STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
AVIATION OFFICE

Statewide Airfield Pavement Management Program
Sebastian Municipal Airport
(General Aviation)
Sebastian, Florida
(District 4)

January 31, 2008

Prepared for:
Florida Department of Transportation
Aviation Office

by:
URS Corporation Inc. / MACTEC Engineering & Consulting, Inc. / Planning Technology, Inc. / ASC Geosciences, Inc.

TABLE OF CONTENTS

SECTION **PAGE NO.**

LIST OF FIGURES

LIST OF TABLES:

APPENDIX

EXECUTIVE SUMMARY

URS Corporation, Inc., MACTEC Engineering and Consulting, Inc. (MACTEC), Planning Technology, Inc. (PTI), and ASC Geosciences, Inc. (ASCG) were awarded with a contract to provide services in support of the Florida Department of Transportation (FDOT) Aviation Office for Phase II of the Statewide Aviation Pavement Management program. As part of this contract, MACTEC conducted pavement condition survey for airside pavements at Sebastian Municipal Airport, evaluated the condition and developed a maintenance and rehabilitation program to improve conditions to prescribed minimum levels.

The total pavement area in 2007 at Sebastian Municipal Airport is 1,463,335 square feet. The breakdown of pavement area for each pavement use is provided as follows:

Pavement Area by Pavement Use

Use	Area, SqFt	% of Total Area
Runway	885,150	61
Taxiway	240,525	16
Apron	337,660	23
Total	**1,463,335**	**100**

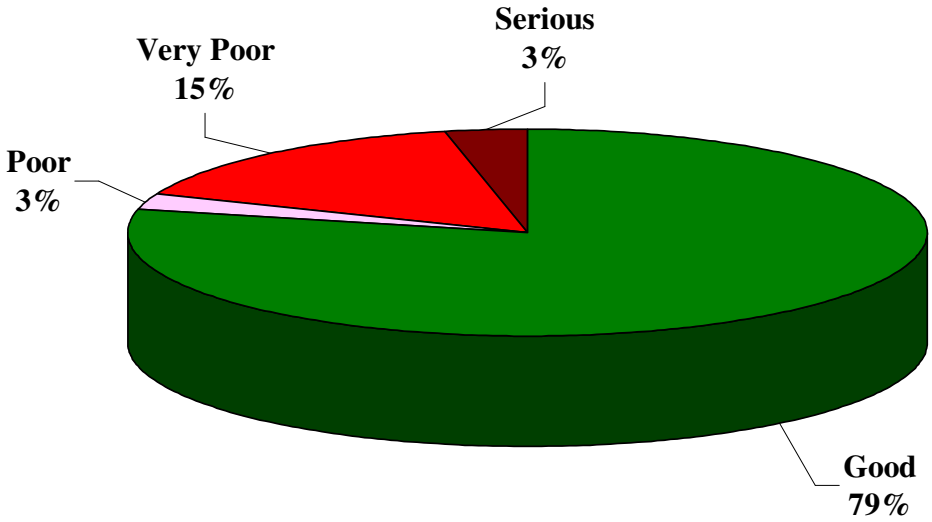
Prepared by BX *Checked by TH*

The overall area-weighted Pavement Condition Index (PCI) of the areas in 2007 is 81, representing a Satisfactory overall network condition.

The figure below provides the PCI distribution by rating category for the network. Approximately 79% of the network is in Good condition while 21% of the network is in Poor to Serious condition.

The condition summary by pavement use table illustrates the area-weighted PCI computed individually for each use. On average, the runways, taxiways, and aprons are in Satisfactory, Satisfactory, and Good condition, respectively.

Network PCI Distribution by Rating Category



Prepared by BX *Checked by TH*

Condition Summary by Pavement Use

Use	Area-Weighted PCI
Runway	81
Taxiway	71
Apron	89
All	**81**

Prepared by BX *Checked by TH*

The immediate M&R needs include part of Runway 4-22 and one large area of Taxiway 3. Taxiway 3 may not be the highest priority for funding but would need to be programmed over several years. These immediate needs are summarized in the following table.

Immediate Major M&R Needs

Branch	Section	Section Area, SqFt	Major M&R Funded**	PCI Before	Maintenance	PCI After
AP W	5115	37,650	$236,819	43	Major M&R < Critical	100
RW 4-22	6210	201,200	$1,560,508	38	Major M&R < Critical	100
TW 3	305	49,000	$667,380	20	Major M&R < Critical	100
TW 3	306	10,000	$136,200	30	Major M&R < Critical	100
TW 4	410	15,000	$204,300	29	Major M&R < Critical	100
		Total	**$2,805,206**	**81***	**← Network Avg. PCI →**	**93***

* This table shows the area-weighted PCI before and after Major M&R and routine maintenance work for the first year of the 10-year plan. It includes all pavement sections at Sebastian Municipal Airport, including those sections not shown in this table.
** Cost figures are rounded down. Sum may be different. Costs are adjusted for inflation.

Prepared by BX *Checked by TH*

A forecast of Major M&R needs for a 10-year period was developed using an unlimited budget. The analysis identified ongoing maintenance needs and major M&R during that interval.

10 Year M&R Costs under Unlimited Funding Scenario

Year	Preventive	Major M&R >= Critical	Major M&R < Critical	Total
2008	$1,845	$0	$2,805,206	$2,807,052
2009	$24,330	$0	$0	$24,330
2010	$42,310	$0	$0	$42,310
2011	$70,108	$0	$0	$70,108
2012	$95,061	$0	$0	$95,061
2013	$133,622	$0	$0	$133,622
2014	$169,046	$0	$0	$169,046
2015	$213,012	$0	$0	$213,012
2016	$251,322	$0	$0	$251,322
2017	$295,555	$0	$0	$295,555
Total	**$1,296,212**	**$0**	**$2,805,206**	**$4,101,419**

Note: Cost figures are rounded down. Sum may be different. Costs are adjusted for inflation.

Prepared by BX *Checked by TH*

The 10 year analysis suggests an annual budget on the order of $410,000 would be expected to provide an acceptable overall condition. The area-weighted PCI, however, would decrease from 81 in 2007 to 74 in 2017 (assuming the M&R was performed in 2008). This is because additional Major M&R would not be required until after 2017. Doing nothing would result in a 2017 PCI of 61 along with a significantly greater need for Major M&R.

It is important to note that although preventative and some major M&R activities would have to be conducted over several years, the area-weighted PCI value for all Sebastian Municipal Airport pavements in 2017 may remain near 74. The airport manager should realize that what is most important is that the pavement repair work (preventative and major M&R) that has been identified for Sebastian Municipal Airport is conducted at some point in the 10-year plan.

1. INTRODUCTION

The State of Florida has more than 100 public airports that are vital to the Florida economy as well as the economy of the United States. These public airports range from small general aviation airports to large international hub airports. These airports serve business travelers, tourism, and cargo operations crucial to the daily life of the people of Florida.

There are millions of square yards of pavement for the runways, taxiways, aprons and other areas that support aircraft operations. The timely and proper maintenance and rehabilitation (M&R) of these pavements allows the airports to operate efficiently, economically and without excessive down time. In order to support the planning, scheduling, and design of the M&R activities, FDOT has implemented pavement management system technology.

This report describes the procedures used to ensure that the appropriate engineering and scientific standards of care, quality, budget, and schedule requirements are implemented at your airport as a result of your participation in the Statewide Aviation Pavement Management Program.

1.1 Purpose

This Florida Airport Pavement Evaluation Report is intended to:

- Describe, briefly, the Florida Department of Transportation (FDOT) Aviation Office Statewide Pavement Management Program and the roles and responsibilities of the program's participants
- Provide background information on pavement management principles, objectives, and benefits to the participating airport
- Outline the procedures used to collect, evaluate and report pavement inspection results at your airport
- Present the findings from the inspection and analysis of the needs for maintenance and rehabilitation activities for this airport.

1.2 FDOT Aviation PMS Program

In 1992, FDOT implemented a Pavement Management System (PMS) program to improve the knowledge of pavement conditions at public airports in the State system, identify maintenance needs at individual airports, automate information management, and establish standards to address future needs. The FDOT Aviation Office participated in the development of a proprietary software pavement management system and developed and populated a pavement management database that provided valuable information for establishing M&R policies, estimating M&R costs, and developing recommendations for performing routine pavement maintenance. This system was implemented and condition surveys performed in 1992 and 1993 and again updated in 1998 and 1999. The proprietary system, AIRPAV, is no longer supported.

In 2004, the FDOT Aviation Office undertook a project to update the PMS Program software utilized for the PMS program. The Aviation Office selected a consultant team consisting of URS Corporation, Inc., MACTEC Engineering and Consulting, Inc. (MACTEC), Planning Technology, Inc. (PTI), and ASC Geosciences, Inc. (ASCG) to aid with the implementation of the program update. This project involved a review of the AIRPAV software and other available

PMS software. As a result of this review, MicroPAVER was selected as the software for the update project. Condition data from the 1998/1999 surveys were converted to the MicroPAVER system.

The inventory of the pavement systems and drawings of the pavements were updated to reflect maintenance, rehabilitation, and construction activities since 1998/1999 to the extent that information was available. Detailed, specific procedures for the inspection and collection of pavement data were developed for this project. A web-site (www.floridaairportpavement.com) was developed for the input of data under secure procedures. The site also has a public section for dissemination of information to the general public.

1.3 Organization

The FDOT Aviation Office manages the day-to-day details of the Statewide PMS and the updates. The Aviation Office Airport Engineering Manager serves as the Program Manager (PM) monitoring the work of the Consultant. The Aviation Office has review and approval authority for each program task.

1.3.1 *Consultant Role*

The Consultant (MACTEC Engineering and Consulting/URS Corporation/Planning Technology/ASC Geosciences) developed the PMS based upon procedures outlined in FAA Advisory Circular 150/5380-6B Guidelines and Procedures for Maintenance of Airport Pavements (FAA/AC) and ASTM D 5340 Standard Test Method for Airport Pavement Condition Index Surveys (2004). The Consultant provides technical and administrative assistance to the Aviation Office PM, during the execution of this program, which involves the continuing evaluation of airport pavements and updating of the PMS. A website is available to view and update airport information, including construction activities and pavement condition data. In addition, pavement evaluation reports will be available for viewing and download from the site (www.floridaairportpavement.com).

1.3.2 *Airport Role*

The airports are the ultimate client for each of the field inspections and reports. Individual airports will be provided final deliverables prepared by the Consultant that have been reviewed and approved by the FDOT Aviation Office. The airport should review system inventory drawings in their folder in the pavement management website and add maintenance and rehabilitation activities conducted on airside pavements on the website system inventory form.

1.4 Pavement Types and Pavement Management

1.4.1 *Pavement basics*

A pavement is a prepared surface designed to provide a continuous smooth ride at a certain speed and to support an estimated amount of traffic for a certain number of years. Pavements are constructed of a combination of subgrade soils, subbases, bases and surfacing. There are mainly two types of pavements;

- Flexible pavement, composed of asphalt concrete (AC) surface, and
- Rigid pavement composed of Portland cement concrete (PCC) surface.

Both pavement types use a combination of layered materials and thicknesses in order to support the traffic loads and protect the underlying subgrade soil. Flexible pavements (AC) dissipate the load from layer to layer until the load magnitude is small enough to be supported by the subgrade soil. In rigid pavements (PCC), the Portland cement concrete supports most of the load, the base or subbase layer is mainly constructed to provide a smooth and continuous platform for the concrete. Due to the different nature of both pavement types and their materials, flexible and rigid pavements have different distresses and failure mechanisms. Understanding the mechanics and failure modes of both pavement types will assist engineers in making adequate and long lasting repairs or rehabilitation to the pavement structures.

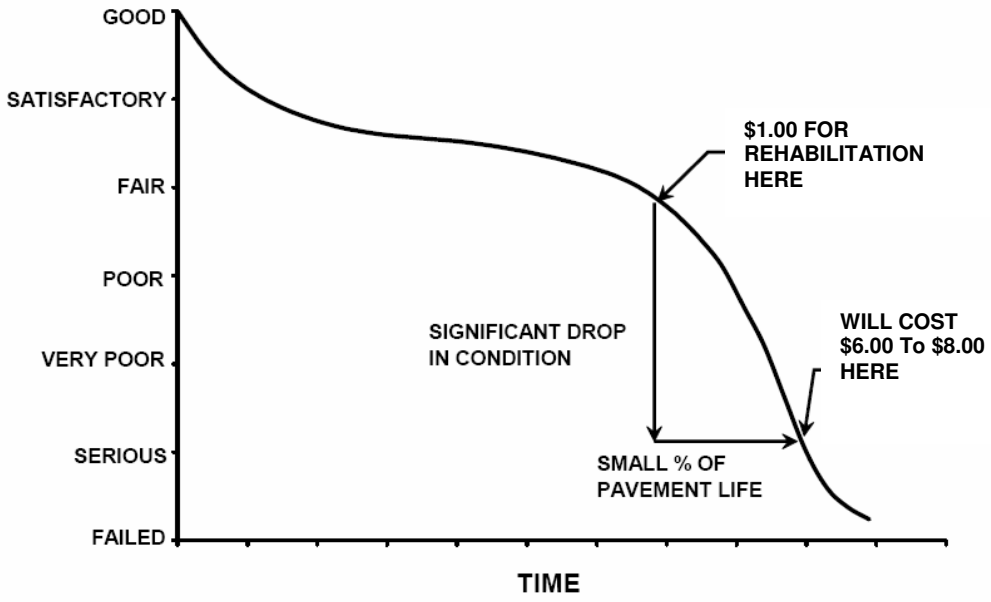
1.4.2 *Pavement Management System Concept*

A pavement management system (PMS) is a tool to assist engineers, planners and managing agencies in making decisions when planning pavement M&R. The management of pavements involves scheduling pavement maintenance and rehabilitation before pavements deteriorate to a condition where reconstruction (the most expensive alternative) is the only solution. Figure 1-1, taken from FAA/AC 5380-7A Pavement Management System, illustrates how a pavement generally deteriorates and the relative cost of rehabilitation at various times throughout its life. Note that during the first 75 percent of a pavement's life, it performs relatively well. After that, however, it begins to deteriorate rapidly. The number of years a pavement stays in "Satisfactory" condition depends on how well it is maintained. The illustration demonstrates the cost of maintaining the pavement above a critical condition before rapid deterioration occurs is much less compared to maintaining pavements after substantial deterioration has occurred.

Pavements deteriorate at an accelerated rate with increasing traffic and limited M&R resources. Planned maintenance and rehabilitation, essentially preventing pavements from reaching deteriorated conditions, helps managers/owners/agencies stretch and maximize the use of their budgets and prolong the life of the pavements. A PMS provides a tool to schedule and plan maintenance and rehabilitation based on engineering information and existing and predicted conditions of pavements.

There are several components or elements that are essential to a PMS. The first steps in the implementation of a PMS are to know and clearly identify what needs to be managed, the limits of the managing agency's responsibilities and the condition of the existing pavements. Once the cause and the extent of pavement problems are known, the appropriate maintenance and/or rehabilitation can be planned. By using local unit costs and expected yearly budgets, a multi year M&R plan can be determined.

Figure 1-1: Pavement Life Cycle



Prepared by BX *Checked by TH*

Pavements deteriorate even if they do not carry any traffic. Pavement distresses may be attributed to climate, environment, materials, construction or traffic. Knowing the cause, extent and predominance of pavement distresses helps determine the most appropriate maintenance or rehabilitation work needed. Planning and applying preventive maintenance prolongs pavement life and minimizes future pavement repair costs. By projecting the rate of deterioration, a life cycle cost analysis can be performed for various alternatives, and the optimal time of application of the most feasible alternative can be determined. Such a decision is critical in order to avoid higher M&R costs at a later date.

A PMS enables the managing agency to identify and maintain the pavement conditions, keeping them at the upper end of the service life-condition curve. At this point, the total annual costs between maintaining a good pavement above a critical condition is much less than rehabilitating a poor pavement that has rapidly deteriorated beyond a critical condition level.

A PMS is a long-term planning tool that will result in an overall improvement of the pavement network condition and will also result in savings by applying the appropriate maintenance and rehabilitation activity at the appropriate time. Accurate estimates and timely M&R decisions and budgeting are of great importance when managing approximately 300 million square feet of Florida airside pavements.

1.4.3 *Pavement Inspection Methodology for PMS*

Pavement condition assessment is one of the primary decision variables in any airport pavement management system. Pavement condition assessments generally include visual surveys in

accordance with ASTM D 5340, *Standard Test Method for Airport Pavement Condition Index Surveys* and structural evaluation. Pavement condition surveys assess the functional condition of the pavement surface. Typically, most problems within a pavement structure will eventually reflect to the pavement surface. The structural condition and relative support of the pavement layers can be assessed utilizing non-destructive deflection testing (NDT) as well as other in-depth engineering evaluation or sampling and testing methods.

Pavement sections are broken down into sample units as established in FAA AC 150/5380-6B and ASTM D 5340. Sample unit sizes are approximately 5000 ± 2000 square feet for AC-surfaced pavements and 20 ± 8 slabs for PCC-surfaced pavements. Before the field inspections, the sampling plan was developed based on previous sampling and modified based on the available knowledge of branches, sections, use patterns, construction types and history. The sampling rate used for FDOT Statewide Pavement Management Program is provided in Table 1-1 below.

Table 1-1: Sampling Rate for FDOT Condition Surveys

AC Pavements			PCC Pavements		
N	n		N	n	
	Runway	Others		Runway	Others
1-4	1	1	1-3	1	1
5-10	2	1	4-6	2	1
11-15	3	2	7-10	3	2
16-30	5	3	11-15	4	2
31-40	7	4	16-20	5	3
41-50	8	5	21-30	7	3
≥51	20% but ≤20	10% but ≤10	31-40	8	4
			41-50	10	5
			≥51	20% but ≤20	10% but ≤10

Where *N = total number of sample units in section*
n = number of sample units to inspect

Prepared by BX *Checked by TH*

The sample units to inspect are determined by a systematic random sampling technique. This means that the locations are determined such that they are distributed evenly throughout the section. In the case when nonrepresentive distresses are observed in the field, additional sample units were added.

The distress quantities and severity levels from the sample units are used to compute the PCI value for each section. PCI values range from 0 to 100. MicroPAVER provides a rating scale that relates PCI to pavement condition, with a PCI between 0 and 10 considered 'Failed' pavement and a PCI between 86 and 100 considered 'Good' pavement, with five other conditions for PCI values between 11 and 85. Figure 1-2 shows the PCI scale.

Figure 1-2: PCI Rating Scale

Prepared by BX *Checked by TH*

1.5 Definitions

Aviation Office - The Aviation Office is charged with responsibility for promoting the safe development· of aviation to serve the people of the State of Florida. The Aviation Office worked closely with FDOT District Aviation Specialists, during development of this project. District Aviation Specialists will consult with airport owners in implementation of project recommendations.

Base Course **-** Base Course is a layer of manufactured material, usually crushed rock (aggregate) or stabilized material (asphalt or concrete or Florida Limerock), immediately beneath the surface course of a pavement, which provides support to the surface course.

Branch – (Facility in prior system) - A runway, taxiway or apron is called a Branch. This is an easy reference to a recognizable component of airport pavement. In this report, Branch ID maintains the original AirPAV identification where 100 series through 3000 series facilities are taxiways, 4000 and 5000 series facilities are aprons (the 5000 series represent runup aprons and turnarounds), and 6000 series facilities are runways. It also includes the common designation for the item e.g. RW 18-36.

Category - The Category classifies the airport according to the type and volume of aircraft traffic, as follows:

- GA – for general aviation or community airports
- RL – for regional relievers or small hubs
- PR – for primary

Critical PCI – The PCI value considered to be the threshold for M&R decisions. PCI above the Critical generate economical activities expected to preserve and prolong acceptable condition. M&R for PCI values less than Critical make sense only for reasons of safety or to maintain a pavement in operable condition. A pavement section is expected to deteriorate very quickly once it reaches the Critical PCI and the unit cost of repair increases significantly.

Distress Type - A distress type is a defined visible defect in pavement evidenced by cracking, vertical displacement or deterioration of material. In PCI technology, 16 distinct distress types for asphalt surfaced and 15 for Portland cement concrete surfaced pavements have been described and rated according to the impact their presence has on pavement condition.

Florida DOT (FDOT) - Florida Department of Transportation was represented in this project by the Office of Aviation.

Localized M&R (Maintenance and Repair) – Localized M&R is a temporizing activity performed on existing pavement to extend its serviceability and/or to improve rideability. Localized M&R can be applied either as a safety (stop-gap) measure or preventive measure. Common localized maintenance methods include crack sealing, joint sealing, and patching.

Global M&R- Global M&R is defined as activities applied to entire pavement sections with the primary objective of slowing the rate of deterioration. These activities are primary for asphalt surfaced pavements, e.g. surface treatments.

MicroPAVER – A commercially available software subsidized by FAA and agencies in the US Department of Defense developed to support engineered management of pavement assets using a condition based approach. This software has the functionality such that if properly implemented, maintained and operated it meets the pavement management system requirements described by FAA in Advisory Circular 150/5380-7A.

Minimum Condition Level - A threshold PCI value established by FDOT to represent the targeted minimum pavement condition that is desirable in the Florida Airport System. These values were established with consideration of pavement function and airport type. For instance, runways have higher minimum condition levels than aprons, and Primary airports have higher minimum condition levels than General Aviation airports.

Major M&R (e.g. Rehabilitation) – Activities performed over the entire area of a pavement section that are intended to restore and/or maintain serviceability. This includes asphalt overlays, milling and replacing asphalt pavement, reconstruction with asphalt, reconstruction with Portland Cement Concrete (PCC) pavements, and PCC overlays.

Network Definition – (Airport Sketch in prior system) – A Network Definition is a CAD drawing which shows the airport pavement outline with Branch and Section boundaries. This sketch is intended to assist the user of the report to quickly associate information from the text to a location on the airport. This drawing also includes the PCI sample units and is used to identify

those sample units to be surveyed, i.e. the sampling plan. The Network Definition for the airport in this report is in Appendix A along with a table of inventory data.

Pavement Condition Index (PCI) – The Pavement Condition Index is a number which represents the condition of a pavement segment at an instant in time. It is based on visual identification and measurement of specific distress types commonly found in pavement which has been in service for a period of time. The definitions and procedures for determining the PCI are found in ASTM D 5340-04, "Standard Test Method for Airport Pavement Condition Index Surveys," published by ASTM International.

Pavement Evaluation – A systematic approach undertaken by trained and experienced personnel intended for determination of the condition, serviceability, and best corrective action for pavement. Techniques to standardize pavement evaluation include the Pavement Condition Index procedures.

Pavement Management – Pavement management is a broad function that uses pavement evaluation and pavement performance trends as a basis for planning, programming, financing, and maintaining a pavement system.

Rank – Pavement rank in MicroPAVER determines the priority to be assigned to a pavement section when developing an M&R plan. Pavement sections are ranked as follows according to their use:

- P – for Primary pavements, such as primary runways, primary taxiways, and primary aprons
- S – or Secondary pavements, such as secondary runways, secondary taxiways, and secondary aprons
- T – for Tertiary pavements such as "T' hangars and slightly used aprons

Reconstruction – Reconstruction includes removal of existing pavement, preparation of subgrade, and construction of new pavement with new, or recycled materials. Reconstruction is indicated when distress types evident at the surface indicate failure in the pavement structure or subgrade of a type, and to an extent, not correctable by less extensive construction.

Rehabilitation – Rehabilitation represents construction using existing pavement for a foundation. Rehabilitation most commonly consists of an overlay of existing pavement with a new asphalt or concrete surface. Recently, technology has expanded the options to include recycling of existing pavement, and incorporating engineering fabrics or thin layers of elasticized materials to retard reflection of distress types through the new surface.

Sample Unit – Uniformly sized portions of a Section as defined in ASTM D 5340. Sample units are a means to reduce the total amount of pavement actually surveyed using statistics to select and survey enough area to provide a representative measure of Section PCI. Sample Unit sizes are 5,000 ± 2,000 square feet for AC-surfaced pavements and 20 ± 8 slabs for PCC-surfaced pavements.

Section – (Feature in prior system) - Sections subdivide Branches into portions of similar pavement. Sections are prescribed by pavement structure, age, condition and use. Sections are identified on the airport Network Definition. They are the smallest unit used for determining M&R requirements based on condition.

Section ID – A short form identification for the pavement Section that maintains the original AirPAV identification where 100 series through 3000 series sections are taxiways, 4000 and 5000 series sections are aprons (the 5000 series represent run-up aprons and turnarounds), and 6000 series sections are runways.

Use – In MicroPAVER use is the term for the function of the pavement area. This is either Runway, Taxiway, or Apron for purposes of the FDOT Statewide Aviation Pavement Management System.

2. NETWORK DEFINITION

Sebastian Municipal Airport (X26) is located in approximately 1 mile west of Sebastian, Florida. Regulated by the Sebastian City Council, this airport focuses primarily on serving general aviation. The airport facility includes two intersecting runways: Runway 4-22 and Runway 8-26. Both runways are served by non-parallel partial taxiway system that, for the most part, are pavements from previously closed runways. Sebastian Municipal Airport is designated as a General Aviation (GA) airport and is located in District 4 of the Florida Department of Transportation.

The pavements within the network are defined in MicroPAVER in terms of manageable units that help to organize the data into similar groups. An organizational hierarchy is used to establish these units. The airport pavement network is subdivided into separate branches (runways, taxiways, or aprons) that have distinctly different uses. Branches are then divided into sections with similar pavement construction and performance that may share other common attributes. Sections are manageable units used to organize the data collection and are treated individually during the rehabilitation planning stage.

The network definition is used to identify changes in the network since the most recent update in 1998/1999 and also to plan the field inspection activities for 2007 survey. Prior to the field inspection process, the network definition drawing was updated. The purpose of this update is to compare the previous airport configuration and history with the current airport configuration and history and update the existing drawing showing network branch, section and sample unit designations to match the current configuration. This drawing serves not only as a primary guide for the airfield inspectors but also as an important history record.

The updated network definition fields of Sebastian Municipal Airport are provided in Table 2-1 and the updated network definition drawing of the airport is given in Appendix A. The field of ***Rank*** in Table 2-1 is defined in the definitions section in section 1.

Table 2-1: Sebastian Municipal Airport Network Definition

Branch Name	Section ID	Rank
E RUN UP APRON	5510	T
SW RUN UP APRON	5405	T
T-HANGAR APRON AREA	5305	T
WEST APRON	420	P
	5105	P
	5115	P
	5120	P
RUNWAY 4-22	6205	P
	6210	P
Runway 8-26	6305	P
	6310	P
	6315	P
TAXIWAY 3	305	P
	306	P

Table 2-1: Sebastian Municipal Airport Network Definition

Branch Name	Section ID	Rank
TAXIWAY 4	405	P
	410	P
	415	P
TAXIWAY 5	515	P
TAXIWAY 6	610	P

Prepared by BX *Checked by TH*

3. PAVEMENT INVENTORY

The detailed pavement inventory was updated to reflect the network definition update and field inspection results.

The total pavement area in 2007 at Sebastian Municipal Airport is 1,463,335 square feet. The breakdown of pavement area for each pavement use is provided in Table 3-1.

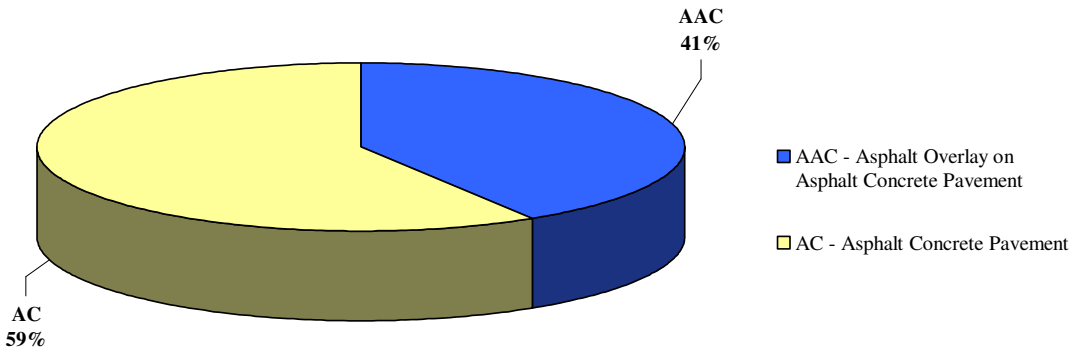
Table 3-1: Pavement Area by Pavement Use

Use	Area, SqFt	% of Total Area
Runway	885,150	61
Taxiway	240,525	16
Apron	337,660	23
Total	**1,463,335**	**100**

Prepared by BX *Checked by TH*

Figure 3-1 presents the breakdown of the pavement area at Sebastian Municipal Airport by surface type.

Figure 3-1: Pavement Area by Surface Type



Prepared by BX *Checked by TH*

Details of pavement section information including section dimensions, rank, surface type, last construction date and last inspection date are given in Appendix A.

4. PAVEMENT CONDITION

Pavement conditions were inspected in accordance with the methods outlined in FAA AC 150/5380-6B and ASTM D 5340 "Standard Practice for Airport Pavement Condition Index Surveys." These procedures define distress type, severity and quantity for sampling areas within each section to determine the Pavement Condition Index (PCI).

Pavement condition inspections at Sebastian Municipal Airport were performed in July 2007. Data were recorded in the field using hand-held PDA (personal digital assistant) technology. The identifying information for each sample unit was pre-loaded into the PDA, and the survey results were entered directly, at the time of inspection. This simplified data handling and management.

During the inspections Global Positioning System (GPS) coordinates were recorded at the centroid of each sample unit. The centroid is usually the geometric center of the area but in cases where sample units are irregular in shape this is the center of mass. These data are presented in tables on updated Network Definition drawings available from the website.

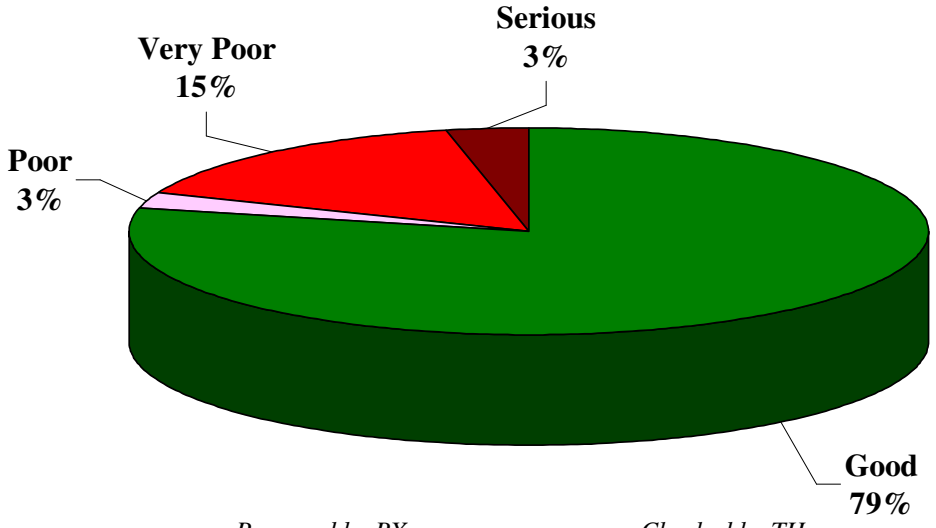
After the completion of data collection, the data were imported into MicroPAVER and PCI values were calculated for the pavement sections.

Appendix B includes detailed distress data generated by MicroPAVER, Appendix C contains a table and a map of PCI results by section inspected in 2007, and Appendix D contains a table of PCI results by branch.

According to the 2007 survey, the overall area-weighted PCI at Sebastian Municipal Airport is 81, representing a Satisfactory overall network condition.

Figure 4-1 provides the PCI distribution by rating category for the network.

Figure 4-1: Network PCI Distribution by Rating Category



Prepared by BX *Checked by TH*

Approximately 79% of the network is in Good condition while 21% of the network is in Poor to Serious condition. Table 4-1 illustrates the area-weighted PCI computed individually for each pavement use.

Table 4-1: Condition by Pavement Use

Use	Area-Weighted PCI
Runway	81
Taxiway	71
Apron	89
All	**81**

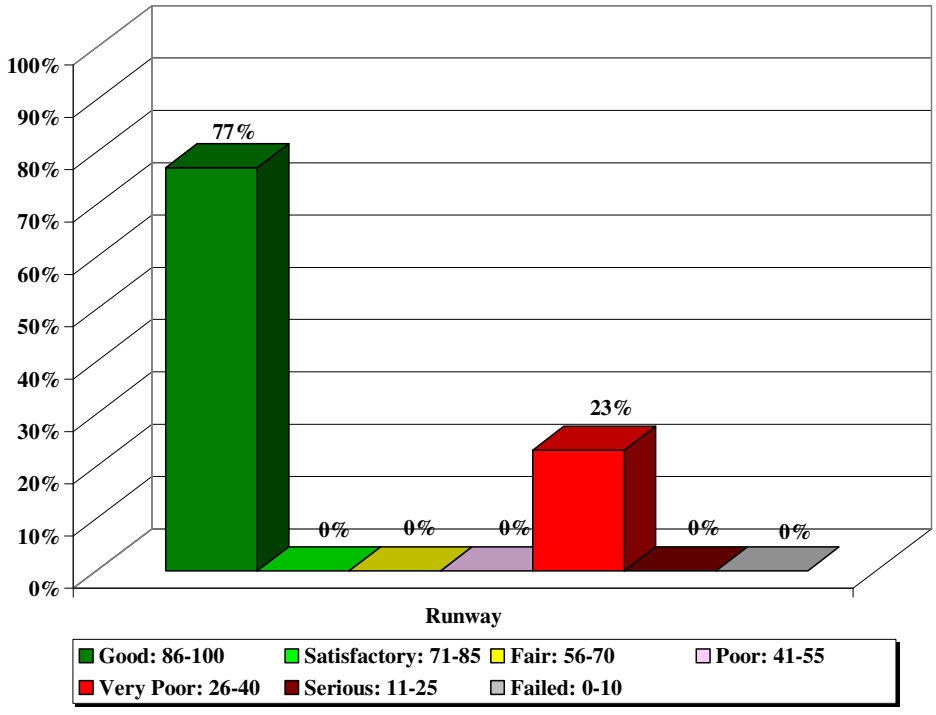
Prepared by BX *Checked by TH*

On average, the runways and taxiways are in Satisfactory condition, while the aprons are in Good condition.

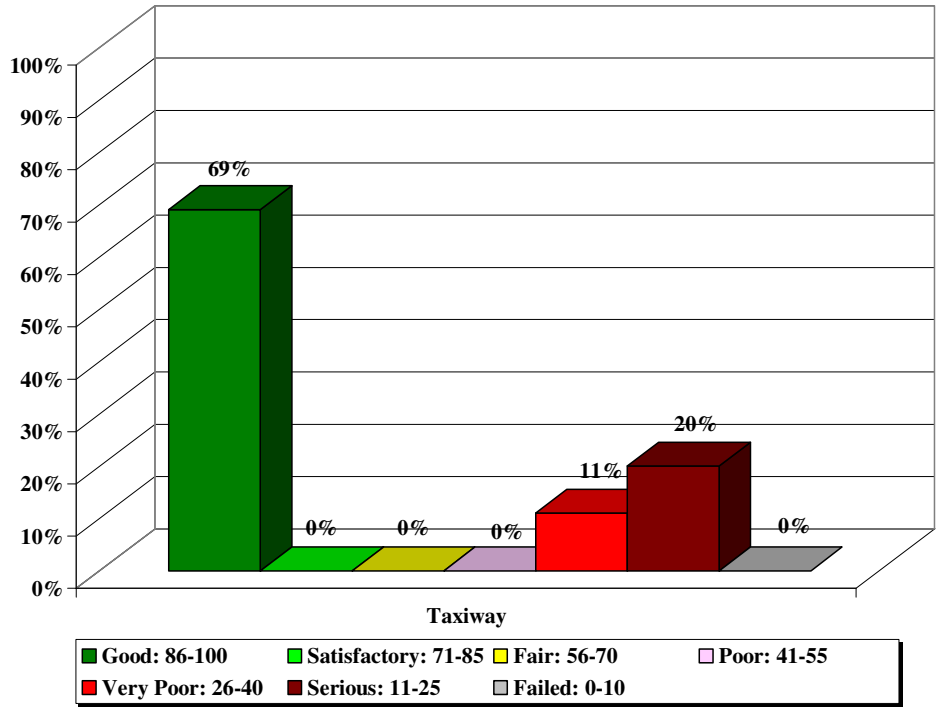
Figure 4-2 presents the breakdown of PCI by range for each pavement use.

Figure 4-2: Percentage of Pavement Area within Each PCI Range by Pavement Use

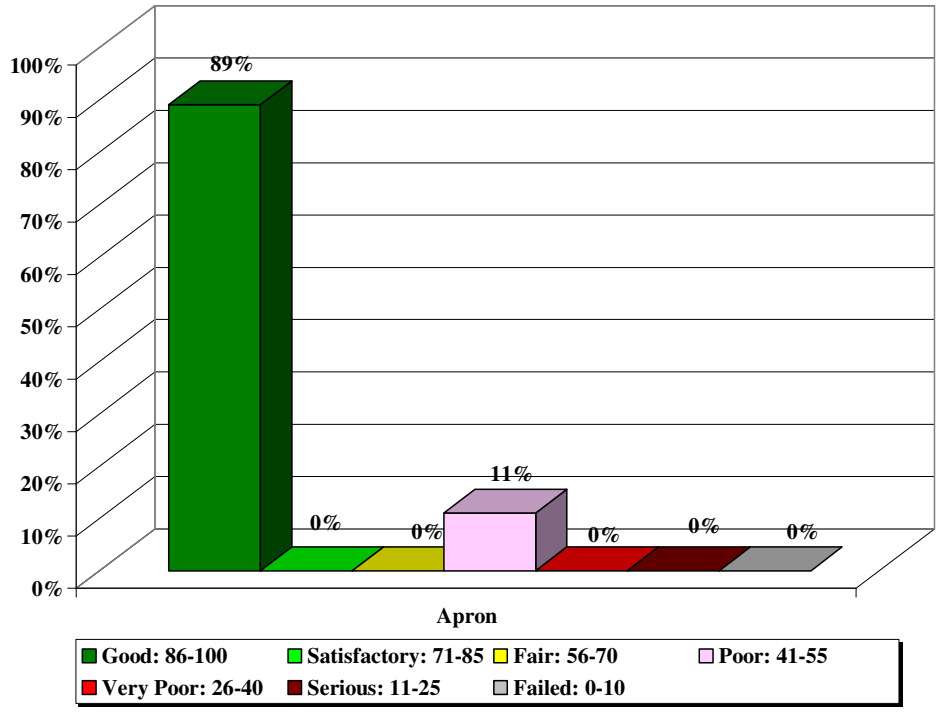
(a) Runway



(b) Taxiway



(c) Apron

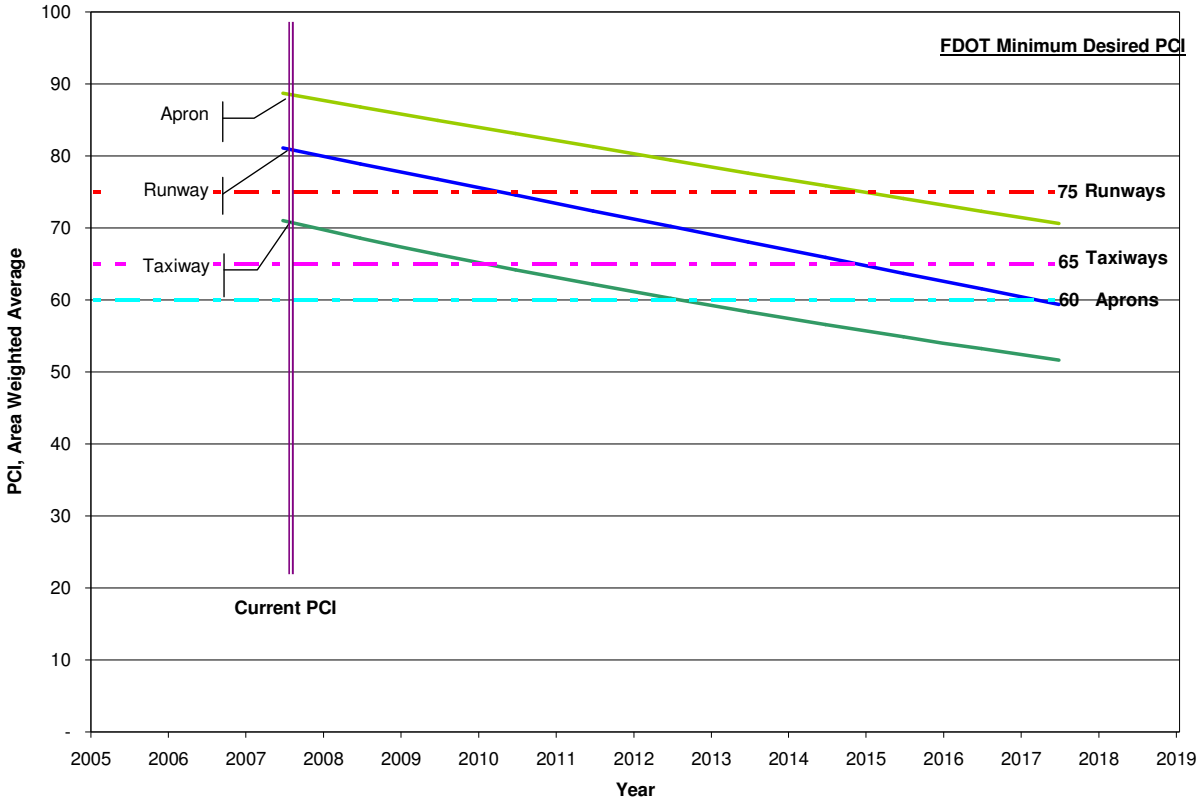


Prepared by BX *Checked by TH*

5. PAVEMENT CONDITION PREDICTION

Performance prediction models or deterioration curves for PCI were used to develop a condition forecast. The performance models were developed for combinations of variables such as pavement use (runway, taxiway or apron), surface type (AC or PCC) and airport category (GA, RL, or PR). Figure 5-1 illustrates the predicted performance of pavements at Sebastian Municipal Airport based on current condition, age since last construction and the deterioration model appropriate for the type of pavement. The figure presents the forecast for each pavement use and displays the FDOT minimum condition criteria for General Aviation (GA) airports.

Figure 5-1: Predicted PCI by Pavement Use



Prepared by BX *Checked by TH*

Appendix C presents the tabular summary of the predicted Section PCI for each year from 2008 to 2017.

6. MAINTENANCE POLICIES AND COSTS

6.1 Policies

Maintenance and rehabilitation (M&R) policies are sets of rules used to develop repair recommendations for distresses encountered during the visual inspections.

Maintenance refers to repair-type activities that are applied to specific distress types on the pavement. These activities are preventative and/or corrective in nature, and are recommended to help achieve the performance goal.

Table 6-1 provides the list of the maintenance activities used in MicroPAVER to treat specific distress types. These repairs are used in an analysis only if there is an inspection within one year prior to the first year of the analysis period. MicroPAVER applies repairs to these distresses and adjusts the PCI based on specific rules.

Rehabilitation is warranted when the pavement condition decreases below a critical point such that the deterioration is extensive or rate of deterioration is so great that routine maintenance is no longer cost-efficient. This critical point is called "Critical PCI." The critical PCI levels for different pavement and branch types established in Phase I of Statewide Pavement Management Program were reviewed and updated for development of the M&R plan for the airport. Sections above critical PCI levels receive routine maintenances while pavements predicted to deteriorate below their respective critical PCI level during the analysis period will be identified for Major M&R. Table 6-2 gives the critical PCI levels for General Aviation Airports.

Table 6-1: Routine Maintenance Activities for Airfield Pavements

Surface	Distress	Severity*	Work Type	Code	Work Unit
AC	Alligator Crack	M, H	Patching - AC Deep	PA-AD	SqFt
	Bleeding	N/A	No Localized M&R	NONE	SqFt
	Block Crack	M, H	Crack Sealing – AC	CS-AC	SqFt
	Corrugation	L, M, H	Patching - AC Deep	PA-AD	SqFt
	Depression	M, H	Patching - AC Deep	PA-AD	SqFt
	Jet Blast	N/A	Patching - AC Deep	PA-AD	SqFt
	Joint Ref. Crack	M, H	Crack Sealing – AC	CS-AC	Ft
	L & T Crack	M, H	Crack Sealing – AC	CS-AC	Ft
	Oil Spillage	N/A	Patching - AC Shallow	PA-AS	SqFt
	Patching	M, H	Patching - AC Deep	PA-AD	SqFt
	Polished Agg.	N/A	No Localized M&R	NONE	SqFt
	Raveling	L	Surface Sealing - Rejuvenating	SS-RE	SqFt
		M	Surface Seal - Coal Tar	SS-CT	SqFt
		H	Microsurfacing	MI-AC	SqFt
	Rutting	M, H	Patching - AC Deep	PA-AD	SqFt
	Shoving	M, H	Grinding (Localized)	GR-LL	SqFt
	Slippage Crack	N/A	Patching - AC Shallow	PA-AS	SqFt
	Swelling	M, H	Patching - AC Deep	PA-AD	SqFt
PCC	Blow-Up	L, M, H	Patching - PCC Full Depth	PA-PF	SqFt
	Corner Break	M, H	Patching - PCC Full Depth	PA-PF	SqFt
	Linear Crack	M, H	Crack Sealing – PCC	CS-PC	Ft
	Durability Crack	H	Slab Replacement – PCC	SL-PC	SqFt
		M	Patching - PCC Full Depth	PA-PF	SqFt
	Jt. Seal Damage	M, H	Joint Seal (Localized)	JS-LC	Ft
	Small Patch	M, H	Patching - PCC Partial Depth	PA-PP	SqFt
	Large Patch	M, H	Patching - PCC Full Depth	PA-PF	SqFt
	Popouts	N/A	No Localized M&R	NONE	SqFt
	Pumping	N/A	No Localized M&R	NONE	SqFt
	Scaling	H	Slab Replacement – PCC	SL-PC	SqFt
	Faulting	M, H	Grinding (Localized)	GR-PP	Ft
	Shattered Slab	M, H	Slab Replacement – PCC	SL-PC	SqFt
	Shrinkage Crack	N/A	No Localized M&R	NONE	Ft
	Joint Spall	M, H	Patching - PCC Partial Depth	PA-PP	SqFt
	Corner Spall	M, H	Patching - PCC Partial Depth	PA-PP	SqFt

*L = Low, M = Medium, H = High

Prepared by BX *Checked by TH*

Table 6-2: Critical PCI for General Aviation Airports

Use	Critical PCI
Runway	65
Taxiway	65
Apron	65

Prepared by BX *Checked by TH*

It should be noted that critical PCI is not the same as Minimum PCI or Minimum Condition. The Minimum PCI is a value set by the user so pavement sections are rehabilitated before they fall below the set minimum. Table 6-3 gives the targeted, or desired, Minimum PCI values for runways, taxiways, and aprons of General Aviation Airports.

Table 6-3: Desired Minimum PCI for General Aviation Airports

Minimum PCI		
Runway	**Taxiway**	**Apron**
75	65	60

Prepared by BX *Checked by TH*

Typical Major M&R activities range from overlays to reconstruction. Based on the critical PCI values in Table 6-2 and our experience with pavement management systems, the PCI trigger range when the likely activity would be a mill and resurface was 31 to 55 and reconstruction at a PCI of 30 or lower. One important concept of pavement management systems is that it is cost effective to maintain pavements that are already in good condition rather than wait for them to get worse and require more expensive rehabilitation. With this objective, microsurfacing has been recommended to maintain pavements that have a PCI from 56 and 79. Microsurfacing is a surface treatment suggested for pavements in Fair to Satisfactory condition to extend the pavement life by five to seven years.

Crack sealing and full-depth patching are the M&R activities recommended to repair pavements with PCI values between 80 and 90. MicroPAVER considers these as preventative M&R with their primary objective being to slow the rate of pavement deterioration. While the trigger PCI for mill and overlay has been set to 55, MicroPAVER also assigns mill and overlay to sections with a PCI greater than 55 if they exhibit some structural distress. Table 6-4 summarizes the M&R activities for General Aviation Airports based on PCI value.

Table 6-4: M&R Activities for General Aviation Airports

	Activity	PCI Range
Maintenance	Crack Sealing and Full-Depth Patching	80 and 90
Rehabilitation	Microsurfacing (AC) or Concrete Pavement Restoration (PCC)	56 to 79
	Mill and Overlay (AC) or Concrete Pavement Restoration (PCC)	31 to 55
	Reconstruction	30 and less

Prepared by BX *Checked by TH*

6.2 Unit Costs

FDOT cost databases for airports and highway pavement maintenance and rehabilitation were reviewed in Phase I of Statewide Pavement Mangement Program in order to determine meaningful costs for the program. Table 6-5 presents the unit costs summary.

Table 6-5: Maintenance Unit Costs for FDOT

Code	Name	Cost	Unit
PA-AL	Patching – AC Leveling	$2.00	SqFt
PA-AS	Patching – AC Shallow	$4.00	SqFt
PA-PF	Patching – PCC Full Depth	$50.00	SqFt
PA-PP	Patching – Partial Depth	$35.00	SqFt
SL-PC	Slab Replacement	$15.00	SqFt
CS-PC	Crack Sealing – PCC	$2.00	Ft
UN-PC	Undersealing – PCC	$3.00	Ft
CS-AC	Crack Sealing – AC	$2.00	Ft
GR-PP	Grinding (Localized for PCC)	$20.00	Ft
GR-LL	Grinding (Localized for AC)	$6.00	SqFt
JS-LC	Joint Seal (Localized)	$1.75	Ft
JS-SI	Joint Seal – Silicon	$2.50	Ft
PA-AD	Patching – AC Deep	$7.00	SqFt
OL-AT	Overlay – AC Thin	$1.50	SqFt
SS-CT	Surface Seal – Coal Tar	$0.20	SqFt
SS-RE	Surface Seal – Rejuvenating	$0.15	SqFt
ST-SS	Surface Treatment – Slurry Seal	$0.25	SqFt
ST-ST	Surface Treatment – Sand Tar	$0.25	SqFt
MI-AC	Microsurfacing	$0.90	SqFt

Prepared by BX *Checked by TH*

The improvement in condition due to maintenance actions applied to specific distresses is only performed when an inspection is recent and only in the first year of the M&R analysis. In subsequent years MicroPAVER calculates M&R costs based on expected unit costs for pavements in a range of PCI. That is, for low PCI it is expected that the repair would be significant (e.g. reconstruction) and therefore very costly. Using available unit cost data the Major M&R Cost By Condition table was set up as shown in Table 6-6. The cost assigned to each range of PCI is based on a Transportation Cost Report provided by Office of Planning Policy of FDOT where the unit costs of reconstruction and resurfacing of airfield pavements were included. These costs were then assigned to the appropriate PCI range to arrive at a cost per square foot necessary to restore pavements at that PCI level to new condition, i.e. a PCI of 100.

Table 6-6: M&R Activities and Unit Costs by Condition for General Aviation Airports

	Activity	PCI Trigger	Cost/SqFt
Maintenance	Crack Sealing and Full-Depth Patching	90	$0.06
		80	$0.24
Rehabilitation	Microsurfacing (AC) or Concrete Pavement Restoration (PCC)	70	$0.69
		60	$3.42
	Mill and Overlay (AC) or Concrete Pavement Restoration (PCC)	50	$6.29
		40	$6.29
	Reconstruction	30	$13.62
		20	$13.62

Prepared by BX *Checked by TH*

A 3% inflation rate per year was applied to the unit costs during the M&R analysis.

7. PAVEMENT REHABILITATION NEEDS ANALYSIS

Maintenance and Rehabilitation (M&R) analyses were performed after the condition data were calculated and MicroPAVER was customized with the maintenance policies and cost settings described in the previous section.

The objective of the M&R analysis is to observe the effect of different fiscal scenarios on the network condition, over a period of ten years. The analysis was conducted using an unlimited budget. An unlimited budget allows all M&R needs to be identified along with the associated cost regardless of priority.

Table 7-1 presents the M&R needs list of immediate needs for Major M&R, i.e. Year 1 of the forecast. The importance of this listing is that it points out the major activities triggered by the current condition of the pavements.

The 10 year forecast results are shown in Figure 7-1, illustrating the effect on pavement condition (PCI) of doing no maintenance versus having unlimited funds and performing all M&R actions based on the policies.

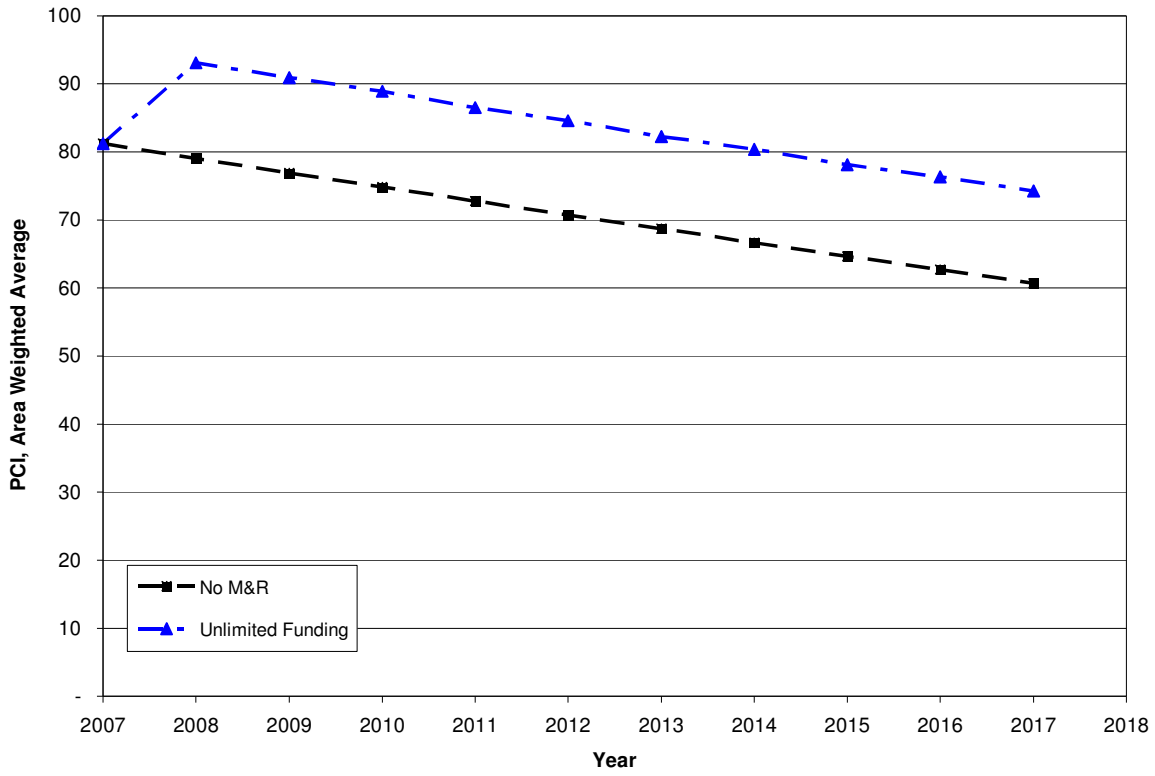
Table 7-1: Summary of Immediate Major M&R Needs

Branch	Section	Section Area, SqFt	Major M&R Funded**	PCI Before	Maintenance	PCI After
AP W	5115	37,650	$236,819	43	Major M&R < Critical	100
RW 4-22	6210	201,200	$1,560,508	38	Major M&R < Critical	100
TW 3	305	49,000	$667,380	20	Major M&R < Critical	100
TW 3	306	10,000	$136,200	30	Major M&R < Critical	100
TW 4	410	15,000	$204,300	29	Major M&R < Critical	100
		Total	**$2,805,206**	**81***	**← Network Avg. PCI →**	**93***

* This table shows the area-weighted PCI before and after Major M&R and routine maintenance work for the first year of the 10-year plan. It includes all pavement sections at Sebastian Municipal Airport, including those sections not shown in this table.
** Cost figures are rounded down. Sum may be different. Costs are adjusted for inflation.

Prepared by BX *Checked by TH*

Figure 7-1: Budget Scenario Analysis



Prepared by BX *Checked by TH*

The following network level observations can be made from the figure above:

- The PCI will deteriorate from 81 to 61 in ten years if no M&R activities are performed.
- The PCI will remain at or above 74 through the 10-year analysis period under the unlimited budget scenario. A 2017 PCI of 74 with this scenario is 13 PCI points higher than a "No M&R" scenario. The total cost for Major M&R over this 10-year period is about $2.8 million.

8. MAINTENANCE AND REHABILITATION PLAN

The M&R analysis results include activities that likely exceed a typical annual budget level. These activities would need to be evaluated for feasibility and desirability based on the airport's future plans. In an effort to identify appropriate budget levels the 10 year M&R analysis was evaluated to determine levels needed to address several specific areas: preventive maintenance, major activities for pavements in poor condition (Major M&R for PCI less than Critical), and activities that would be desirable to preserve good pavement conditions where they exist (Major M&R for PCI greater than or equal to Critical).

Table 8-1 provides the summary results under the critical PCI scenario.

Table 8-1: M&R Costs under Unlimited Funding Scenario

Year	Preventive	Major M&R >= Critical	Major M&R < Critical	Total
2008	$1,845	$0	$2,805,206	$2,807,052
2009	$24,330	$0	$0	$24,330
2010	$42,310	$0	$0	$42,310
2011	$70,108	$0	$0	$70,108
2012	$95,061	$0	$0	$95,061
2013	$133,622	$0	$0	$133,622
2014	$169,046	$0	$0	$169,046
2015	$213,012	$0	$0	$213,012
2016	$251,322	$0	$0	$251,322
2017	$295,555	$0	$0	$295,555
Total	**$1,296,212**	**$0**	**$2,805,206**	**$4,101,419**

Note: Cost figures are rounded down. Sum may be different. Costs are adjusted for inflation.

Prepared by BX *Checked by TH*

All of the Major M&R cost is required in the first year (2008). This is a consequence of part of Runway 4-22 and one very large area of Taxiway 3 being below Critical PCI.

Runway 4-22 is currently in Satisfactory condition with an average PCI value of 75. Part of this runway, however, has immediate need for repair. In addition, one large area of Taxiway 3 needs further evaluation to identify capital project(s) that may be funded separately. The unlimited budget scenario provides the basis for estimating the total repair cost. In reality, it is neither operationally nor fiscally prudent.

Appendix E provides details of M&R plan by year under the unlimited funding scenario and the map of the 10-year M&R plan was provided in Appendix F. It is important to understand that a PMS is a network level tool and the M&R costs provided in this report are only for planning purposes.

9. VISUAL AIDS

9.1 GIS Linked Shape File

The pavement inventory data and pavement condition were linked to the airport's shape file to graphically show the inventory and condition of the airport via color coding shown on the shape file. The coding provides a visual representation that illustrates the PCIs for each pavement section.

Selected digital photographs taken during the pavement inspection were provided in an Appendix G to provide visual support to special pavement conditions or distress observed during the inspection of the facility.

10. RECOMMENDATIONS

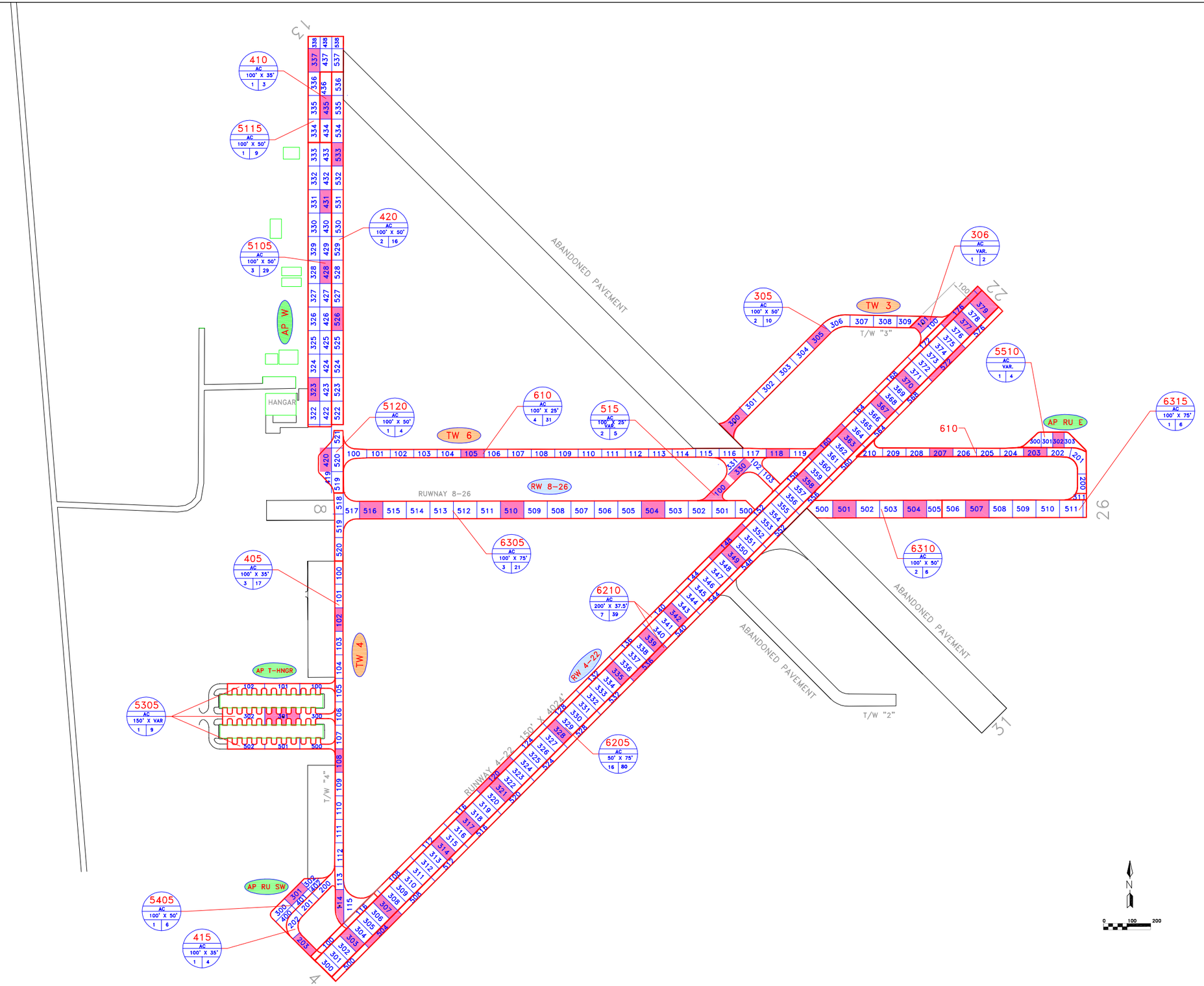
Pavement condition inspections were performed at Sebastian Municipal Airport and a 10-year M&R plan was developed based on the unlimited funding scenario.

The following recommendations were made based on 2007 condition inspections and M&R analysis results:

- Runway 4-22 is in Satisfactory condition but some immediate repair is needed for part of this runway.
- One large area of Taxiway 3 was identified that will require significant funding to improve them above Minimum PCI levels. Further evaluation of these features is necessary in order to develop repair plans and timing for future budgets. These needs can not be addressed with typical annual expenditures as they amount to more than half million dollars.

APPENDIX A

NETWORK DEFINITION MAP
AND
PAVEMENT INVENTORY TABLE



GPS COORDINATES - SEBASTIAN MUNICIPAL AIRPORT				
Location	Section	Sample	Latitude	Longitude
AP RU	5510	302	27.81485484	-80.49055817
AP RU SW	5405	301	27.80958792	-80.50066194
AP T-HANG	5305	301	27.81162074	-80.50079545
AP W	410	435	27.81875743	-80.50025847
AP W	420	526	27.81610842	-80.50010323
AP W	5105	323	27.8153986	-80.50041287
AP W	5105	428	27.81665454	-80.50023916
AP W	5105	431	27.81745714	-80.50023902
AP W	5105	533	27.81800993	-90.500083
AP W	5115	337	27.81937357	-80.50038721
AP W	5120	420	27.81464077	-80.50021525
RW 13/31	6105	308	27.81241219	-80.49243109
RW 13/31	6105	314	27.81299574	-80.49308941
RW 13/31	6105	322	27.81376025	-80.49392261
RW 13/31	6105	330	27.8145144	-80.49479229
RW 13/31	6105	516	27.81344889	-80.4933259
RW 13/31 Center	-	-	27.81158523	-80.49152794
RW 13/31 Left	-	-	27.81145978	-80.4916914
RW 13/31 Right	-	-	27.81172552	-80.49137455
RW 4/22	6205	303	27.80902632	-80.49993156
RW 4/22	6205	307	27.80941145	-80.49943971
RW 4/22	6205	314	27.81008854	-80.49873916
RW 4/22	6205	317	27.81038285	-80.49840042
RW 4/22	6205	321	27.81075802	-80.49795228
RW 4/22	6205	328	27.81148075	-80.49719788
RW 4/22	6205	335	27.81212418	-80.49643368
RW 4/22	6205	504	27.80914478	-80.49951714
RW 4/22	6210	120	27.81091317	-80.49861786
RW 4/22	6210	148	27.81355892	-80.49507021
RW 4/22	6210	148	27.81365205	-80.4949707
RW 4/22	6210	160	27.81478442	-80.49365361
RW 4/22	6210	176	27.81647692	-80.49176702
RW 4/22	6210	339	27.81253024	-80.49597715
RW 4/22	6210	342	27.81284218	-80.49562936
RW 4/22	6210	349	27.81347872	-80.49489505
RW 4/22	6210	358	27.81436602	-80.49390714
RW 4/22	6210	363	27.81482731	-80.49337378
RW 4/22	6210	367	27.81521565	-80.49284054
RW 4/22	6210	370	27.81552301	-80.49251505
RW 4/22	6210	377	27.81619356	-80.49185248
RW 4/22	6210	379	27.81641207	-80.49159166
RW 4/22	6210	536	27.81225966	-80.49599489
RW 4/22	6210	572	27.81575114	-80.49209704
RW 4/22 Center	-	-	27.8165016	-80.49149119
RW 4/22 Center	-	-	27.80865694	-80.50034536
RW 4/22 Left	-	-	27.80872599	-80.50042392
RW 4/22 Left			27.81658743	-80.49158571
RW 4/22 Right	-	-	27.80857877	-80.50026243
RW 4/22 Right	-	-	27.81643514	-80.49141594
RW 8 Center	-	-	27.81408912	-80.50021304
RW 8 Left	-	-	27.81418519	-80.50021586
RW 8 Right	-	-	27.81396407	-80.50019427
RW 8/26	505	504	27.81407874	-80.49593449
RW 8/26	505	510	27.81407169	-80.49777969
RW 8/26	505	516	27.81406043	-80.49963319
RW 8/26	510	501	27.81405788	-80.49342238
RW 8/26	510	504	27.81406144	-80.49249964
RW 8/26	5205	312	27.81421188	-80.49006792
RW 8/26	5210	507	27.81404151	-80.49187564
RW 26 Center	-	-	27.81403193	-80.49024012
RW 26 Left	-	-	27.81390416	-80.49023366
RW 26 Right	-	-	27.81414654	-80.49022147
TW 3	305	300	27.81505203	-80.49488035
TW 3	305	305	27.81604166	-80.49377699
TW 3	306	101	27.81621057	-80.49230755
TW 4	405	102	27.81275017	-80.50005061
TW 4	405	108	27.81112043	-80.50008943
TW 4	405	114	27.80942004	-80.50008338
TW 4	415	203	27.80897462	-80.50053372
TW 4	415	207	27.81470908	-80.49207157
TW 5	515	100	27.81426211	-80.49507399
TW 6	610	105	27.81472874	-80.49829781
TW 6	610	118	27.81470578	-80.49426418
TW 6	610	203	27.8147	-80.49085433

Notes: Geodetics represent decimal degrees (G5 - 84 Datum)
All GPS coordinates are at the centroid of the sample units.

LEGEND

- RW 13–31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID
- 4105 / AC / 100' X 50' / 5 | 14 — SECTION NUMBER; PAVEMENT TYPE; TYPICAL SAMPLE UNIT INFORMATION; FLEXIBLE (AC) PAVEMENT LENGTH & WIDTH; RIGID (PCC) PAVEMENT NO. OF SLABS AND SLAB SIZE; NUMBER OF SAMPLE UNITS IN SECTION; NUMBER OF SAMPLE UNITS TO BE INSPECTED
- 100 — DESIGNATED SAMPLE UNITS. GPS COORDINATES ARE AT THE CENTROID OF THE SAMPLE UNIT.
- 100* — DOT ON A ODD SHAPED SAMPLE UNIT INIDCATES THE CENTROID LOCATION.

SOURCE: SYSTEM INVENTORY DRAWING PREPARED BY URS CORPORATION, JUNE 2005.

RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

NUMBER	DATE	REVISIONS
2	Jan-29-08	Draft Report
1	May-06	Revised per FDOT comments
0	Feb-06	Initial Submittal

DESIGNED: JCB | DRAWN: JCB | CHECKED: | DATE: 2-22-2006

URS | ascgeosciences ENGINEERING A BETTER WORLD | PLANNING TECHNOLOGY INC | PANTHER INTERNATIONAL, LLC

MACTEC
Engineering and Consulting, Inc.
Tallahassee, Florida
850-656-1293

NETWORK DEFINITION DRAWING
SEBASTIAN MUNICIPAL AIRPORT
INDIAN RIVER COUNTY, FLORIDA
FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION OFFICE

IDENTIFIER X26 | FDOT DISTRICT 4 | 75

Table A-1: Pavement Inventory

Network Name	Network ID	Branch Name	Branch ID	Section ID	Length, Ft	Width, Ft	Area, SqFt	Rank	Surface	Last Const. Date	Last Insp. Date
SEBASTIAN MUNICIPAL AIRPORT	X26	E RUN UP APRON	AP RU E	5510	200	50	10,000	T	AC	1/1/2004	1/1/2004*
SEBASTIAN MUNICIPAL AIRPORT	X26	SW RUN UP APRON	AP RU SW	5405	250	100	25,000	T	AC	1/1/2005	1/1/2005*
SEBASTIAN MUNICIPAL AIRPORT	X26	T-HANGAR APRON AREA	AP T-HANGA	5305	460	20	50,000	T	AC	1/1/2003	7/9/2007
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	420	1,500	50	74,569	P	AC	1/1/2004	1/1/2004*
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	5105	1,200	100	120,887	P	AC	1/1/2005	1/1/2005*
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	5115	451	150	37,650	P	AC	1/1/2005	7/9/2007
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	5120	300	50	19,554	P	AC	1/1/2004	1/1/2004*
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 4-22	RW 4-22	6205	4,024	100	402,400	P	AAC	1/1/2003	7/9/2007
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 4-22	RW 4-22	6210	8,048	25	201,200	P	AAC	1/1/1943	7/9/2007
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 8-26	RW 8-26	6305	1,800	75	145,500	P	AC	1/1/2004	1/1/2004*
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 8-26	RW 8-26	6310	1,200	75	90,000	P	AC	1/1/2004	1/1/2004*
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 8-26	RW 8-26	6315	614	75	46,050	P	AC	1/1/2004	1/1/2004*
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 3	TW 3	305	1,000	50	49,000	P	AC	1/1/1943	7/9/2007
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 3	TW 3	306	100	75	10,000	P	AC	1/1/1943	7/9/2007
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 4	TW 4	405	1,700	35	60,000	P	AC	1/1/2005	1/1/2005*

See note at end of table.

Table A-1: Pavement Inventory

Network Name	Network ID	Branch Name	Branch ID	Section ID	Length, Ft	Width, Ft	Area, SqFt	Rank	Surface	Last Const. Date	Last Insp. Date
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 4	TW 4	410	300	50	15,000	P	AC	1/1/1943	7/9/2007
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 4	TW 4	415	420	40	16,800	P	AC	1/1/2005	1/1/2005*
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 5	TW 5	515	135	30	4,600	P	AC	1/1/2004	1/1/2004*
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 6	TW 6	610	3,405	25	85,125	P	AC	1/1/2004	1/1/2004*

Note: If new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

* Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey.

APPENDIX B

PCI RE-INSPECTION REPORT

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: AP RU E Name: E RUN UP APRON Use: APRON Area: 10,000.00 SqFt

Section: 5510 of 1 From: To: Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-AP-AC Zone: Category: Rank: T
Area: 10,000.00 SqFt Length: 200.00 Ft Width: 50.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2004 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: AP RU SW Name: SW RUN UP APRON Use: APRON Area: 25,000.00 SqFt

Section: 5405 of 1 From: To: Last Const.: 1/1/2005
Surface: AC Family: FDOT-GA-AP-AC Zone: Category: Rank: T
Area: 25,000.00 SqFt Length: 250.00 Ft Width: 100.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2005 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: AP T-HANGA Name: T-HANGAR APRON AREA Use: APRON Area: 50,000.00 SqFt

Section: 5305 of 1 From: To: Last Const.: 1/1/2003
Surface: AC Family: FDOT-GA-AP-AC Zone: Category: Rank: T
Area: 50,000.00 SqFt Length: 460.00 Ft Width: 20.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 7/9/2007 Total Samples: 1 Surveyed: 1
Date:
Conditions: PCI:95.00 I
Inspection Comments:

Sample Number: 301 Type: R Area: 7,500.00 SqFt
Sample Comments:
48 L 50 L

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: AP W Name: WEST APRON Use: APRON Area: 252,660.00 SqFt

Section: 420 of 4 From: - To: - Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-AP-AC Zone: Category: Rank: P
Area: 74,569.00 SqFt Length: 1,500.00 Ft Width: 50.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2004 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: AP W Name: WEST APRON Use: APRON Area: 252,660.00 SqFt

Section: 5105 of 4 From: - To: - Last Const.: 1/1/2005
Surface: AC Family: FDOT-GA-AP-AC Zone: Category: Rank: P
Area: 120,887.00 SqFt Length: 1,200.00 Ft Width: 100.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

NOTE: * Pre-Construction PCI *****
Last Insp. Date: 4/4/1999 Total Samples: 41 Surveyed: 2
Conditions: PCI:16.00 I
Inspection Comments: IMPORTED FROM AIRPAV

Sample Number: 420 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 45 L 52 H

Sample Number: 428 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 45 M 52 H

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: AP W Name: WEST APRON Use: APRON Area: 252,660.00 SqFt

Section: 5115 of 4 From: To: Last Const.: 1/1/2005
Surface: AC Family: FDOT-GA-AP-AC Zone: Category: Rank: P
Area: 37,650.00 SqFt Length: 451.00 Ft Width: 150.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 7/9/2007 Total Samples: 1 Surveyed: 1
Date:
Conditions: PCI:44.00 I
Inspection Comments:

Sample Number: 337 Type: R Area: 7,500.00 SqFt
Sample Comments:
43 M 45 L 52 L

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: AP W Name: WEST APRON Use: APRON Area: 252,660.00 SqFt

Section: 5120 of 4 From: To: Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-AP-AC Zone: Category: Rank: P
Area: 19,554.00 SqFt Length: 300.00 Ft Width: 50.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2004 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: RW 4-22 Name: RUNWAY 4-22 Use: RUNWAY Area: 603,600.00 SqFt

Section: 6205 of 2 From: - To: - Last Const.: 1/1/2003
Surface: AAC Family: FDOT-GA-RW-AAC Zone: Category: Rank: P
Area: 402,400.00 SqFt Length: 4,024.00 Ft Width: 100.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. Date: 7/9/2007 Total Samples: 75 Surveyed: 16
Conditions: PCI:92.00 I
Inspection Comments:

Sample Number: 303 Type: R Area: 4,000.00 SqFt
Sample Comments:
50 L 52 L

Sample Number: 307 Type: R Area: 3,750.00 SqFt
Sample Comments:
48 L 52 L

Sample Number: 314 Type: R Area: 3,750.00 SqFt
Sample Comments:
52 H 48 L 52 L

Sample Number: 317 Type: R Area: 3,750.00 SqFt
Sample Comments:
52 L

Sample Number: 321 Type: R Area: 4,000.00 SqFt
Sample Comments:
52 H 52 L

Sample Number: 328 Type: R Area: 4,000.00 SqFt
Sample Comments:
52 L

Sample Number: 335 Type: R Area: 4,000.00 SqFt
Sample Comments:
52 M 52 L

Sample Number: 339 Type: R Area: 3,750.00 SqFt
Sample Comments:
50 L 52 L

Sample Number: 342 Type: R Area: 4,000.00 SqFt
Sample Comments:
52 L 50 L

Sample Number: 349 Type: R Area: 3,750.00 SqFt
Sample Comments:
52 L

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Sample Number: 358 Type: R Area: 3,750.00 SqFt
Sample Comments:
<NO DISTRESSES>

Sample Number: 363 Type: R Area: 4,000.00 SqFt
Sample Comments:
52 L 48 L 50 L

Sample Number: 367 Type: R Area: 4,000.00 SqFt
Sample Comments:
52 L

Sample Number: 370 Type: R Area: 3,750.00 SqFt
Sample Comments:
52 L

Sample Number: 377 Type: R Area: 4,000.00 SqFt
Sample Comments:
50 L

Sample Number: 379 Type: R Area: 6,150.00 SqFt
Sample Comments:
52 L

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: RW 4-22 Name: RUNWAY 4-22 Use: RUNWAY Area: 603,600.00 SqFt

Section: 6210 of 2 From: - To: - Last Const.: 1/1/1943
Surface: AAC Family: FDOT-GA-RW-AAC Zone: Category: Rank: P
Area: 201,200.00 SqFt Length: 8,048.00 Ft Width: 25.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 7/9/2007 Total Samples: 75 Surveyed: 7
Date:
Conditions: PCI:40.00 I
Inspection Comments:

Sample Number: 120 Type: R Area: 7,600.00 SqFt
Sample Comments:
50 L 52 M 50 M

Sample Number: 148 Type: R Area: 7,000.00 SqFt
Sample Comments:
43 M 52 H 50 L 48 M

Sample Number: 160 Type: R Area: 7,600.00 SqFt
Sample Comments:
43 H 50 M 50 L 43 M

Sample Number: 176 Type: R Area: 7,600.00 SqFt
Sample Comments:
43 M 45 L 50 L

Sample Number: 504 Type: R Area: 7,000.00 SqFt
Sample Comments:
50 M 43 M 50 L

Sample Number: 536 Type: R Area: 7,000.00 SqFt
Sample Comments:
50 L 45 L 43 M

Sample Number: 572 Type: R Area: 7,600.00 SqFt
Sample Comments:
43 M 50 L 45 L

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: RW 8-26 Name: RUNWAY 8-26 Use: RUNWAY Area: 281,550.00 SqFt

Section: 6305 of 3 From: - To: - Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-RW-AC Zone: Category: Rank: P
Area: 145,500.00 SqFt Length: 1,800.00 Ft Width: 75.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

NOTE: * Pre-Construction PCI *****
Last Insp. Date: 4/4/1999 Total Samples: 23 Surveyed: 3
Conditions: PCI:18.00 I
Inspection Comments: IMPORTED FROM AIRPAV

Sample Number: 504 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 45 L 52 H

Sample Number: 510 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 45 L 52 H

Sample Number: 516 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 L 50 L 52 H

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: RW 8-26 Name: RUNWAY 8-26 Use: RUNWAY Area: 281,550.00 SqFt

Section: 6310 of 3 From: - To: - Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-RW-AC Zone: Category: Rank: P
Area: 90,000.00 SqFt Length: 1,200.00 Ft Width: 75.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

NOTE: * Pre-Construction PCI *****
Last Insp. Date: 4/4/1999 Total Samples: 7 Surveyed: 2
Conditions: PCI:18.00 I
Inspection Comments: IMPORTED FROM AIRPAV

Sample Number: 501 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 52 H 53 L

Sample Number: 504 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 L 52 H 53 L

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: RW 8-26 Name: RUNWAY 8-26 Use: RUNWAY Area: 281,550.00 SqFt

Section: 6315 of 3 From: - To: - Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-RW-AC Zone: Category: Rank: P
Area: 46,050.00 SqFt Length: 614.00 Ft Width: 75.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2004 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: TW 3 Name: TAXIWAY 3 Use: TAXIWAY Area: 59,000.00 SqFt

Section: 305 of 2 From: - To: - Last Const.: 1/1/1943
Surface: AC Family: FDOT-GA-TW-AC Zone: Category: Rank: P
Area: 49,000.00 SqFt Length: 1,000.00 Ft Width: 50.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 7/9/2007 Total Samples: 12 Surveyed: 2
Date:
Conditions: PCI:22.00 I
Inspection Comments:

Sample Number: 300 Type: R Area: 5,500.00 SqFt
Sample Comments:
41 L 53 L 43 M 52 L 45 M 50 L

Sample Number: 305 Type: R Area: 5,000.00 SqFt
Sample Comments:
52 L 43 L 45 M 52 M 43 M

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: TW 3 Name: TAXIWAY 3 Use: TAXIWAY Area: 59,000.00 SqFt

Section: 306 of 2 From: - To: - Last Const.: 1/1/1943
Surface: AC Family: FDOT-GA-TW-AC Zone: Category: Rank: P
Area: 10,000.00 SqFt Length: 100.00 Ft Width: 75.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 7/9/2007 Total Samples: 3 Surveyed: 1
Date:
Conditions: PCI:32.00 I
Inspection Comments:

Sample Number: 101 Type: R Area: 3,500.00 SqFt
Sample Comments:
50 L 45 L 43 M 52 M 52 H

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: TW 4 Name: TAXIWAY 4 Use: TAXIWAY Area: 91,800.00 SqFt

Section: 405 of 3 From: - To: - Last Const.: 1/1/2005
Surface: AC Family: FDOT-GA-TW-AC Zone: Category: Rank: P
Area: 60,000.00 SqFt Length: 1,700.00 Ft Width: 35.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

NOTE: * Pre-Construction PCI *****
Last Insp. Date: 4/4/1999 Total Samples: 24 Surveyed: 3
Conditions: PCI:16.00 I
Inspection Comments: IMPORTED FROM AIRPAV

Sample Number: 401 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 45 L 50 L 52 H

Sample Number: 407 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 45 L 52 H 53 L

Sample Number: 413 Type: R Area: 5,000.00 SqFt
Sample Comments:
43 M 43 L 45 L 50 L 52 H 53 L

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: TW 4 Name: TAXIWAY 4 Use: TAXIWAY Area: 91,800.00 SqFt

Section: 410 of 3 From: - To: - Last Const.: 1/1/1943
Surface: AC Family: FDOT-GA-TW-AC Zone: Category: Rank: P
Area: 15,000.00 SqFt Length: 300.00 Ft Width: 50.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 7/9/2007 Total Samples: 9 Surveyed: 1
Date:
Conditions: PCI:31.00 I
Inspection Comments:

Sample Number: 435 Type: R Area: 5,000.00 SqFt
Sample Comments:
45 L 50 L 52 L 43 M

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: TW 4 Name: TAXIWAY 4 Use: TAXIWAY Area: 91,800.00 SqFt

Section: 415 of 3 From: - To: - Last Const.: 1/1/2005
Surface: AC Family: FDOT-GA-TW-AC Zone: Category: Rank: P
Area: 16,800.00 SqFt Length: 420.00 Ft Width: 40.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2005 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: TW 5 Name: TAXIWAY 5 Use: TAXIWAY Area: 4,600.00 SqFt

Section: 515 of 1 From: To: Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-TW-AC Zone: Category: Rank: P
Area: 4,600.00 SqFt Length: 135.00 Ft Width: 30.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2004 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

Re-inspection Report

FDOT
Report Generated Date: 1/30/2008
Site Name:

Network: X26 Name: SEBASTIAN MUNICIPAL AIRPORT

Branch: TW 6 Name: TAXIWAY 6 Use: TAXIWAY Area: 85,125.00 SqFt

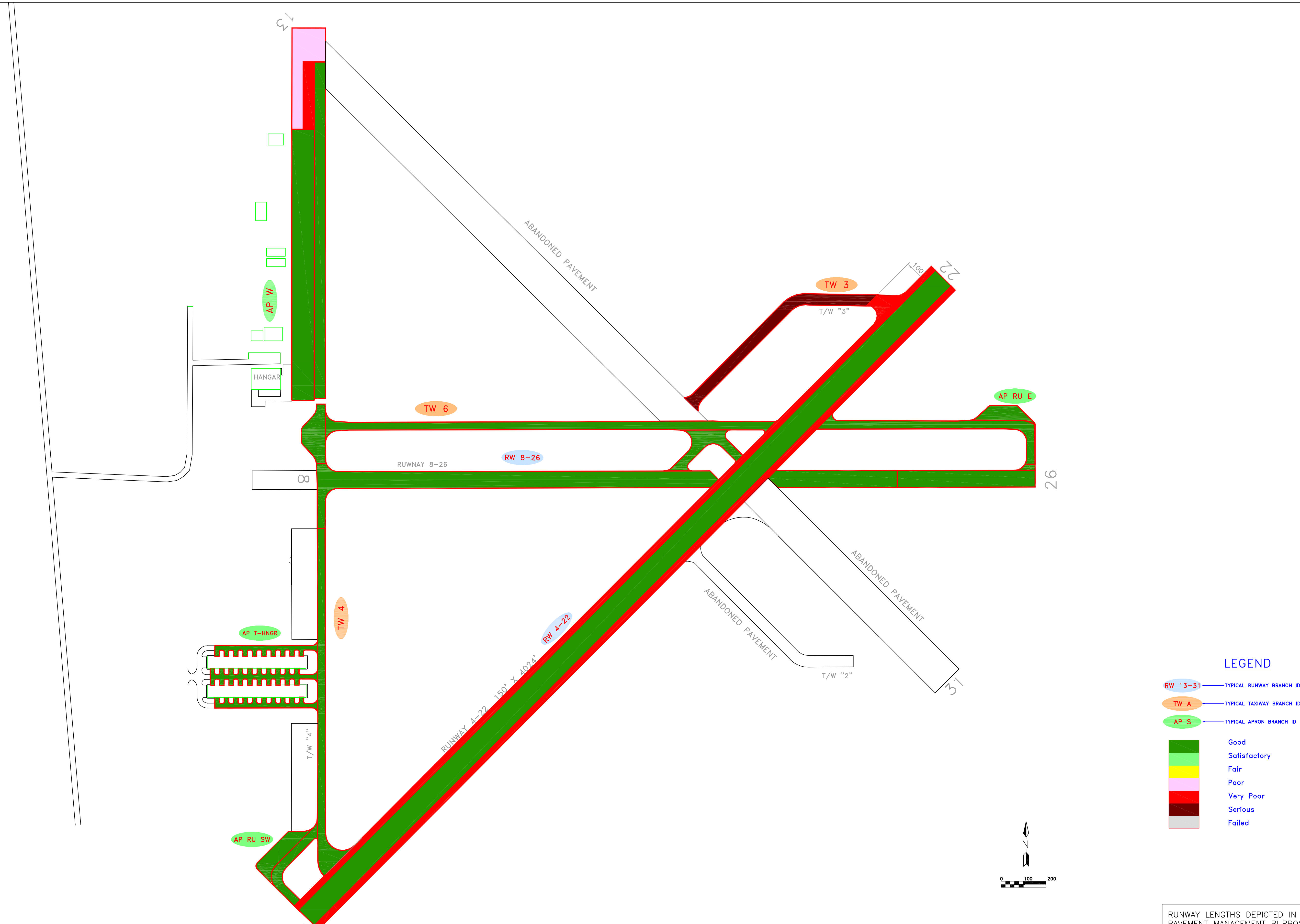
Section: 610 of 1 From: To: Last Const.: 1/1/2004
Surface: AC Family: FDOT-GA-TW-AC Zone: Category: Rank: P
Area: 85,125.00 SqFt Length: 3,405.00 Ft Width: 25.00 Ft
Shoulder: Street Type: Grade: 0.00 Lanes: 0
Section Comments:

Last Insp. 1/1/2004 Total Samples: 0 Surveyed: 0
Date:
Conditions: PCI:100.00 |
Inspection Comments: Construction/Major M&R inspection record.

Sample Number: Type: Area: 0.00
<NO SAMPLE RECORDS>

APPENDIX C

2007 CONDITION MAP AND TABLES



RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

NUMBER	DATE	REVISIONS
2	Jan-30-08	**Draft Report**
1	May-06	**Revised per FDOT comments**
0	Feb-06	Initial Submittal

DESIGNED: JCB | DRAWN: JCB | CHECKED: | DATE: 2-22-2006

P:\COM_SHARED\FDOT AVIATION\CAD DRAWINGS\SYSTEM INVENTORY\AUTOCAD\SEBASTIANMUNICIPAL.DWG, BB-BB 06/07/06 09:12:18

PLANNING TECHNOLOGY INC — PANTHER INTERNATIONAL, LLC

MACTEC
Engineering and Consulting, Inc.
Tallahassee, Florida
850-656-1293

2007 Condition Map

SEBASTIAN MUNICIPAL AIRPORT
INDIAN RIVER COUNTY, FLORIDA

FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION OFFICE

75

IDENTIFIER: **X26**

FDOT DISTRIC[T]: 4

Table C-1: Pavement Condition Index

Network Name	Network ID	Branch Name	Branch ID	Section ID	Length, Ft	Width, Ft	Area, SqFt	Rank	Surface	Last Const. Date	Last Insp. Date	2007 PCI
SEBASTIAN MUNICIPAL AIRPORT	X26	E RUN UP APRON	AP RU E	5510	200	50	10,000	T	AC	1/1/2004	1/1/2004*	93
SEBASTIAN MUNICIPAL AIRPORT	X26	SW RUN UP APRON	AP RU SW	5405	250	100	25,000	T	AC	1/1/2005	1/1/2005*	95
SEBASTIAN MUNICIPAL AIRPORT	X26	T-HANGAR APRON AREA	AP T-HANGA	5305	460	20	50,000	T	AC	1/1/2003	7/9/2007	95
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	420	1,500	50	74,569	P	AC	1/1/2004	1/1/2004*	93
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	5105	1,200	100	120,887	P	AC	1/1/2005	1/1/2005*	95
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	5115	451	150	37,650	P	AC	1/1/2005	7/9/2007	44
SEBASTIAN MUNICIPAL AIRPORT	X26	WEST APRON	AP W	5120	300	50	19,554	P	AC	1/1/2004	1/1/2004*	93
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 4-22	RW 4-22	6205	4,024	100	402,400	P	AAC	1/1/2003	7/9/2007	92
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 4-22	RW 4-22	6210	8,048	25	201,200	P	AAC	1/1/1943	7/9/2007	40
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 8-26	RW 8-26	6305	1,800	75	145,500	P	AC	1/1/2004	1/1/2004*	95
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 8-26	RW 8-26	6310	1,200	75	90,000	P	AC	1/1/2004	1/1/2004*	95
SEBASTIAN MUNICIPAL AIRPORT	X26	RUNWAY 8-26	RW 8-26	6315	614	75	46,050	P	AC	1/1/2004	1/1/2004*	95
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 3	TW 3	305	1,000	50	49,000	P	AC	1/1/1943	7/9/2007	22
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 3	TW 3	306	100	75	10,000	P	AC	1/1/1943	7/9/2007	32
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 4	TW 4	405	1,700	35	60,000	P	AC	1/1/2005	1/1/2005*	93

See note at end of table.

Table C-1: Pavement Condition Index

Network Name	Network ID	Branch Name	Branch ID	Section ID	Length, Ft	Width, Ft	Area, SqFt	Rank	Surface	Last Const. Date	Last Insp. Date	2007 PCI
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 4	TW 4	410	300	50	15,000	P	AC	1/1/1943	7/9/2007	31
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 4	TW 4	415	420	40	16,800	P	AC	1/1/2005	1/1/2005*	93
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 5	TW 5	515	135	30	4,600	P	AC	1/1/2004	1/1/2004*	90
SEBASTIAN MUNICIPAL AIRPORT	X26	TAXIWAY 6	TW 6	610	3,405	25	85,125	P	AC	1/1/2004	1/1/2004*	90

Note: If new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.
* Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey.

Table C-2: Pavement Condition Prediction

Network ID	Branch ID	Section ID	2007 PCI	PCI Forecast									
				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
X26	AP RU E	5510	93	91	89	87	85	83	81	79	77	75	73
X26	AP RU SW	5405	95	93	91	89	87	85	83	81	79	77	75
X26	AP T-HANGA	5305	95	93	91	89	87	85	83	81	79	77	75
X26	AP W	420	93	91	89	87	85	83	81	79	77	75	73
X26	AP W	5105	95	93	91	89	87	85	83	81	79	77	75
X26	AP W	5115	44	43	43	42	42	41	40	40	39	39	38
X26	AP W	5120	93	91	89	87	85	83	81	79	77	75	73
X26	RW 4-22	6205	92	90	87	85	82	80	77	75	72	70	67
X26	RW 4-22	6210	40	38	35	33	30	28	25	23	20	18	15
X26	RW 8-26	6305	95	93	92	90	89	87	86	85	83	82	80
X26	RW 8-26	6310	95	93	92	90	89	87	86	85	83	82	80
X26	RW 8-26	6315	95	93	92	90	89	87	86	85	83	82	80
X26	TW 3	305	22	20	18	16	14	12	10	8	6	4	2
X26	TW 3	306	32	30	28	26	24	22	20	18	16	14	12
X26	TW 4	405	93	90	88	85	83	81	79	78	76	74	73
X26	TW 4	410	31	29	27	25	23	21	19	17	15	13	11
X26	TW 4	415	93	90	88	85	83	81	79	78	76	74	73
X26	TW 5	515	90	88	85	83	81	79	78	76	74	73	71
X26	TW 6	610	90	88	85	83	81	79	78	76	74	73	71

Note: If new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

APPENDIX D

AREA-WEIGHTED PCI RESULTS BY BRANCH

Table D-1 Condition Summary by Branch

Network	Branch Name	2007 PCI
SEBASTIAN MUNICIPAL AIRPORT	E RUN UP APRON	93
SEBASTIAN MUNICIPAL AIRPORT	SW RUN UP APRON	95
SEBASTIAN MUNICIPAL AIRPORT	T-HANGAR APRON AREA	95
SEBASTIAN MUNICIPAL AIRPORT	WEST APRON	87
SEBASTIAN MUNICIPAL AIRPORT	RUNWAY 4-22	75
SEBASTIAN MUNICIPAL AIRPORT	RUNWAY 8-26	95
SEBASTIAN MUNICIPAL AIRPORT	TAXIWAY 3	24
SEBASTIAN MUNICIPAL AIRPORT	TAXIWAY 4	83
SEBASTIAN MUNICIPAL AIRPORT	TAXIWAY 5	90
SEBASTIAN MUNICIPAL AIRPORT	TAXIWAY 6	90

APPENDIX E

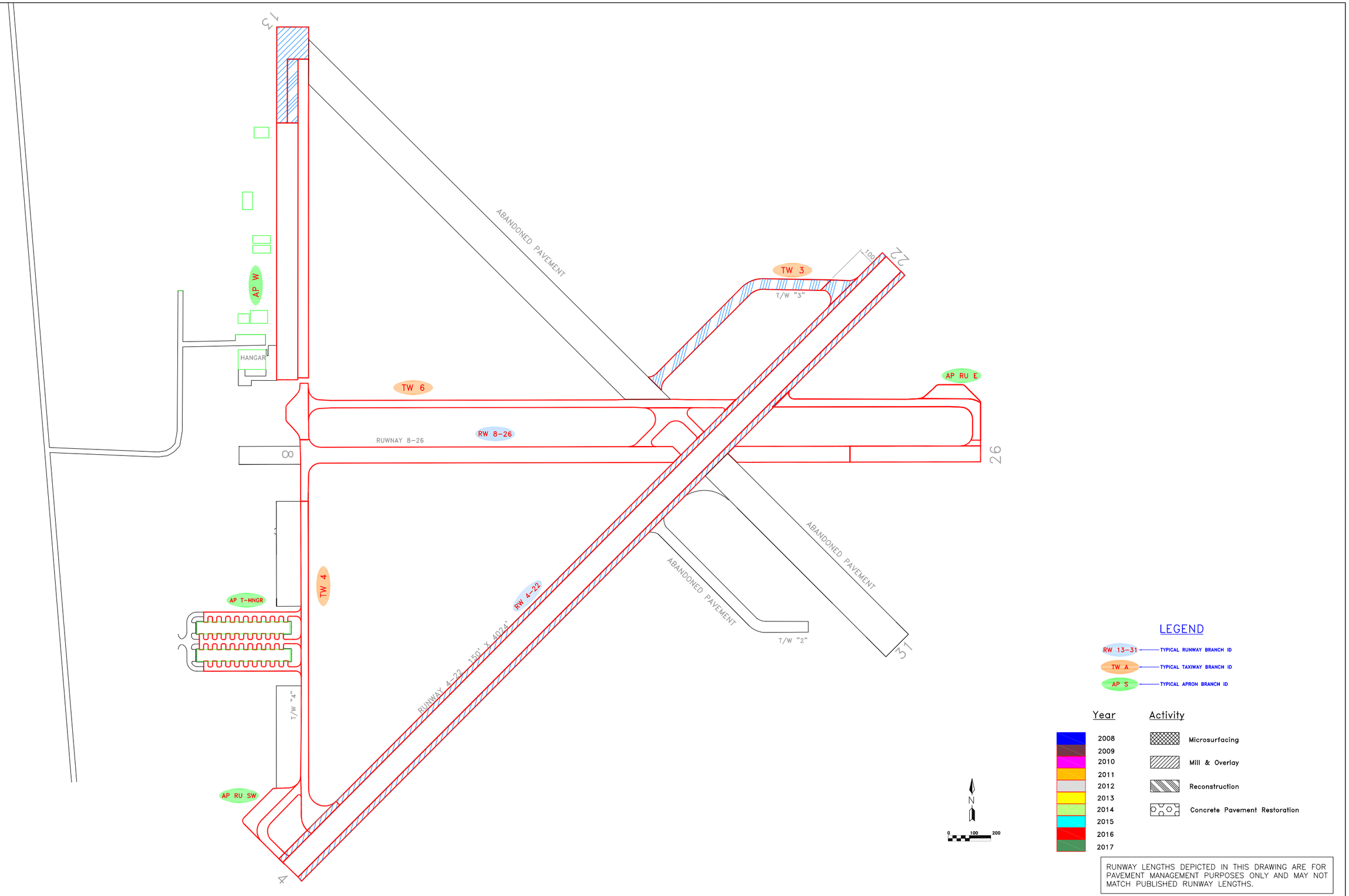
MAJOR M&R PLAN BY YEAR

Table E-1: Major M&R Plan by Year

Network	Branch Use	Branch ID	Section ID	Surface	Area, SqFt	Year	PCI Before Maint.	Activities	PCI After Maint.	Cost
X26	APRON	AP W	5115	AC	37,650	2008	43	Mill & Overlay	100	$236,819
X26	RUNWAY	RW 4-22	6210	AAC	201,200	2008	38	Mill & Overlay	100	$1,560,508
X26	TAXIWAY	TW 3	305	AC	49,000	2008	20	Reconstruction	100	$667,380
X26	TAXIWAY	TW 3	306	AC	10,000	2008	30	Reconstruction	100	$136,200
X26	TAXIWAY	TW 4	410	AC	15,000	2008	29	Reconstruction	100	$204,300

APPENDIX F

10-YEAR M&R MAP



LEGEND

RW 13-31 — TYPICAL RUNWAY BRANCH ID

TW A — TYPICAL TAXIWAY BRANCH ID

AP S — TYPICAL APRON BRANCH ID

Year	Activity
2008	Microsurfacing
2009	Mill & Overlay
2010	Reconstruction
2011	Concrete Pavement Restoration
2012	
2013	
2014	
2015	
2016	
2017	

RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

NUMBER	DATE	REVISIONS
2	Jan-30-08	Draft Report
1	May-06	Revised per FDOT comments
0	Feb-06	Initial Submittal

DESIGNED: JCB | DRAWN: JCB | CHECKED: | DATE: 2-22-2006

MACTEC
Engineering and Consulting, Inc.
Tallahassee, Florida
850-656-1293

10-Year M&R Map

SEBASTIAN MUNICIPAL AIRPORT
INDIAN RIVER COUNTY, FLORIDA

FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION OFFICE

IDENTIFIER: X26

FDOT DISTRICT: 4

75

APPENDIX G

PHOTOGRAPHS

RW 4-22 Section 6205 SU 303: Section Overview (July 9, 2007)

RW 4-22 Section 6210 SU 504: Medium Severity Block Cracking (July 9, 2007)

RW 4-22 Section 6205 SU 314: Medium Severity Weathering (July 9, 2007)

TW 3 Section 306 SU 101: Medium Severity Block Cracking (July 9, 2007)

TW 3 Section 306 SU 101: Low Severity Patch (July 9, 2007)

TW 4 Section 410 SU 435: Medium Severity Block Cracking (July 9, 2007)

TW 2 Section 205 SU 200: Medium Severity Block Cracking (July 9, 2007)