LAKE ELMO AIRPORT

ASSESSMENT OF ENVIRONMENTAL EFFECTS METROPOLITAN AIRPORTS COMMISSION'S SEVEN YEAR CAPITAL IMPROVEMENT PLAN 1993 - 1999

FOR THE
METROPOLITAN AIRPORTS COMMISSION

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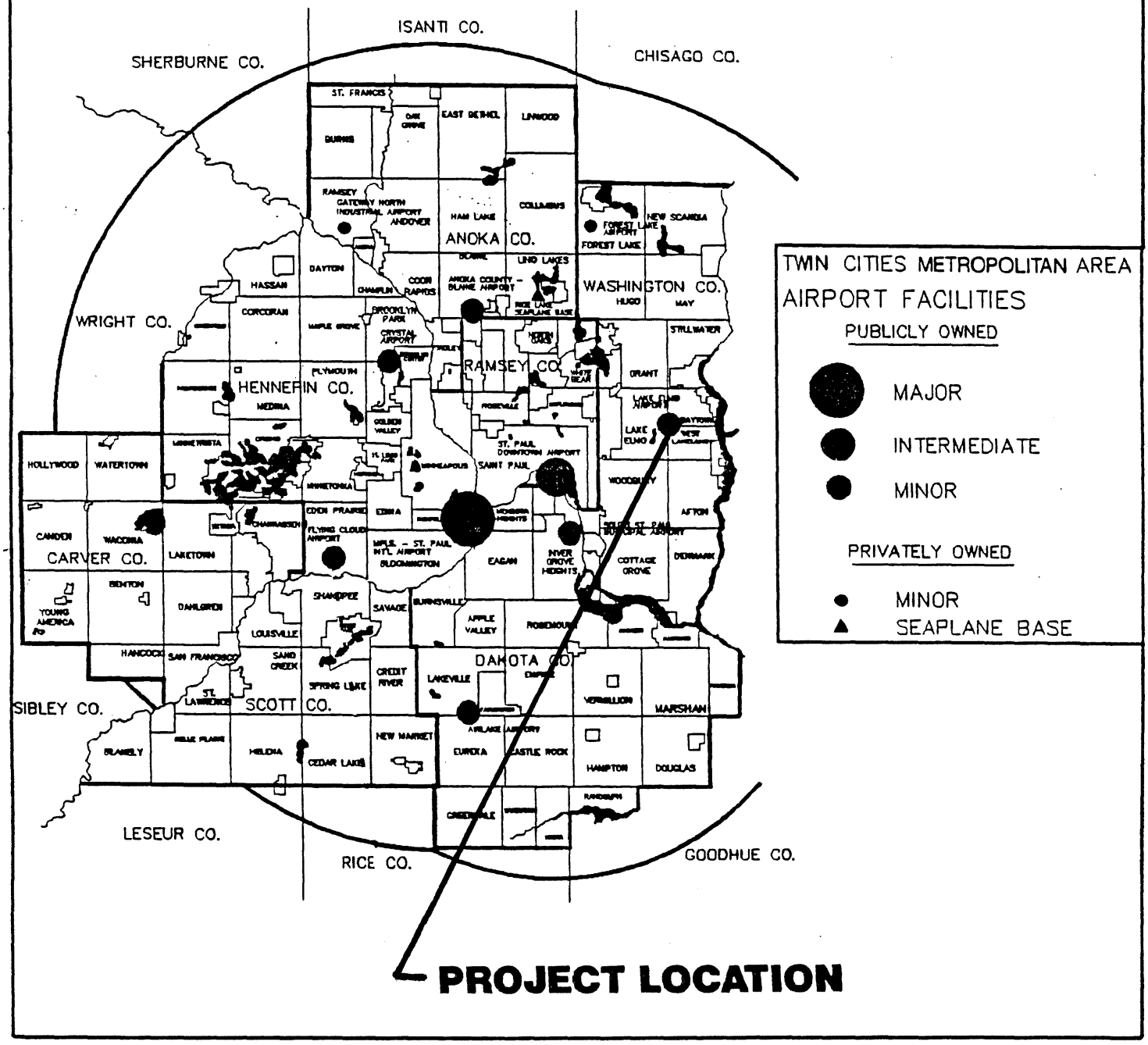
SEPTEMBER 1992

ASSESSMENT OF ENVIRONMENTAL EFFECTS

Lake Elmo Airport
Metropolitan Airports Commission Seven Year Capital Improvement Plan

TABLE OF CONTENTS



ASSESSMENT OF ENVIRONMENTAL EFFECTS **LAKE ELMO AIRPORT**	FIGURE 1

ASSESSMENT OF ENVIRONMENTAL EFFECTS

Lake Elmo Airport
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 (1993-1999) for Lake Elmo Airport.

This assessment examines the cumulative environmental effects of all the listed capital improvement projects at the airport from 1993 to 1999. 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, 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 sewage disposal 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.

Residential Relocation Impacts

Residential relocation impacts are associated with land acquisition projects that will displace occupied residential units.

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 1993 through 1999. 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
LAKE ELMO AIRPORT
METROPOLITAN AIRPORTS COMMISSION

See Note	Project Description	1993	1994	1995	1996	1997	1998	1999
(1)	Pavement Rehabilitation		$100,000		$200,000			
*	Road Relocation			$300,000				
*	Runway 13/31 Construction			$900,000				
*	Runway 3/21 Extension					$300,000		
^ *	Runway 3/21 Lighting					$200,000		
*	Terminal VOR		$200,000					
Yearly Totals		**$0**	**$300,000**	**$1,200,000**	**$200,000**	**$500,000**	**$0**	**$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.

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

D. CUMULATIVE ENVIRONMENTAL EFFECTS

The following is a summary of the cumulative environmental effects by impact category.

D.1 Aircraft Noise Impacts

As part of the Long Term Comprehensive Development Plan prepared for the airport, a brief noise analysis was done. The results of that analysis showed the increase in noise over the next 20 years to be minor and acceptable. This analysis took all of these projects discussed here into account. Therefore, the cumulative effects of the projects are not expected to create significant noise impacts.

D.2 Traffic Impacts

The cumulative effects of the projects are not expected to create significant impacts to vehicular traffic.

D.3 Air Quality Impacts

The cumulative effects of the projects are not expected to create significant impacts to air quality.

D.4 Water Quality Impacts

The cumulative effects of additional stormwater runoff caused by the increased paving for a predicted five year storm event is calculated to be 13.5 cubic feet per second for all projects in the seven year CIP. The additional runoff can be accommodated on-site by widening ditches and adding retention ponds as shown in the Long Term Comprehensive Development Plan for the airport. The increase in quantity is not expected to affect any off-site areas. Skimming devices are currently being added in some locations to protect against detrimental effects of stormwater runoff. Additional skimming devices may be added if necessary as the additional projects are constructed.

D.5 Light Emissions Impact

The cumulative effects of the projects are not expected to create significant light emissions impacts.

D.6 Sewage Impacts

The cumulative effects of the projects are not expected to create significant impacts to the existing sewage system.

D.7 Wetland Impacts

No known wetlands are in the project areas.

D.8 Residential Relocation Impacts

The cumulative effects of the projects are not expected to create residential relocation impacts.

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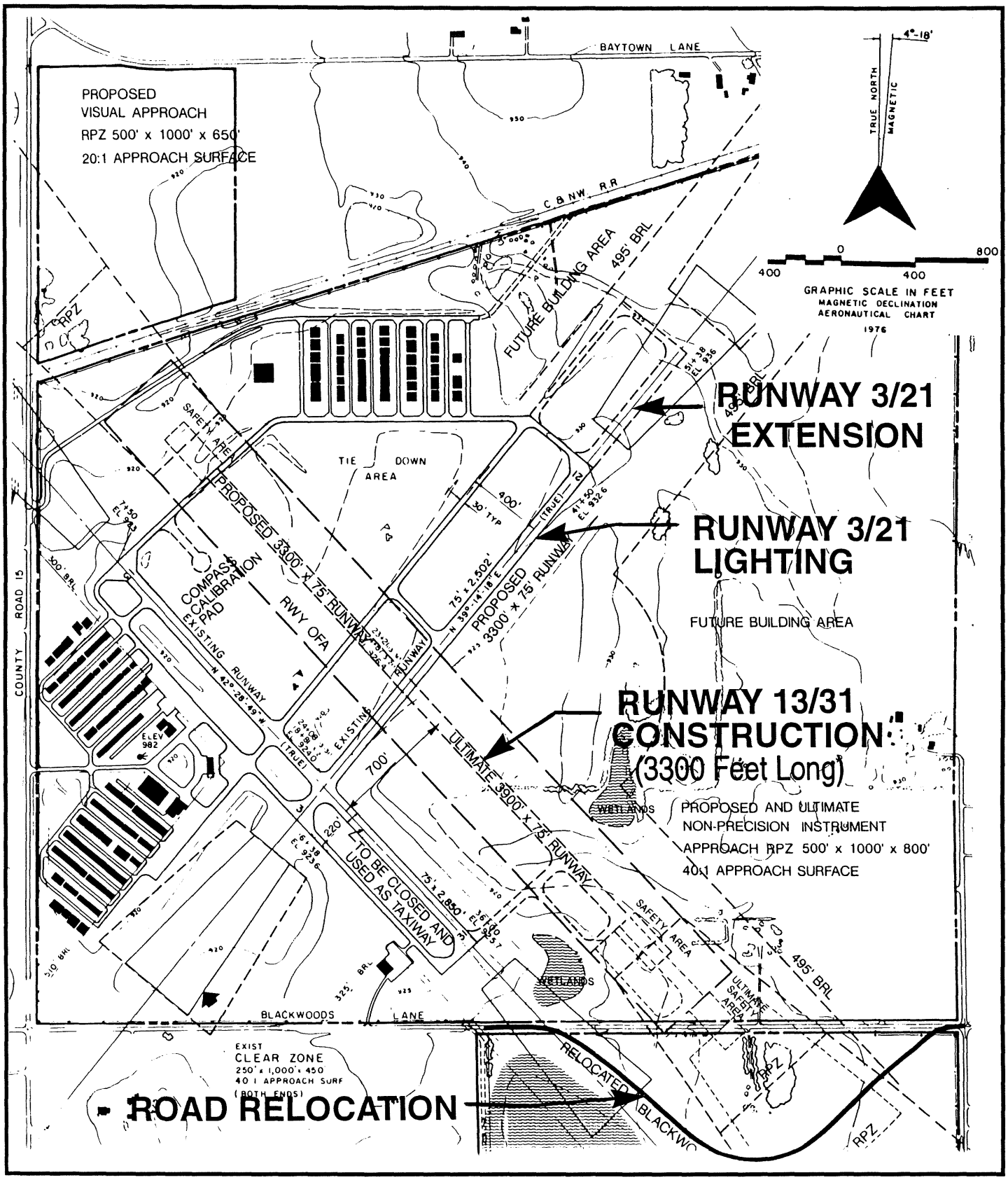
APPENDIX A

ENVIRONMENTAL ANALYSIS OF INDIVIDUAL PROJECTS



ASSESSMENT OF ENVIRONMENTAL EFFECTS
LAKE ELMO AIRPORT
CIP IMPACT PROJECTS

FIGURE 2

I. PROJECTS BEGINNING IN 1993

There are no projects included in the MAC's Capital Improvement Projects for 1993 that have the potential to effect the environment.

II. PROJECTS BEGINNING IN 1994

The following project is included in the MAC's Capital Improvement Program for 1994 and has the potential to effect the environment:

II.A Terminal VOR

II.A TERMINAL VOR (TVOR)

There is no VOR approach to either the Lake Elmo or St. Paul Downtown Airports. The possibility of a VOR/DME approach facility which could serve both airports will be evaluated in 1993, and possibly implemented in 1994. It is unknown at this time where the VOR would be located. The impacts from its location should be minimal.

The improved approach may increase operations slightly during poor weather conditions.

- **Aircraft Noise**

  The increase in operations was assumed in the noise modeling already done as part of the Long Term Comprehensive Plan which shows no significant impacts.

  An instrument approach will probably improve noise impacts in some respects. It will most likely establish a straight in approach to Runway 13/31 which affects less area than the "circle to land" approach that is currently used.

III. PROJECTS BEGINNING IN 1995

The following projects are included in the MAC's Capital Improvement Program for 1995 and have the potential to effect the environment:

III.A Runway 13/31 Construction
III.B Road Relocation

III.A RUNWAY 13/31 CONSTRUCTION

The 1992 Long Term Comprehensive Development Plan for the Lake Elmo Airport recommended that a 3,300 foot runway be constructed to better meet the needs of aircraft

currently using the airport. The runway may at some future date require expansion to 3,900 feet. This project is for the construction of the 3,300 foot runway only. Several alternatives for accomplishing this were evaluated. Figure 2 illustrates the recommended alternative. This layout is similar to the recommendations of the previous Master Plan. An environmental review was completed as part of the Long Term Comprehensive Development Plan from which the following discussion is based. An Environmental Assessment will be prepared for the new runway prior to its construction.

- **Aircraft Noise**

  Noise contours were developed for the Long Term Comprehensive Plan. They assumed all proposed improvements recommended in the plan were in place, including the new runway, and the airport has the number and type of operations forecast for the year 2010. The noise contours show that no homes are located within the 65 Ldn contour. FAA guidelines state that any land use (including residential) outside the 65 Ldn contour to be compatible without restrictions.

  An increase in noise levels will likely occur whether or not the proposed improvements are made. While the existing land uses around the airport generally remain compatible according to federal and regional guidelines, there will be some area residents who will be bothered by the increase in noise. This is especially true based upon the rural nature of the Lake Elmo area.

- **Vehicular Traffic**

  The impacts for the new runway are not expected to negatively affect vehicular traffic. A roadway which needs to be relocated to implement this project is discussed in Section III.B.

- **Air Quality**

  The Long Term Comprehensive Development Plan found that no adverse air quality impacts are expected as a result of future development proposed for the airport.

- **Water Quality**

  The runway does cause an increase in stormwater runoff for a predicted five year storm event by 12.1 cubic feet per second. The additional runoff can be accommodated on-site by widening ditches and adding retention ponds as shown in the Long Term Comprehensive Development Plan. The increase in quantity is not expected to affect any off-site areas. Skimming devices are being added to protect against detrimental effects of stormwater runoff. Additional skimming devices may be needed for the future.

- **Light Emissions**

  There will be runway edge lights on the proposed runway. The impact resulting from these are expected to be minimal to the surrounding community. These lights are very low to the ground and would not dispense much light beyond airport property.

- **Sewage**

  This project is not expected to create an increase in sewage disposal.

- **Wetlands**

  This project is not expected to effect any wetlands.

- **Residential Relocation**

  This project will not create residential relocation impacts.

III.B ROAD RELOCATION

A portion of Blackwoods Lane needs to be relocated to accommodate the proposed new runway, as recommended in the Long Term Comprehensive Development Plan for the airport. The only impact categories that may be affected by this project are vehicular traffic and water quality.

- **Vehicular Traffic**

  Relocating the road does cause a slight increase in travel distance for vehicles. The increase in linear distance is about 600 feet, which is considered to be insignificant.

- **Water Quality**

  The runway does cause an increase in stormwater runoff for a predicted five year storm event by 1.7 cubic feet per second. The additional runoff can be accommodated on-site by widening ditches and adding retention ponds as shown in the Long Term Comprehensive Development Plan. The increase in quantity is not expected to affect any off-site areas. Skimming devices are being added to protect against detrimental effects of stormwater runoff.

IV. PROJECTS BEGINNING IN 1996

There are no projects beginning in 1996 that have the potential to effect the environment.

V. PROJECTS BEGINNING IN 1997

The following projects are included in the MAC's Capital Improvement Program for 1997 and have the potential to effect the environment:

V.A Runway 3/21 Lighting
V.B Runway 3/21 Extension

V.A RUNWAY 3/21 LIGHTING

Runway edge lighting enhances safety of operations and usability of a runway. MIRLs (one type of runway edge lighting) are recommended for Runway 3/21. Affected impact categories include aircraft noise and light emissions.

- **Aircraft Noise Impacts**

  Adding runway edge lights will shift some night-time aircraft operations from Runway 13/31 to Runway 3/21. As part of the Long Term Comprehensive Development Plan prepared for the airport, a brief noise analysis was completed. The results of that analysis showed the increase in noise over the next 20 years to be insignificant. This assumes much greater increases in operations than those resulting from Runway 3/21 edge lighting. Therefore, this project is not expected to create significant noise impacts.

- **Light Emission Impacts**

  The impact resulting from the installation of runway edge lights is expected to be minimal to the surrounding community. These lights are very low to the ground and would not dispense light beyond airport property.

V.B. RUNWAY 3/21 EXTENSION

The 1992 Long Term Comprehensive Development Plan also recommended that the crosswind runway may need to be lengthened to 3,300' to meet future demand. Figure 2 shows the runway extension. The only impact categories expected to be affected are aircraft noise and water quality. An environmental review was completed as part of the Long Term Comprehensive Development Plan which evaluated impacts within these

categories.

- **Aircraft Noise**

  Noise contours were developed for the Long Term Comprehensive Plan. They assumed all proposed improvements recommended in the plan were in place, including the runway extension, and that the airport has the number and type of operations forecast for the year 2010. The noise contours show that no homes are located inside the 65 Ldn contour. FAA guidelines state that any land use (including residential) outside the 65 Ldn contour is considered to be compatible without restrictions.

  The increase in noise levels will likely occur whether or not the proposed improvements are made. While the existing land uses around the airport generally remain compatible according to federal and regional guidelines, there will be some area residents who will be bothered by the increase in noise. This is especially true based upon the rural nature of the Lake Elmo area.

- **Water Quality**

  The added runway surface does cause an increase in stormwater runoff for a predicted five year storm event by 0.9 cubic feet per second. The additional runoff can be accommodated on-site by widening ditches and adding retention ponds as shown in the Long Term Comprehensive Development Plan. The increase in quantity is not expected to affect any off-site areas. Skimming devices are being added to protect against detrimental effects of stormwater runoff.

APPENDIX B

1994 CAPITAL IMPROVEMENT PROGRAM

LAKE ELMO AIRPORT

PAVEMENT REHABILITATION - $100,000

Periodically, it is necessary to rehabilitate aircraft operation 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. A condition survey will be conducted in 1993 and a specific recommendation will be available when the CIP is updated for the 1994 construction season.

TVOR - $200,000

Currently, there is no VOR approach to either the Lake Elmo or St. Paul Downtown Airports. The feasibility of a VOR/DME approach facility which would serve both airports will be evaluated in 1993, and possibly implemented in 1994.