ST. PAUL DOWNTOWN AIRPORT
HOLMAN FIELD

ASSESSMENT OF ENVIRONMENTAL EFFECTS OF THE METROPOLITAN AIRPORTS COMMISSION'S SEVEN YEAR CAPITAL IMPROVEMENT PLAN

FOR THE
METROPOLITAN AIRPORTS COMMISSION

BY
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Pursuant to MS 473.614, sd 1

ASSESSMENT OF ENVIRONMENTAL EFFECTS
St. Paul Downtown Airport - Holman Field
Metropolitan Airports Commission Seven Year Capital Improvement Plan

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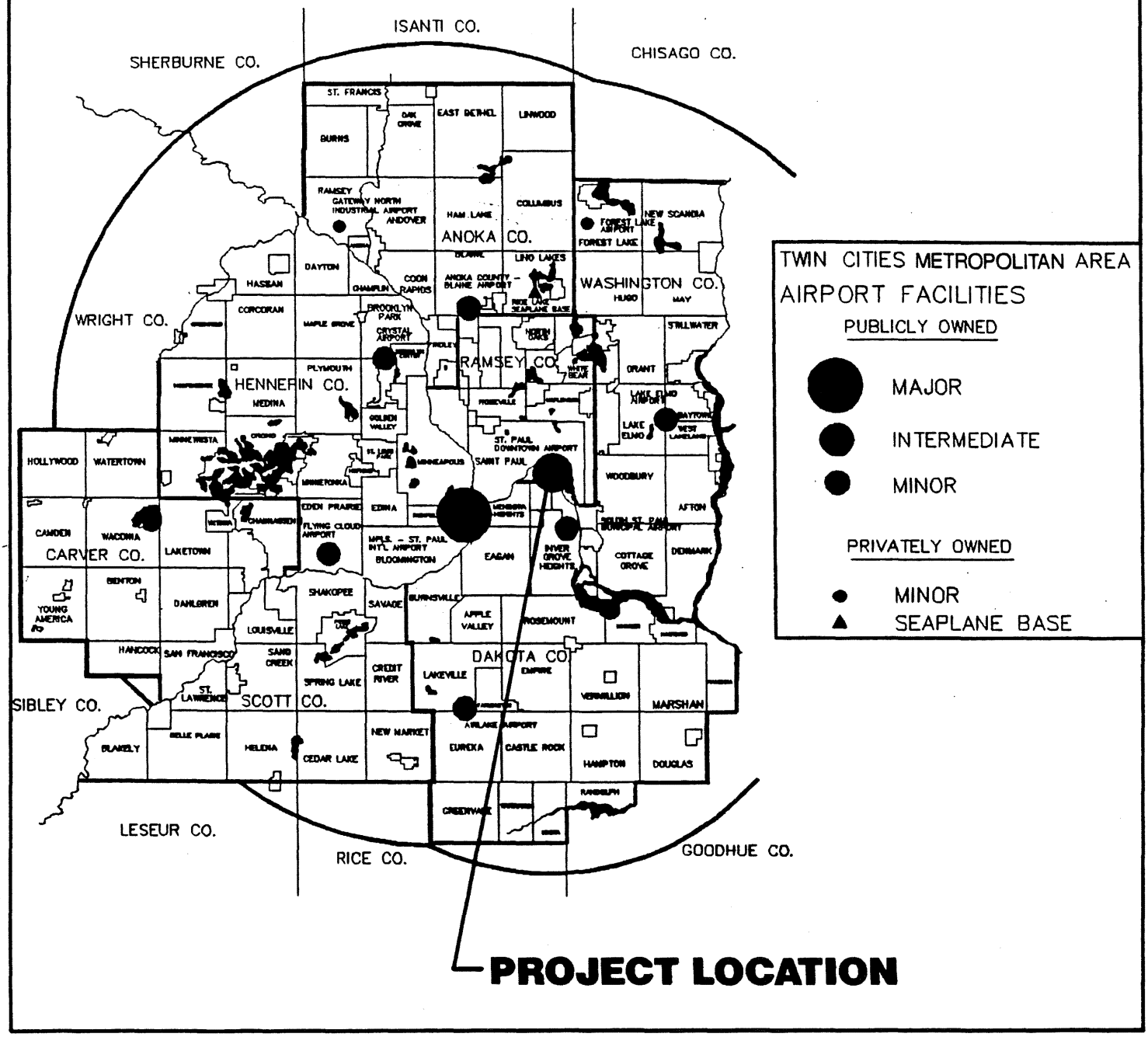


ASSESSMENT OF ENVIRONMENTAL EFFECTS **ST. PAUL DOWNTOWN AIRPORT**	FIGURE 1

ASSESSMENT OF ENVIRONMENTAL EFFECTS
St. Paul Downtown Airport - Holman Field
Metropolitan Airports Commission Seven Year Capital Improvement Plan

A. INTRODUCTION

This report, prepared in response to the requirements of Minnesota Statutes 1986, Chapter 473, amended by Minnesota Statutes 1988, Chapter 664, presents an assessment of the environmental effects of projects in the Commission's Seven-Year Capital Improvement Plan (1992-1998) for St. Paul Downtown Airport - Holman Field.

This assessment examines the cumulative environmental effects of all the listed Capital Improvement Projects at the airport from 1992 to 1998. Many of the projects listed entail only repair or rehabilitation of existing facilities. Such work would not affect the before/after usage of the facilities, and as such would not add to or subtract from the cumulative environmental effects. The projects included in the evaluation are those that have the potential of altering, creating, or in some manner affecting the environmental impact categories listed below.

B. IMPACT CATEGORIES USED TO ASSESS ENVIRONMENTAL EFFECTS

Aircraft Noise

The types of projects which might impact the effects of noise on the environment are new or lengthened runways, new or lengthened taxiways, new maintenance hangars, additional aircraft gates or facilities that may increase operations, and noise insulation and other noise mitigation measures.

Vehicular Traffic

The types of projects which might impact the effects of traffic at the airport or to the surrounding community are new buildings or building additions, new parking spaces or structures, and new or modified roadways or roadway systems.

Air Quality

Air quality impacts at the airport will be primarily caused by changes in vehicular or aircraft activity. Projects which might have an impact will generally be the same projects which affect aircraft noise or vehicular traffic.

Water Quality

Projects which might affect water quality are those which create additional runoff (new pavements or buildings), fire suppression systems, new retention basins, or projects which might affect the groundwater.

Light Emissions

Projects evaluated under this category are airport beacons, lights associated with new runways or taxiways and lights associated with new roadways, parking lots, or ramps.

Sewage

Those projects which have the potential to increase sewage discharged into the sanitary sewer system are new or expanded buildings or other changes that significantly alter the number of people using a facility.

Wetland Impact

All projects are evaluated to see if they would entail the full or partial filling of wetlands.

C. PROJECTS WITH POTENTIAL ENVIRONMENTAL EFFECTS

Table 1 is a listing of all the projects included in the MAC's Capital Improvement Plan for the years 1992 through 1998. Those projects determined to not contribute to the cumulative environmental effects at the airport are so noted on Table 1. The notations are keyed by number in order to better explain the type of work the project entails and why this type of project will not contribute to the cumulative environmental effects.

TABLE 1
ST. PAUL DOWNTOWN AIRPORT
METROPOLITAN AIRPORTS COMMISSION

See Note	Project Description	1992	1993	1994	1995	1996	1997	1998
*	Asbestoes Abatement	$50,000	$50,000	$50,000				
**	Building Area Expansion–Taxiway B		$400,000	$4,000,000	$580,000			
^**	Building Area Expansion–Taxiway S	$3,000,000	$850,000					
(2)	Directional Signage	$50,000						
(2)	MAC Bldg Modifications	$200,000	$100,000		$100,000		$100,000	
(1)	Pavement Rehabilitation	$250,000	$250,000				$200,000	
^**	Pickerel Lake Wetland Mitigation	$585,000						
(2)	Riverside Hangar Roof Replacement			$350,000				
*	Runway 14 ILS & Approach Lights		$1,100,000					
(3)	Runway 30 REIL Replacements	$40,000						
*	Runway 32 Lead–In Lighting	$65,000						
(3)	UST Management	$50,000						
(2)	Wings Hangar Improvements	$700,000						
	Yearly Totals	**$4,990,000**	**$2,750,000**	**$4,400,000**	**$680,000**	**$0**	**$300,000**	**$0**

NOTES:

^ Items discussed in previous Assessment of Environmental Effects.

* The items marked with an asterisk have potential effects that are discussed in the text.

** Projects which are covered in the text and also in other environmental documents (EA/EIS/EAW).

(1) A rehabilitation project which does not physically alter the original size.

(2) A structural, mechanical or electrical modification that does not increase size or passenger capacity.

(3) A replacement of old equipment with new updated equipment.

D.4 Water Quality

The present drainage system is sized to accept the flow from the airport expansion. The quality of the storm water will be similar to that of runoff from other airports in the area. A spill prevention control and counter measures plan has been developed for the airport.

The storm water conveyance system will be reviewed to assure compatibility with the final layout of the storm water drainage for the airport improvements.

D.5 Light Emissions

Light emissions from the building area expansion will not impact residents in the vicinity of the projects.

Light emissions from the Runway 32 lead in lights or the Runway 14 approach lights should not create any negative impacts.

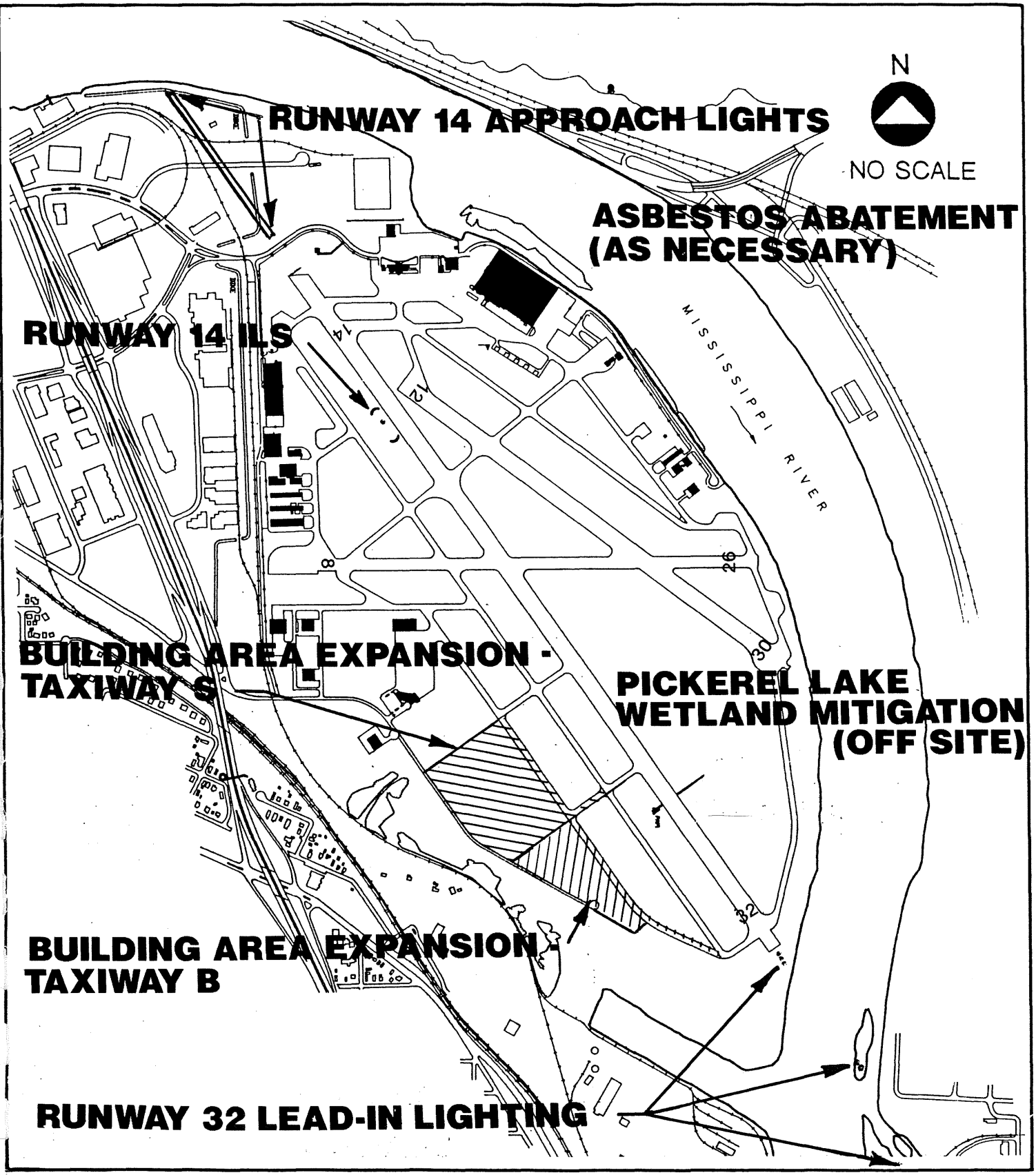
D.6 Sewage and Industrial Waste

Inflammable waste traps will be installed for all of the industrial waste water systems which are within or next to the new building area. As each individual hangar or building is constructed, permits for sanitary wastewater and industrial waste water will be obtained from the City of St. Paul. The inflammable waste traps will contain oil and cleaning fluids associated with aircraft and vehicle maintenance operations. A study of the entire new building area sanitary system accomplished during the construction of the existing building area showed that the anticipated flow from the development in the building area expansion will be easily accommodated.

D.7 Wetland Impacts

Two mitigative environmental projects have been completed in the Wilkie Park for Blue Lake and Fisher Lake. Planning and final design for Pickerel Lake to complete the mitigation for the loss of wetlands associated with the expansion of this airport are now underway.

The Final Environmental Impact Statement concluded in the summary analysis that the airport improvement "project as proposed is the most practicable alternative available which will meet the aviation needs of the area." (FEIS Aug. 1983, page 90).



ASSESSMENT OF ENVIRONMENTAL EFFECTS
ST. PAUL DOWNTOWN AIRPORT
CIP IMPACT PROJECTS

FIGURE
2

APPENDIX A

ENVIRONMENTAL ANALYSIS OF INDIVIDUAL PROJECTS

I. PROJECTS BEGINNING IN 1992

The following projects are included in the MAC's Capital Improvements Plan for 1992 and have the potential to effect the environment:

- Pickerel Lake Wetland Mitigation
- Building Area Expansion - Taxiway S
- Asbestos Abatement
- Runway 32 Lead-In Lighting

I.A. PICKEREL LAKE WETLAND MITIGATION

The development of Runway 14/32, associated taxiways and elevated buildings at the airport resulted in the loss of the wetlands (determined to be 705 wildlife habitat units). This loss was mitigated by the creation or reclamation of new wetland areas in coordinations with the Minnesota Department of Natural Resources (DNR) and the U.S. Department of the Interior, Fish and Wildlife Service.

During 1984/85, a project was completed in the Wilkie Regional Park which provided water level control structures on the outlets of both Blue Lake and Fisher Lake. Those lakes are adjacent to the Minnesota River and the project allows water to be controlled at more constant levels and thus provide more waterfowl habitat. That project replaced 580 wildlife habitat units.

Pickerel Lake, purchased by the City of St. Paul for further development of the Harriet Island-Lilydale Regional Park, had been chosen as the mitigation site to fulfill the replacement of the remaining wildlife habitat units. The plans included construction of a dike to protect the lake from inflow of the Mississippi River up to a projected 15-year flood elevation and construction of a control structure including water level control and a fish screen barrier. Following completion of the control structure, the DNR would kill the existing rough fish population and restock the lake with game fish. The lake level would be raised by approximately 1 foot, which would create more shoreline. The St. Paul Parks Department would then construct a dike around the north and west sides of the lake, which, to ensure compatibility and to meet the overall development intent of the various entities, was designed in conjunction with the control structure to be built by the Commission.

Over the past year, however, the Environmental Protection Agency (EPA) has determined that this project would not qualify as wetland mitigation and that only the

creation of additional wetlands at Pickerel Lake would be compensation for the wetlands to be filled at the airport. The proposed project has been revised to include the dredging of areas adjacent to Pickerel Lake which have been filled to create additional wetland area. Previously approved by the Commission.

I.B. BUILDING AREA EXPANSION - TAXIWAY S

The existing 25-acre southwest side elevated building area created in conjunction with the new runway/taxiway improvement project at St. Paul Downtown Airport is expected to be completely leased in the near future. This project will extend the building area another 1,100 feet to the southeast along Taxiway B (approximately 15 acres) and includes extending Taxiway B and construction of a portion of Taxiway S. The project consists of placing approximately 390,000 cubic yards of soil borrow in the first stage. Utilities and pavements will be placed in a second stage after the soft soils have compressed to make this space available for private hangar construction in the early 1990's.

- Noise Impacts

  The building area expansion noise impacts are discussed in the Final Environmental Impact Statement (EIS) dated August 1983. Noise mitigation at St. Paul is a multi-level government/business/ citizen effort that recognizes that it exists and actively reduces the problem through several strategies. The EIS found that the "project as proposed is the most practical alternative available which will meet the aviation needs of the area.

- Vehicular Traffic Impacts

  The expansion of the building area will not alter any established transportation patterns or disrupt access to any community facility. The eventual full occupancy of the building area will increase traffic on the Eaton Street access to the airport and on the new west service road. Eaton Street and the frontage roads along either side of the Lafayette Freeway (TH 3) have adequate reserve capacity to carry this flow.

- Air Quality Impacts

  The contribution of emissions from the airport will not result in a violation of the State or Federal Ambient Air Quality Standards according to the Final Environment Impact Statement.

- Water Quality Impacts

  The present drainage system is sized to accept the flow from the building area expansion, however, it does not at this time have facilities to treat storm water runoff or contain spills. The quality of the storm water will be similar to that of other apron runoff from the airport. A spill prevention control and counter measures plan has been developed for the airport.

  The storm water conveyance system will be reviewed to assure its compatibility with the final layout of the storm water drainage for the building area expansion.

- Light Emission Impacts

  Light emissions from the project will not create an annoyance among people in the vicinity of the building area.

- Sewage Impacts

  As each individual hangar or building is constructed, permits for sanitary wastewater and industrial wastewater will be obtained from the City of St. Paul. Inflammable waste traps are required to be installed in each individual hangar or building wastewater system which will contain oil and cleaning fluids associated with the industrial waste water. A study of the entire building area sanitary system accomplished during the construction of the existing building area showed that the anticipated flow from the development in the building area expansion will be easily accommodated.

- Wetland Impact

  The two mitigative environmental projects previously mentioned have been accomplished at Blue Lake and Fisher Lake. Planning and final design for Pickerel Lake to complete the mitigation of the loss of wetlands associated with this project are now underway.

  The Final Environmental Impact Statement concluded in the analysis of the wetland impacts that the "project as proposed is the most practicable alternative available which will meet the aviation needs of the area." (FEIS August 1983, page 90)

I.C. ASBESTOS ABATEMENT

Asbestos abatement will be conducted on an ongoing basis dependent on the results of an asbestos survey which will be completed in 1991. As a result there has been no specific buildings or areas identified for asbestos removal, but it is anticipated that the asbestos abatement program will occur over the period 1992-1994.

- Air Quality Impacts

  Asbestos removed as part of the asbestos abatement program will be done according to the approved methods established by the Environmental Protection Agency. The net result of the asbestos removal will be a positive effect on the air quality.

I.D. RUNWAY 32 LEAD-IN LIGHTING

Runway 32 has an ILS approach, and runways with ILS approaches normally have approach lights. The proximity of the Mississippi River makes it impossible to extend approach lights off the end of Runway 32. Pilots have continued to state the need for some kind of lighting system for the runway. It is especially needed when circle-to-land maneuvers are being conducted.

The recently completed master plan for the airport determined that a Lead-In Lighting Facility (LDIN) should be installed to meet the above stated needs. The LDIN facility consists of three sets of three lights each for a total of nine lights. The lights point towards the arriving aircraft and flash sequentially.

- Aircraft Noise Impacts

  The project will not create any noise impacts since it will not alter any current flight patterns or numbers of operations. It is being installed for safety purposes only.

- Light Emission Impacts

  The lights will be focused and pointed towards the southeast. They will also be aimed slightly above the horizontal. The lights will generally project down the Mississippi River away from any residential areas and should not have an impact.

II. PROJECTS BEGINNING IN 1993

The following projects are included in the MAC's Capital Improvements Plan for 1993 and have the potential to effect the environment:

- Building Area Expansion - Taxiway B
- Runway 14 ILS and Approach Lights

II.A. BUILDING AREA EXPANSION - TAXIWAY B

This project involves construction of the last stage of the southwest side elevated building area. The project will extend the building area another 1,100 feet to the southeast along Taxiway B (approximately 6 acres) including completing the extension of Taxiway B to its intersection with Taxiway A. The project consists of placing approximately 520,000 cubic yards of soil borrow in the first stage. Utilities and pavements will be placed in the second stage after the soft soils have compressed to make this space available for private hangar construction in the mid to late 1990's. See discussion in Section I.B. of Appendix A for environmental effects.

II.B. RUNWAY 14 ILS AND APPROACH LIGHTS

St. Paul Downtown Airport is currently served by two instrument approaches: an ILS approach to Runway 32 and a NDB approach to Runway 30. Whenever the winds require a landing on Runway 14 or 12 and weather is IFR, a circle-to-land approach is required. Because of the close proximity to downtown St. Paul and the river bluffs, the circle-to-land minimums are quite high (936 AGL). Additionally, whenever Runways 11R and 11L are used for departures at MSP there is an airspace conflict with the ILS Runway 32 approach. Aircraft desiring the approach must accept a delay or use the NDB 30 approach. However, since Runway 30 is too short for most jets, they are forced to make the circle-to-land maneuver with high minimums.

Installing an ILS approach to Runway 14 will alleviate the problems described above and will greatly increase the poor weather useability of the airport, making it more attractive as MAC's corporate reliever.

- Aircraft Noise Impacts

  The Runway 14 ILS will only affect flight operations during poor weather conditions. These type of conditions occur 15 to 20 percent of the time. Currently, during poor weather conditions, aircraft which must land on Runway 14 are required to first make an instrument approach to Runway 30 or Runway

32. After they site the airport they level off and circle around the airport in order to land on Runway 14. This requires aircraft to pass over residential areas at fairly low altitudes and increased power. The ILS 14 approach will allow aircraft to approach the runway straight in during poor weather. The route goes over the 35E corridor as aircraft approach the airport.

The aircraft noise impact will be slightly positive, since it will alleviate aircraft circling over residential areas during poor weather.

- Light Emission Impacts

The instrument landing system for Runway 14 includes the installation of approach lights. The approach lights will extend from the end of the runway 2,400 feet to near the Mississippi River bank. The lights consist of both high intensity steady burning and flashing lights. The lights are only operated during poor visibility conditions when the wind favors the use of Runway 14. The lights will be situated in a commercial/industrial area. The lights are focused and pointed away from the runway towards arriving aircraft. The area the lights are pointed towards the Mississippi River and a commercial/industrial area near downtown St. Paul. The lights, therefore, should not have any negative impacts.

APPENDIX B

1992 CAPITAL IMPROVEMENT PROJECTS
1993 CAPITAL IMPROVEMENT PROGRAM

1992 CAPITAL IMPROVEMENT PROJECTS
RELIEVER AIRPORTS

ST. PAUL DOWNTOWN AIRPORT

ASBESTOS ABATEMENT - $50,000

An asbestos survey of MAC owned buildings at St. Paul Downtown Airport will be conducted in 1991 which will identify all areas containing asbestos and recommend an appropriate asbestos abatement plan. This item is programmed in anticipation of implementing a phased abatement plan in 1992 and continuing the activities in succeeding years.

BUILDING AREA EXPANSION EMBANKMENT CONSTRUCTION - TAXIWAY S -$3,000,000

The 25-acre elevated building area created in conjunction with the new runway taxiway development project is expected to be completely leased in the near future. This project will extend the building area another 1,100 feet to the southeast along Taxiway A-3 (approximately 15 acres) and include all necessary embankment construction and required temporary drainage and erosion control. Previously approved by the Commission.

DIRECTIONAL SIGNAGE - $50,000

Staff has been working with MnDot in an attempt to improve highway signage identifying exits, etc. for the airport. Modifications to existing or new signs will be required to provide a more positive identification of the airport and its facilities. Previously approved by the Commission.

MAC BUILDING MODIFICATIONS - $200,000

This category will provide for facility modifications/rehabilitations to ensure continued efficient operation of the buildings or modifications necessary to meet the requirements of the various tenants. The most significant item contemplated this year will involve a reconfiguartion of the entrance and lobby area of the Administration Building.

PAVEMENT REHABILITATION - $250,000

Periodically, it is necessary to rehabilitate aircraft operational areas (runways, taxiways, aprons) through bituminous overlays, sealcoats, or in some instances, reconstruction to restore the surfaces to a smooth, even condition and improve overall operating conditions. This year's project will provide for the rehabilitation of the apron east of the Riverside Hangar and the apron north of the National Guard hangar.

PICKEREL LAKE WETLAND MITIGATION - $585,000

The development of Runway 14/32, associated taxiways and elevated building area at the airport resulted in the loss of wetlands. The loss of the wetlands (determined to be 705 wildlife habitat units) was to be mitigated by the creation or reclamation of new wetland areas, in coordination with the Minnesota Department of Natural Resources and the U.S. Department of Interior, Fish and Wildlife Service.

During 1984/1985, a project was completed in the Wilkie Regional Park which provided water level control structures on the outlets of both Blue Lake and Fisher Lake, adjacent to the Minnesota River, to allow water levels to be controlled at more constant levels and provide more waterfowl habitat. That project replaced 580 wildlife habitat units.

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Over the past year, however, the Environmental Protection Agency (EPA) has determined that this project would not qualify as wetland mitigation and that only the creation of additional wetlands at Pickerel Lake would be compensation for the wetlands to be filled at the airport. The proposed project has been revised to include the dredging of areas adjacent to Pickerel Lake which have been filled to create additional wetland area. Previously approved by the Commission.

RUNWAY 30 REIL REPLACEMENT - $40,000

The existing REILs on Runway 30 are outdated and replacement parts are difficult to secure. The replacement of the REILs will result in lower maintenance costs and will provide a more reliable set of working REILs.

RUNWAY 32 LEAD-IN LIGHTING FACILITY (LDIN) - $65,000

Runway 32 has an ILS approach, and runways with ILS approaches normally have approach lights. The proximity of the Mississippi River makes it impossible to extend approach lights off the end of Runway 32. Pilots have continued to state the need for some kind of lighting system for the runway. It is especially needed when circle-to-land maneuvers are being conducted.

The recently completed master plan for the airport determined that a Lead-In Lighting Facility (LDIN) should be installed to meet the above stated needs. The LDIN would consist of three separate light groups aligned on the extended runway centerline. The first group would be located immediately beyond the threshold; the second group approximately 1200 feet away on a small island in the Mississippi River; the third group approximately 1200 feet from the second near the decision height point on the final approach course.

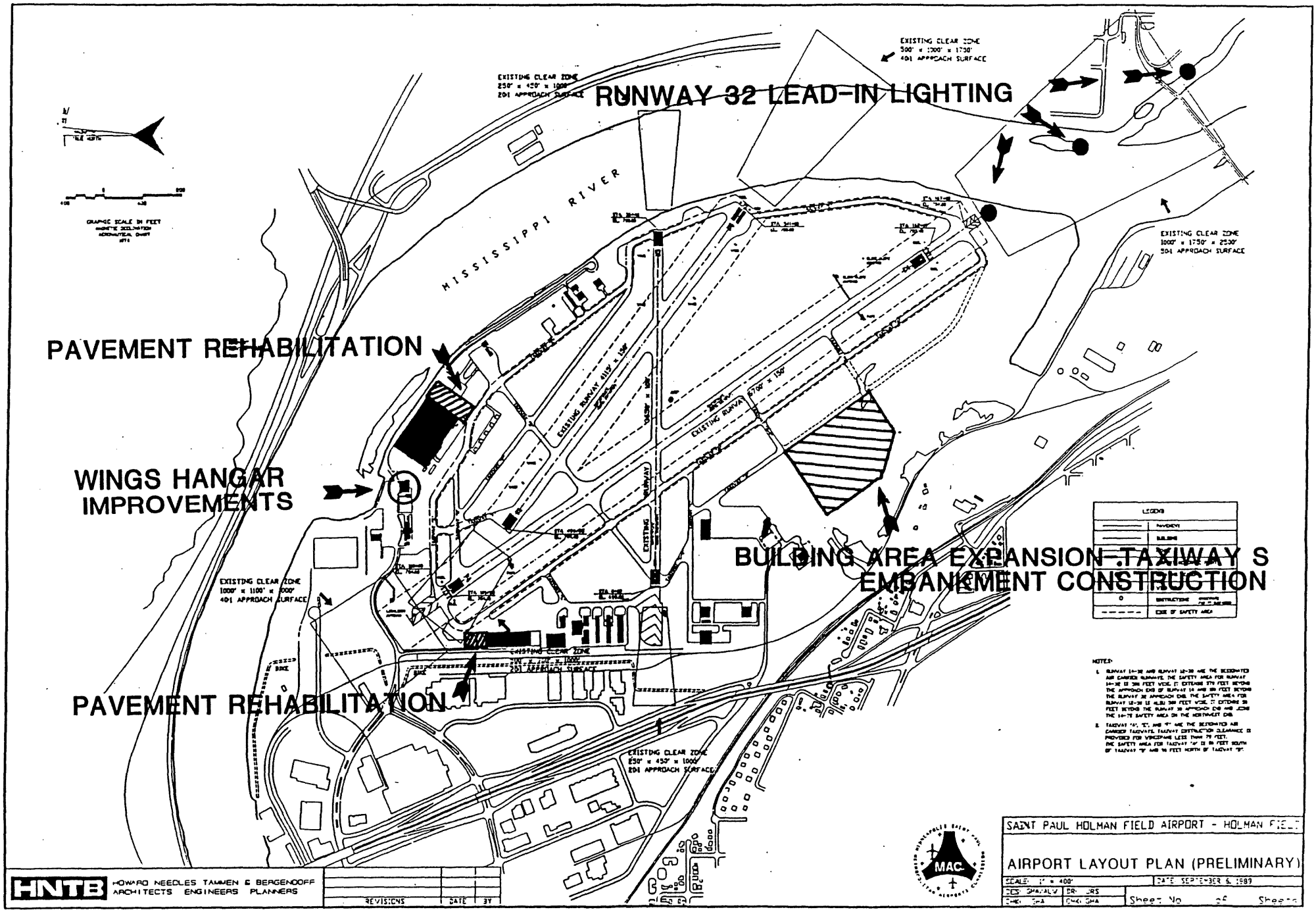
UST MANAGEMENT - $50,000

In 1991, all Commission owned underground storage tanks which were not in compliance with either Federal or State codes were removed. This project would remove additional tanks which do not comply with the codes and whose ownership is unknown.

WINGS HANGAR IMPROVEMENTS - $700,000

An office annex on the Wings Hangar has been uninhabitable for the past several years due to structural, mechanical and electrical inadequacies. The hangar facility is also in need of rehabilitation. Originally, a project to provide for the complete reconstruction of the office annex as well as the hangar facility was proposed for 1991. During 1991, however, the demolition of the existing hangar and office and constructing new facilities became an option based on new flood plain ordinance interpretations. Both alternatives will be studied in 1991 and the preferred alternative implemented in 1992. Previously approved by the Commission.

1992 CAPITAL IMPROVEMENT PROJECTS



RUNWAY 14 ILS - $1,100,000

St. Paul Downtown Airport is currently served by two instrument approaches: an ILS approach to Runway 32 and a NDB approach to Runway 30. Whenever the winds require a landing on Runway 14 or 12 and weather is IFR, a circle to land approach is required. Because of the close proximity to downtown St. Paul and the river bluffs, the circle to land minimums are quite high. Additionally, whenever Runways 11R and 11L are used at MSP there is an airspace conflict with the ILS Runway 32 approach. Aircraft desiring the approach must accept a delay or use the NDB 30 approach. However, since Runway 30 is too short for most jets, they are forced to make a circle to land maneuver with high minimums.

Installing an ILS approach to Runway 14 will alleviate the problems described above and will greatly increase the poor weather usability of the airport, making it more attractive as MAC's corporate reliever. This work has been included in the updated Master Plan for the St. Paul Downtown Airport.

1993 CAPITAL IMPROVEMENT PROGRAM