,000	$16,416	$0	$0		?	3
221	PLAR: Athletic Fields Non-Local	TOTAL EXPENDITURES							$355,903	$54,000	$54,000	Same		
222														
223	PLAR: Play Equipment	Equipment		20	288	playgrounds	14.4	$40,000	$590,976	$400,000	$400,000		?	5
224	PLAR: Play Equipment	Surface		20	288	playgrounds	14.4	$10,000	$147,744	$100,000	$100,000		?	5
225	PLAR: Play Equipment	Edging		20	288	playgrounds	14.4	$10,000	$147,744	$100,000	$100,000		?	3
226	PLAR: Play Equipment: Local	TOTAL EXPENDITURES							$886,464	$600,000	$600,000	Higher	27	4

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
227														
228										FY05-10 CIP				
229	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
230	PLAR: Play Equipment	Equipment		20	21	playgrounds	1.05	$100,000	$107,730	$80,000	$80,000		?	5
231	PLAR: Play Equipment	Surface		20	21	playgrounds	1.05	$25,000	$26,933	$22,000	$22,000			5
232	PLAR: Play Equipment	Edging		20	21	playgrounds	1.05	$25,000	$26,933	$22,000	$22,000			3
233	PLAR: Play Equipment: Non-Local	TOTAL EXPENDITURES							$161,595	$124,000	$124,000	Same	6	4
234														
235	PLAR: Tennis & Multi-Use Courts	Tennis Ct. Pavement		20	252	courts	12.6	$25,000	$323,190	$400,000	$300,000		?	3
236	PLAR: Tennis & Multi-Use Courts	Basketball/MUC Court Pavement		20	195	courts	9.75	$6,000	$60,021	$500,000	$40,000		?	3
237	PLAR: Tennis & Multi-Use Courts	Tennis Fencing		20	252	courts	12.6	$6,000	$77,566	$50,000	$50,000		?	2
238	PLAR: Tennis & Multi-Use Courts	Tennis Ct. Color Coating		5	252	courts	50.4	$3,500	$180,986	$35,000	$60,000		?	2
239	PLAR: Tennis & Multi-Use Courts: Local	TOTAL EXPENDITURES							$641,763	$535,000	$450,000	Lower		
240														
241	PLAR: Tennis & Multi-Use Courts	Tennis Ct. Pavement		20	53	courts	2.65	$25,000	$67,973	$55,000	$55,000		?	3
242	PLAR: Tennis & Multi-Use Courts	Basketball/MUC Court Pavement		20	13	courts	0.65	$6,000	$4,001	$5,000	$5,000		?	3
243	PLAR: Tennis & Multi-Use Courts	Tennis Fencing		20	53	courts	2.65	$6,000	$16,313	$10,000	$10,000		?	2
244	PLAR: Tennis & Multi-Use Courts	Tennis Ct. Color Coating		5	53	courts	10.6	$3,500	$38,065	$15,000	$15,000		?	2
245	PLAR: Tennis & Multi-Use Courts: Non-Local	TOTAL EXPENDITURES							126,352	$85,000	$85,000	Same		
246		PLAR: Minor Renovations is a catch-all subset of PLAR that funds work outside of the subsets of athletic fields, tennis courts, and playgrounds. Much of the work is major renovation or replacement of park buildings. Local and Non-Local are combined.												
247		Park buildings include 121 picnic shelters / gazebos, 34 recreation centers, 5 nature centers, 74 restroom buildings, 3 office / administrative buildings, 11 maintenance buildings, 4 visitors centers, and 128 park houses. Inventories are incomplete for equipment and material storage structures, greenhouses, barns, and historic structures. Enterprise facilities such as ice rinks and golf course clubhouses are not included.												
248	PLAR: Minor Renovations	Doors & Windows	Exterior Doors	30	500	doors	17	$750	$12,825				?	4
249	PLAR: Minor Renovations	Doors & Windows	Exterior Windows	30	50,000	sf	1,667	$65	$111,150				?	4
250	PLAR: Minor Renovations	Electrical	Electric Service / Distribution	35	725,000	sf	20,714	$2	$42,506				?	4
251														

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
252										FY05-10 CIP				
253	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
254	PLAR: Minor Renovations	Electrical	Emergency Light & Power	25	725,000	sf	29,000	$10	$297,540				?	5
255	PLAR: Minor Renovations	Electrical	Lighting and Branch Wiring	20	725,000	sf	36,250	$10	$371,925				?	4
256	PLAR: Minor Renovations	Electrical	Other Electrical Systems	15	725,000	sf	48,333	$1	$49,590				?	4
257	PLAR: Minor Renovations	Electronics	Fire Alarm, Security, and PA Systems	20	30	each	2	$150,000	$230,850				?	5
258	PLAR: Minor Renovations	Elevators	Elevators	20	1	each	0	$200,000	$10,260				?	5
259	PLAR: Minor Renovations	Finishes	Exterior Walls	10	1,450,000	sf	145,000	$1	$148,770				?	4
260	PLAR: Minor Renovations	Finishes	Floors	20	725,000	sf	36,250	$2	$74,385				?	4
261	PLAR: Minor Renovations	Plumbing	Plumbing System	35	725,000	sf	20714	$6	$127,517				?	5
262	PLAR: Minor Renovations	Plumbing	Plumbing Fixtures	25	725000	sf	29,000	$6	$178,524				?	4
263	PLAR: Minor Renovations	HVAC	Chillers	25	25	each	1	$15,000	$15,390				?	5
264	PLAR: Minor Renovations	HVAC	Distribution System	30	725,000	sf	24,167	$17	$421,515				?	5
265	PLAR: Minor Renovations	HVAC	Boilers	25	40	each	2	$75,000	$123,120				?	5
266	PLAR: Minor Renovations	HVAC	Package DX Units	20	80	each	4	$30,000	$123,120				?	5
267	PLAR: Park Buildings	TOTAL EXPENDITURES							2,338,987	$175,000	$175,000	Same		
268		This category represents major components of park infrastructure for which inventory and assessment is incomplete and /or lifecycle intervals and associated costs are unknown.												
269	PLAR: Minor Renovations	Lakes	Work may include dredging, shoreline protection, and repairs to dams and outlet structures	100	3	each	?	?	?	$0	$0		?	4

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
270										FY05-10 CIP				
271	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
272	PLAR: Minor Renovations	Aesthetic & Farm Ponds	Work may include dredging, shoreline protection, and repairs to dams and outlet structures	100	35	each	?	?	?	$0	$50,000		?	4
273	PLAR: Minor Renovations	Sewer Lines	Work may include replacement of sewer mains, manholes, pressure sewers, and grinder pump	75	?	lf	?	?	?	$0	$0		?	4
274	PLAR: Minor Renovations	Water Lines	Work may include replacement of water mains, valves, and hydrants	75	?	lf	?	?	?	$10,000	$0		?	4
275	PLAR: Minor Renovations	Electric Lines	Work may include replacement of underground power lines and conduit, overhead power lines and poles, circuits and pannel boxes,and transformers	100	?	lf	?	?	?	$0	$0		?	4

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
276										FY05-10 CIP				
277	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
278	PLAR: Minor Renovations	Telecommunication Lines	Work may include replacement of underground telecommunication lines and conduit, overhead telecommunication lines and poles, and control pannels	100	?	lf	?	?	?	$130,000	$0		?	4
279	PLAR: Minor Renovations	Storm Drains, Culverts, and Headwalls	Work may include replacement of pipes, manholes, and headwalls	50	?	lf	?	?	?	$0	$50,000		?	4
280	PLAR: Minor Renovations	Wells	Work may include re-drilling of wells, replacement of casing, and replacement of pumps	50	?	each	?	?	?	$0	$0		?	4
281	PLAR: Minor Renovations	Septic Systems	Work may include replacement of septic field, septic tank, and grinder pumps	50	?	each	?	?	?	$0	$25,000		?	4
282	PLAR: Minor Renovations	Retaining Walls	Work may include demolition and rebuilding of walls	75	?	sf	?	?	?	$0	$50,000		?	4
283	PLAR: Minor Renovations	Site Lighting	Work may include replacement of light poles, fixtures, and wiring	30	?	each	?	?	?	$0	$0		?	4

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
284										FY05-10 CIP				
285	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
286	PLAR: Minor Renovations	Pedestrian Bridges	Work may include replacement of bridge, abutments, and footings	30	?		?	?	?	$35,000	$0		?	4
287	PLAR: Minor Renovations	Fuel tanks	Work may include replacement of fuel tank and distribution lines	30	?		?	?	?	$0	$0		?	4
288	PLAR: Miscellaneous	TOTAL EXPENDITURES								$175,000	$175,000	Same		
289														
290	Park Roads & Bridges	Pavement	Pavement Repair and Resurfacing	13	14.5	miles	1.12	$350,000	$400,535	$400,000	$400,000		?	5
291	Park Roads & Bridges	Bridges	Bridge Rehabilitation	25	13	bridges	0.52	$250,000	$130,000	$130,000	$119,000		?	5
292	Park Roads & Bridges	TOTAL EX-PENDITURES							$530,535	$530,000	$519,000	Higher		
293														
294	Parking Lots and Paths-Local	Parking lot pavement	Life cycle replacement includes milling, patching and resurfacing. No accurate inventory of miles/square feet of asphalt	20	?	sf	?	?	?	$150,000	$150,000		?	3
295	Parking Lots and Paths-Local	Path pavement		20	?	sf	?	?	?	$25,000	$25,000		?	3
296	Parking Lots and Paths-Local	TOTAL EX-PENDITURES				sf				$175,000	$175,000	Same		
297	Parking Lots and Paths-Non-Local	Parking lot pavement		20	?	sf	?	?	?	$0	$250,000			3
298	Parking Lots and Paths-Non-Local	Path pavement		20	?		?	?	?	$0	$50,000			3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
299										FY05-10 CIP				
300	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
301	Parking Lots and Paths-Non-Local	TOTAL EX-PENDITURES								$0	$300,000	Same		
302														
303	Roof Replacement	Shelters / Gazebos		20	121	roofs	6.05	$7,000	$42,350	$0	$0		?	2
304	Roof Replacement	Recreation Centers		20	34	roofs	1.7	$90,000	$153,000	$180,000	$180,000		?	4
305	Roof Replacement	Nature Centers		20	5	roofs	0.25	$50,000	$12,500	$0	$0		?	4
306	Roof Replacement	Restroom Buildings		20	74	roofs	3.7	$15,000	$55,500	$0	$0		?	3
307	Roof Replacement	Barns		20	20	roofs	1	$20,000	$20,000	$0	$0		?	3
308	Roof Replacement	Office Buildings / Visitor Centers		20	18	roofs	0.9	$125,000	$112,500	$150,000	$150,000		?	5
309	Roof Replacement	Storage / Equipment Structures		20	45	roofs	2.25	$15,000	$33,750	$0	$0		?	3
310	Roof Replacement	TOTAL EX-PENDITURES							$429,600	$330,000	$330,000	Lower		
311														
312		**Wet Ponds**												
313	SWM Structural Rehab.	Pond dredging	Dredge when 50% wet pool capacity is reached	20	75	ponds	3.75	$75,000	$281,250	$250,000	$250,000		?	4
314	SWM Structural Rehab.	Outlet works repair	Major rehab of riser, barrel, outfall	30	75	ponds	2.50	$50,000	$125,000	$50,000	$50,000		?	4
315	SWM Structural Rehab.	**Dry Ponds**												
316	SWM Structural Rehab.	Pond dredging	Dredge when 25% of dry capacity is reached	10	100	ponds	10.00	$50,000	$500,000	$0	$0		?	4
317	SWM Structural Rehab.	Outlet works repair	Major rehab of riser, barrel, outfall	30	100	ponds	3.33	$50,000	$166,667	$0	$0		?	4
318	SWM Structural Rehab.	**Flow Splitters**												
319	SWM Structural Rehab.	Pump out and maintain	Costs may vary	3	25	splitters	8.33	$3,000	$25,000	$0	$0		?	

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
320														
321										FY05-10 CIP				
322	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
323	SWM Structural Rehab.	Major repair/replace	Major rehab of structure	20	25	splitters	1.25	$3,000	$3,750	$0	$0		?	
324	SWM Structural Rehab.	**Surface Sand Filters**												
325	SWM Structural Rehab.	Filter Repair/Replace ment	Assume 50% of media replaced plus misc. repairs	4	30	filters	7.50	$7,500	$56,250	$0	$0		?	4
326	SWM Structural Rehab.	Outlet works repair	Major rehab of riser, barrel, outfall	20	30	filters	1.50	$25,000	$37,500	$0	$0		?	4
327	SWM Structural Rehab.	**Bio-Retention Filters**												
328	SWM Structural Rehab.	Filter Repair/Replace ment	Assume 50% of media replaced plus misc. repairs	5	10	filters	2.00	$7,500	$15,000	$0	$0		?	4
329	SWM Structural Rehab.	Outlet works repair	Major rehab of riser, barrel, outfall	30	10	filters	0.33	$25,000	$8,333	$0	$0		?	4
330	SWM Structural Rehab.	**Infiltration Trenches**												
331	SWM Structural Rehab.	Trench Repair/Replace ment	Assume full replacement of media plus misc. repairs	10	115	trenches	11.50	$5,000	$57,500	$0	$0		?	4
332	SWM Structural Rehab.	**Underground Water Quality Structures**												
333	SWM Structural Rehab.	Pump-out and maintain	Costs may vary by facility type and size	1	25	structures	25.00	$5,000	$125,000	$30,000	$30,000		?	4
334	SWM Structural Rehab.	**Underground Storage Facilities**												
335	SWM Structural Rehab.	Remove sediments	Remove sediments when 10 - 15% of capacity is reached	5	15	facilities	3.00	$15,000	$45,000	$20,000	$20,000			4
336														

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
337										FY05-10 CIP				
338	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
339	SWM Structural Rehab.	Outlet works repair	Major rehab of riser, barrel, outfall	30	15	facilities	0.50	$15,000	$7,500	$0	$0		?	4
340	SWM Structural Rehab.	Underground pipe repair/replacement	Assume 25% of pipe requires replacement plus misc. repairs	30	15	facilities	0.50	$25,000	$12,500	$0	$0		?	4
341	SWM Structural Rehab.	TOTAL EX-PENDITURES							$1,466,250	$350,000	$350,000	Same		
342														
343	Trails-Hard Surface Renovation	Boardwalk	Replace timber boardwalk	20	1	mile	0.05	$2,000,000	$100,000	$0	$0		?	3
344	Trails-Hard Surface Renovation	Bridges	Pedestrian Bridge Replacement	30	118	bridges	3.93	$75,000	$295,000	$21,000	$30,000		?	5
345	Trails-Hard Surface Renovation	Pavement	Asphalt overlay of surface	20	37	mile	1.85	$105,000	$194,250	$0	$138,000		?	3
346	Trails-Hard Surface Renovation	TOTAL EX-PENDITURES							$589,250	$21,000	$168,000	Same		
347														
348	Ballfield Initiatives	**Softball Fields**												
349	Ballfield Initiatives	Backstops	Replace backstop, player protection fencing, and benches	25	94	backstops	3.76	$15,000	$57,866	$0	$0		?	2
350	Ballfield Initiatives	Infields	Reconstruction including grading and new infield soil	10	94	infields	9.40	$12,000	$115,733	$0	$0		?	3
351	Ballfield Initiatives	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	10	94	turf areas	14.50	$15,000	$223,155	$0	$0		?	3

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
352										FY05-10 CIP				
353	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	FY05 Approved	FY06 Request	Future Funding Level	Backlog	Criticality
354	Ballfield Initiatives	**Soccer/Foot-ball Fields**												
355	Ballfield Initiatives	Turf	Spot grading, improving root zone soil and drainage, re-seeding or sodding	5	99	turf areas	19.80	$15,000	$304,722	$0	$0		?	3
356	Ballfield Initiatives	TOTAL EX-PENDITURES							$701,476	$0	$0	Same		

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M-NCPPC, Montgomery County Department of Park and Planning
Infrastructure Maintenance Schedule

Operating Programs

Infastructure Element	Component	Maintenance Activity	Annual Program Cost in FY06 $$	Adopted FY 2005 Operating Budget	Proposed FY 2006 Operating Budget	Comments
Athletic Fields / MCPS School Sites maintained by Parks	Infield, lines and turf	Includes items such as dragging, leveling and lining of infields, maintenance of plates, pitcher's mounds, turf maintenance and mowing.	$780,000	$700,000	$771,100	Does not include Ballfield Initiative Phase 2.
Athletic Fields-Local Parks	Infield, lines and turf	Includes items such as dragging, leveling and lining of infields, maintenance of plates, pitcher's mounds, turf maintenance and mowing.	$984,000	$735,000	$984,000	FY06 Budget includes restoration of lapsed positions for general park maintenance. FY06 Budget inc. new initiative to begin a program to renovate park fields.
Athletic Fields-Non-Local Parks	Infield, lines and turf	Includes items such as dragging, leveling and lining of infield, maintenance of plates, pitchers mound turf maintenance and mowing.	$842,500	$808,000	$832,000	FY06 Budget includes restoration of lapsed positions for general park maintenance.
Hard Surface Trails	Surface and adjacent areas	Includes items such as inspection of trail surface and adjacent areas for hazards, excessive wear and tear, vandalism, drainage failure, washouts, etc. and repair as appropriate.	$514,000	$141,200	$272,000	

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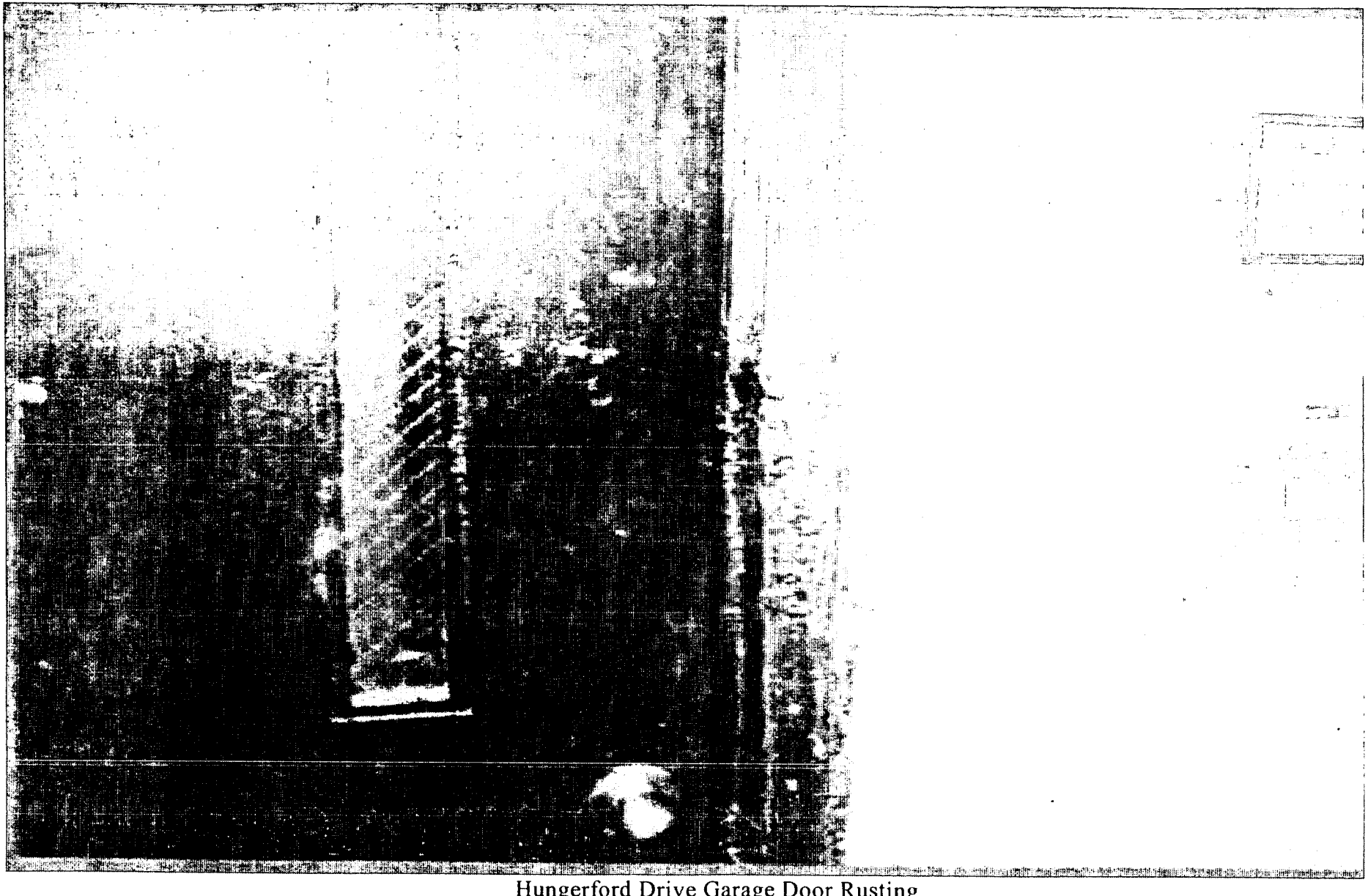
Infastructure Element	Component	Maintenance Activity	Annual Program Cost in FY06 $$	Adopted FY 2005 Operating Budget	Proposed FY 2006 Operating Budget	Comments
Playground Maintenance	Play equipment and safety surfacing	Inspection of playgrounds to insure compliance with Consumer Product Safety Council guidelines, including items such as head entrapment potential, checking for wood failure, protrusion of bolts or other sharp objects, proper surface depth and overall condition of equipment and make repairs as appropriate.	$474,000	$329,000	$329,000	
Tennis/Multi-use Courts	Surface, nets and fencing	Includes items such as inspection of surface for hazards and proper lining. Inspection of hardware on nets, goals, fences and gates and repair as appropriate.	$537,000	$250,600	$300,600	
Parkways	Three major parkways	Working with DPW&T on maintenance standards. Current conditions are on a service request basis.	???	$40,000	$40,000	Working with DPW&T on maintenance standards.
Interior Park Roads and Parking Lots	Stormwater management, curb gutter, crack sealing and resurfacing and stripping. Includes roadways within a park.	Includes inspection, preventive maintenance, and service request for repairs	$825,000	$490,000	$803,000	FY06 Budget includes funding to begin to address backlog of service requests

Infastructure Element	Component	Maintenance Activity	Annual Program Cost in FY06 $$	Adopted FY 2005 Operating Budget	Proposed FY 2006 Operating Budget	Comments
Park Buildings	Shelters, gazebos, recreation centers, nature centers, greenhouses, restrooms, historic structures, barns, visitor centers, office buildings and maintenance yards, etc.	This includes structural, aesthetic, and preventive maintenance, inspections, and work requests for repairs	$2,700,000	$1,400,000	$1,723,000	

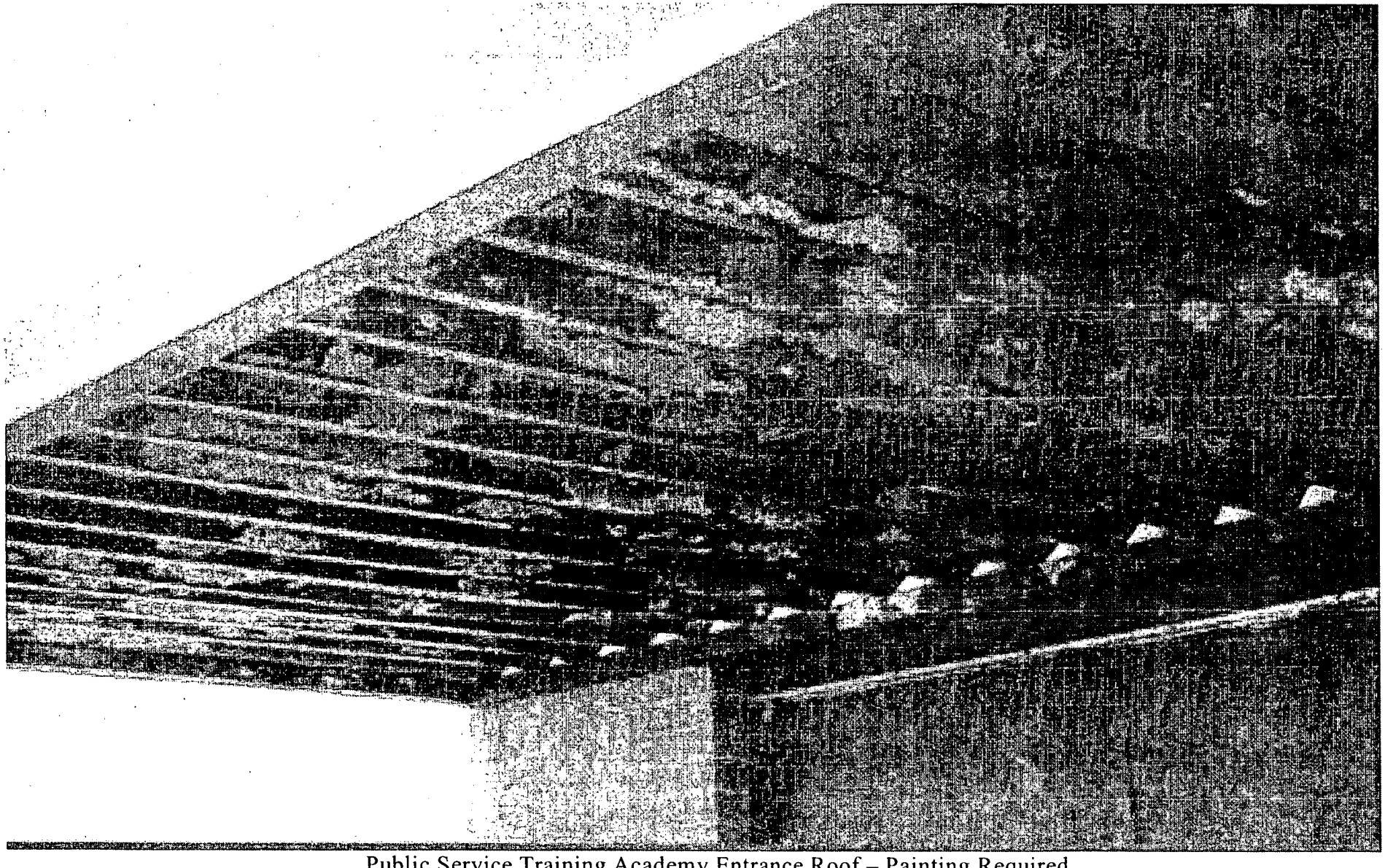
MCPS Operating Budget used for Preventative Maintenance

HVAC	$1,821,803
Life Safety	$640,000
Elevators	$300,000
Plumbing	$81,840
Roofing	$32,000
Pest Management	$177,000
Asbestos	$61,000
Electrical	$21,360
Bleachers	$20,000
Moveable partitions	$30,000
Overhead doors	$20,000
	$3,205,003

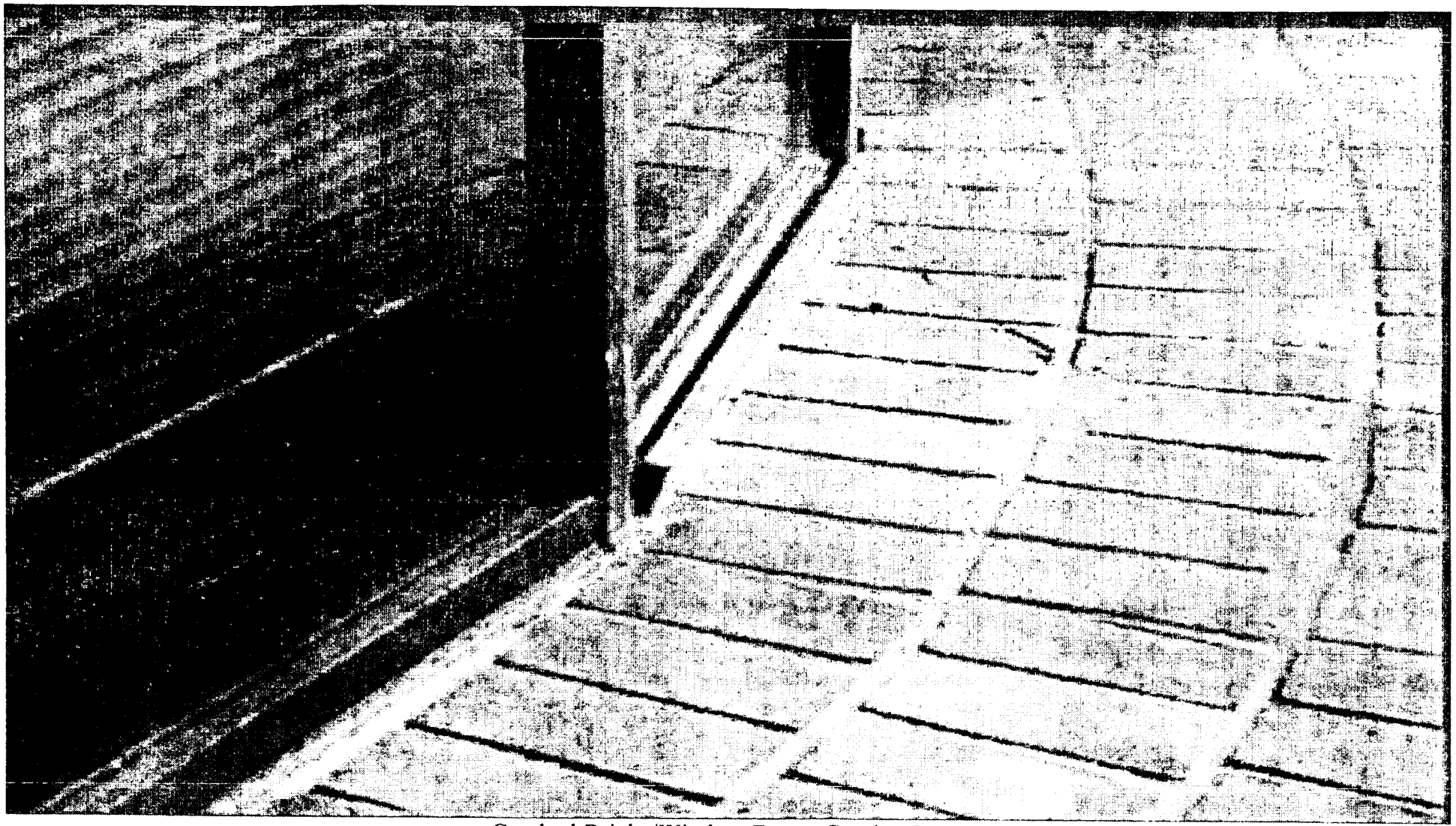
A budget for the proper preventative maintenance needs will have to be developed in conjuction with the development of a facility asset management database.



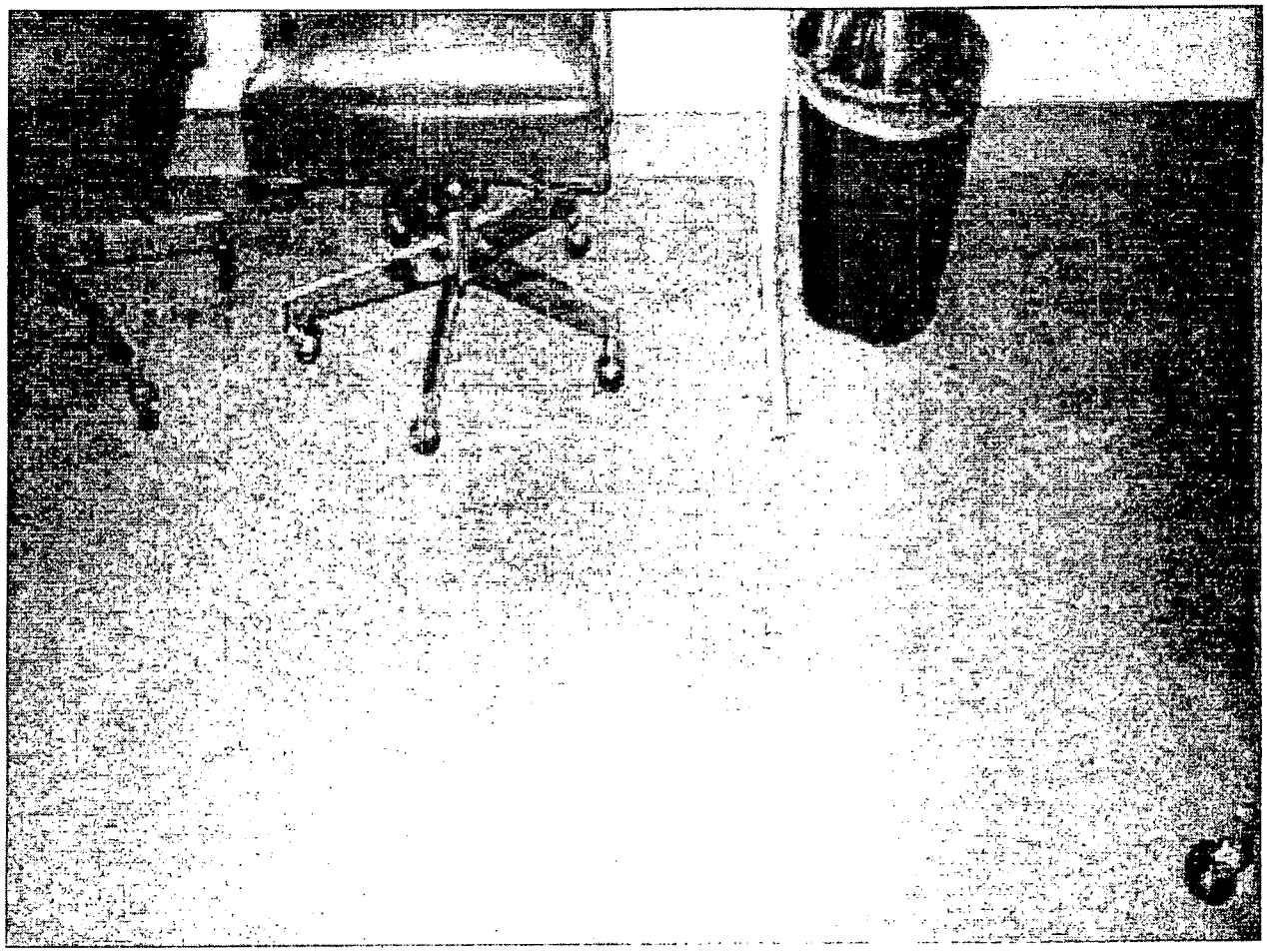
Hungerford Drive Garage Door Rusting



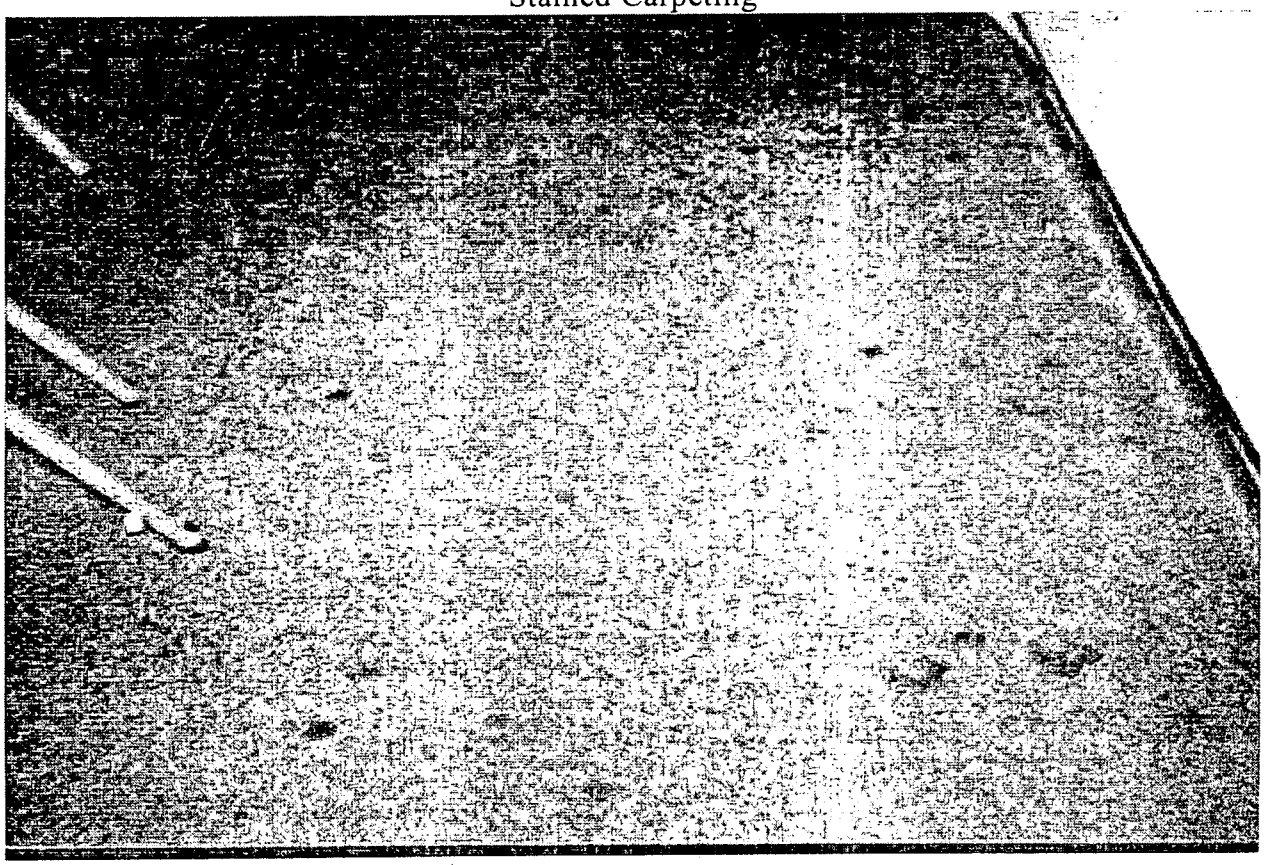
Public Service Training Academy Entrance Roof – Painting Required

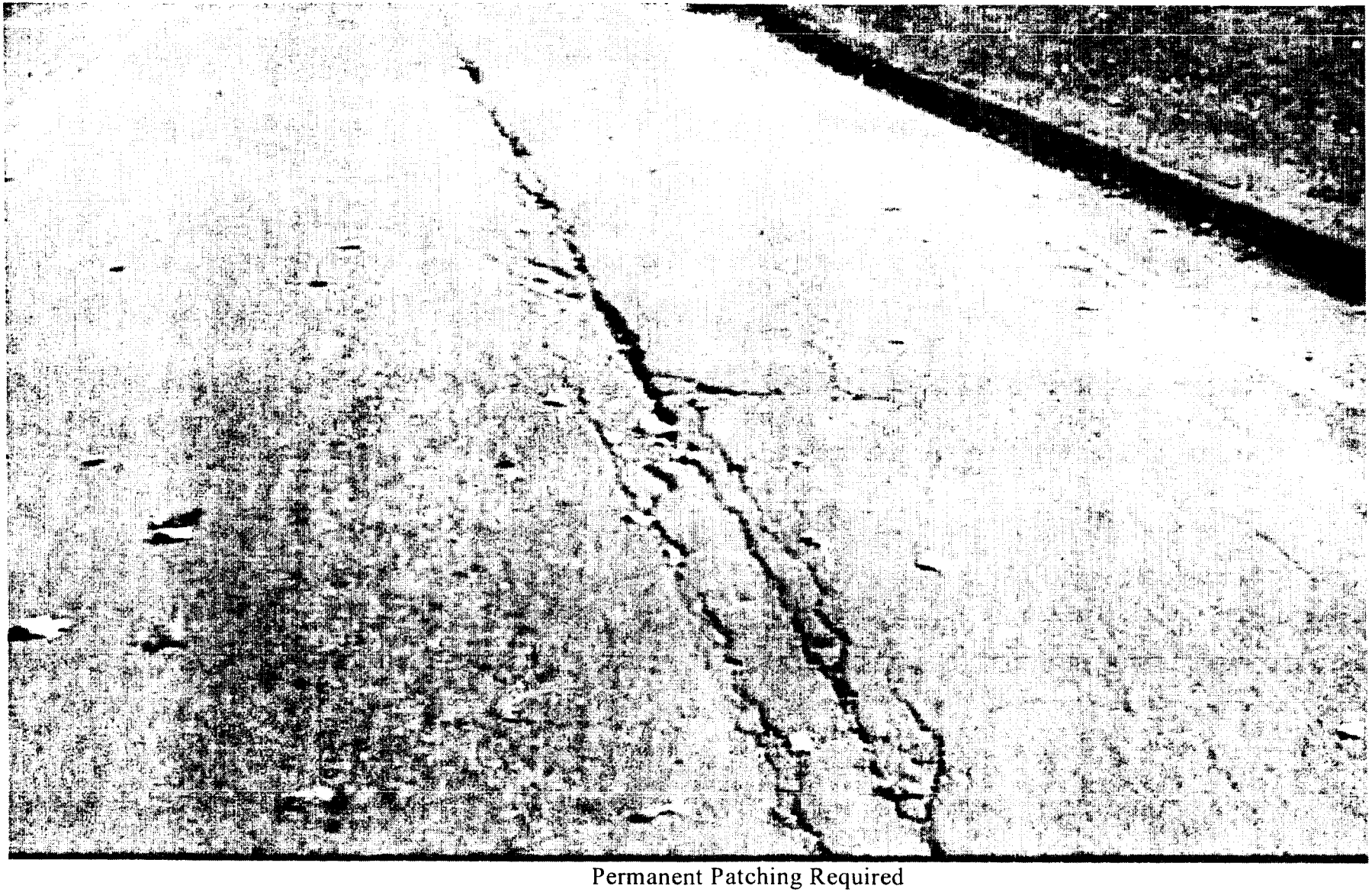


Cracked Bricks/Window Frame Coming Loose



Stained Carpeting

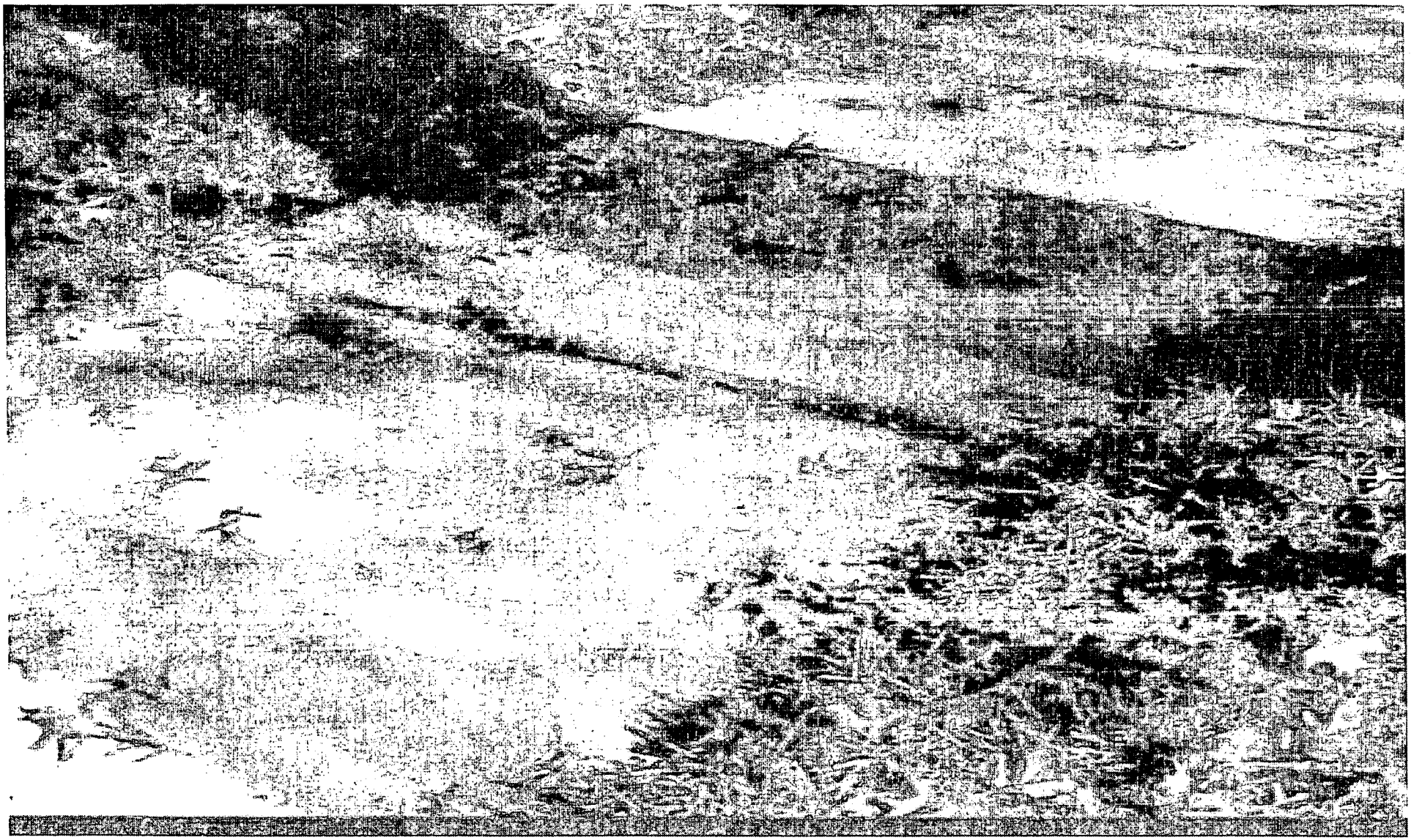




Permanent Patching Required

Snouffer School Road Bridge
Repairs Required

Seven Locks Road Parking Lot – Repairs Needed



Sidewalk in Need of Repair
Trip Hazard over 1/2"

Sidewalk in Need of Replacement

Curb & Gutter Section Needing Patching