South Loop District
City of Bloomington

Alternative Urban Areawide Review (AUAR)

Update Report

May 16, 2022

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SECTION 1: INTRODUCTION

The South Loop District (f/k/a Airport South District) has long been planned for high-intensity, mixed use development. It encompasses multiple sites where new development and redevelopment are anticipated to occur over multiple years. Given the close proximity of these development sites, the City of Bloomington (City) chose to utilize the Alternative Urban Areawide Review (AUAR) process to identify and document potential environmental impacts resulting from the cumulative impacts of development over multiple years, rather than preparing separate environmental reviews on individual development projects.

AUAR History and Updates

The initial *South Loop District Alternative Urban Areawide Review and Mitigation Plan* (original AUAR, aka "Airport South AUAR"), was adopted by the Bloomington City Council in August, 2002, through Resolution 2002-104. Subsequent updates adopted by the Bloomington City Council include:

- December 2009, through Resolution 2009-171;
- August 2012, through Resolution 2012-86; and
- May 2017 through Resolution 2017-58.

The 2009 and 2012 updates reviewed and incorporated infrastructure projects that were not anticipated in 2002. The 2017 update involved a thorough revision of the entire document and included a revised redevelopment scenario for "build out" anticipated to occur around 2040.

This AUAR update replaces previous versions, which the City retains for reference. A copy of the Bloomington City Council resolution adopting this AUAR update is included in Appendix A. Links to the original 2002 AUAR and subsequent updates available on the City website are provided in Appendix B.

AUAR Structure and Format

The preparation of this AUAR update report has been completed according to guidance prepared by the Environmental Quality Board (EQB) and is based on Minnesota Rules 4410.3610, subp. 4. It is noted that the EAW requirements were updated in 2013 resulting in reordering, collapsing, and elimination of certain sections.

While the 2017 AUAR update retained the 2008 format (31 sections), this update follows the 2013 EAW guidance and also incorporates the new sections proposed in 2021 and piloted in 2022. The EAW and AUAR requirements are provided at the beginning of each of the sections in the report. When an EAW item is not applicable to this AUAR, it is so stated.

This update summarizes physical and regulatory changes adopted since the last AUAR update was approved in 2017 and identifies impacts that are new or greater than those assessed in the last update.

To remain valid as a substitute form of environmental review, the AUAR is updated every five years or if development or changes to public facilities and infrastructure are proposed that exceed the maximum levels assumed in the development scenario in the approved AUAR.

SECTION 1: Project title South Loop District AUAR – *Update Report (2022)*

SECTION 2: Proposer

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SECTION 3: RGU

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SECTION 4: REASON FOR EAW PREPARATION

Per State Statutes Section 4410.3610, subp. 7, an AUAR must be updated at least every five years to remain in effect. This AUAR was last updated and approved in 2017 and must therefore be updated again in 2022.

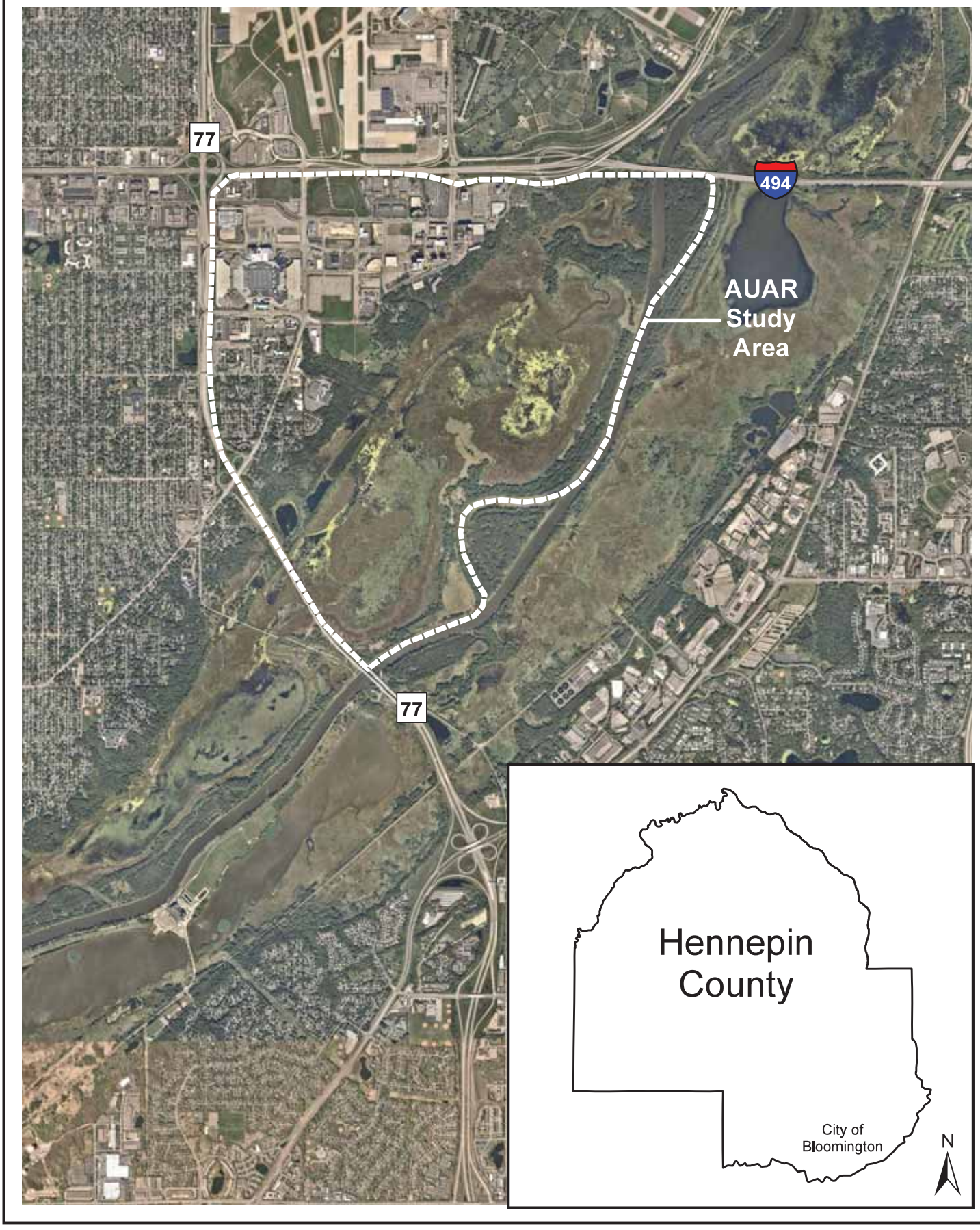
SECTION 5: LOCATION

Project location:

- County: HENNEPIN
- City/Township: City of Bloomington
  - Sec. 1,12,13 Twnshp 27N Range 24W
  - Sec. 5-8 Twnshp 27N Range 23W
- Watershed(s): Bloomington-Richfield Watershed Management Organization and Lower Minnesota River Watershed District

AUAR: Required Maps:

- *General location of the project (Figure 5.1);*
- *U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (Figure 5.2);*
- *Proposed Redevelopment Sites within AUAR Study Area (Figure 6.2 in Section 6)*



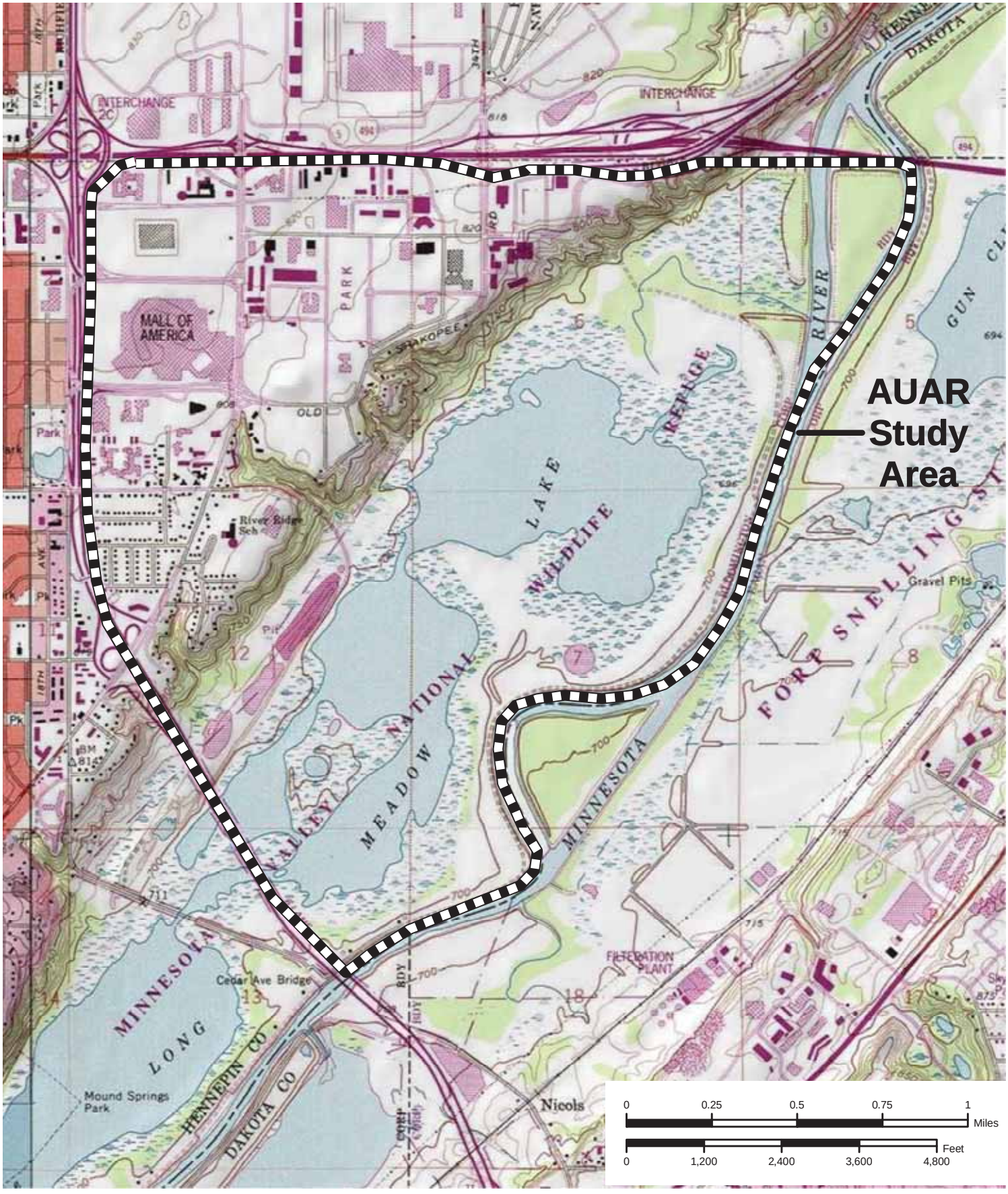
Source: City of Bloomington, MN (2021); Nearmap (spring 2021 aerial)

CITY OF BLOOMINGTON MINNESOTA

General Project Location

City of Bloomington
South Loop District AUAR

FIGURE 5.1



Source: ESRI USA Topo Maps - USGS, 1967; revised 1993

CITY OF BLOOMINGTON MINNESOTA

US Geological Society Survey

South Loop District AUAR

FIGURE 5.2

As shown in Figures 5.1 and 5.2, the AUAR study area encompasses the 2,350-acre South Loop District located in the northeast corner of Bloomington Minnesota. The area is bounded by I-494 and the Minneapolis-St. Paul International Airport on the north, TH 77 (Cedar Ave) on the west, and the Minnesota River and the Minnesota Valley National Wildlife Refuge on the south and east.

Additional maps and figures are integrated throughout the AUAR as they apply to specific sections.

SECTION 6: PROJECT DESCRIPTION / EXECUTIVE SUMMARY

EAW:

A. Provide the brief summary to be published in the *EQB Monitor*.

B. Complete description of proposed project and related new construction, including infrastructure needs. If the project is an expansion, include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes; 3)v significant demolition, removal, or remodeling of existing structures; and 4) timing and duration of construction activities.

C. Project Magnitude

D. Explain project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

E. Are future stages of this development on any other property planned or likely to happen? __X_YES ____NO If Yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

F. Is this project a subsequent stage of an earlier project? ____ YES ___ NO If Yes, briefly describe the past development, timeline and any past environmental review.

AUAR: *The description section of an AUAR should include the following elements for each major development scenario:*

- *Anticipated types and intensity (density) of residential and commercial/warehouse/light industrial development throughout the AUAR area;*
- *Infrastructure planned to serve development (roads, sewers, water, stormwater system, etc.)*
- *Information about the anticipated staging of various developments, to the extent known, and of the infrastructure, and how the infrastructure staging will influence the development schedule.*

A. PROJECT SUMMARY

An Alternative Urban Areawide Review (AUAR) for the South Loop District (study area) was first adopted by the City of Bloomington in 2002. The AUAR allows the City to conduct an environmental review of anticipated development in the District cumulatively, rather than preparing separate environmental reviews on individual development projects that meet required thresholds mandating such review. The AUAR was updated in 2009, 2012, and 2017 to refresh development forecasts and identify and review infrastructure improvements and potential environmental effects resulting from the updated development scenario that were not anticipated in the original AUAR and subsequent updates. Like the 2017 update, this update analyzes anticipated development over a 20-year period (through 2040 or 2045). The area covered by the AUAR – the South Loop District in Bloomington – remains the same as in the original AUAR (see Figure 5.1).

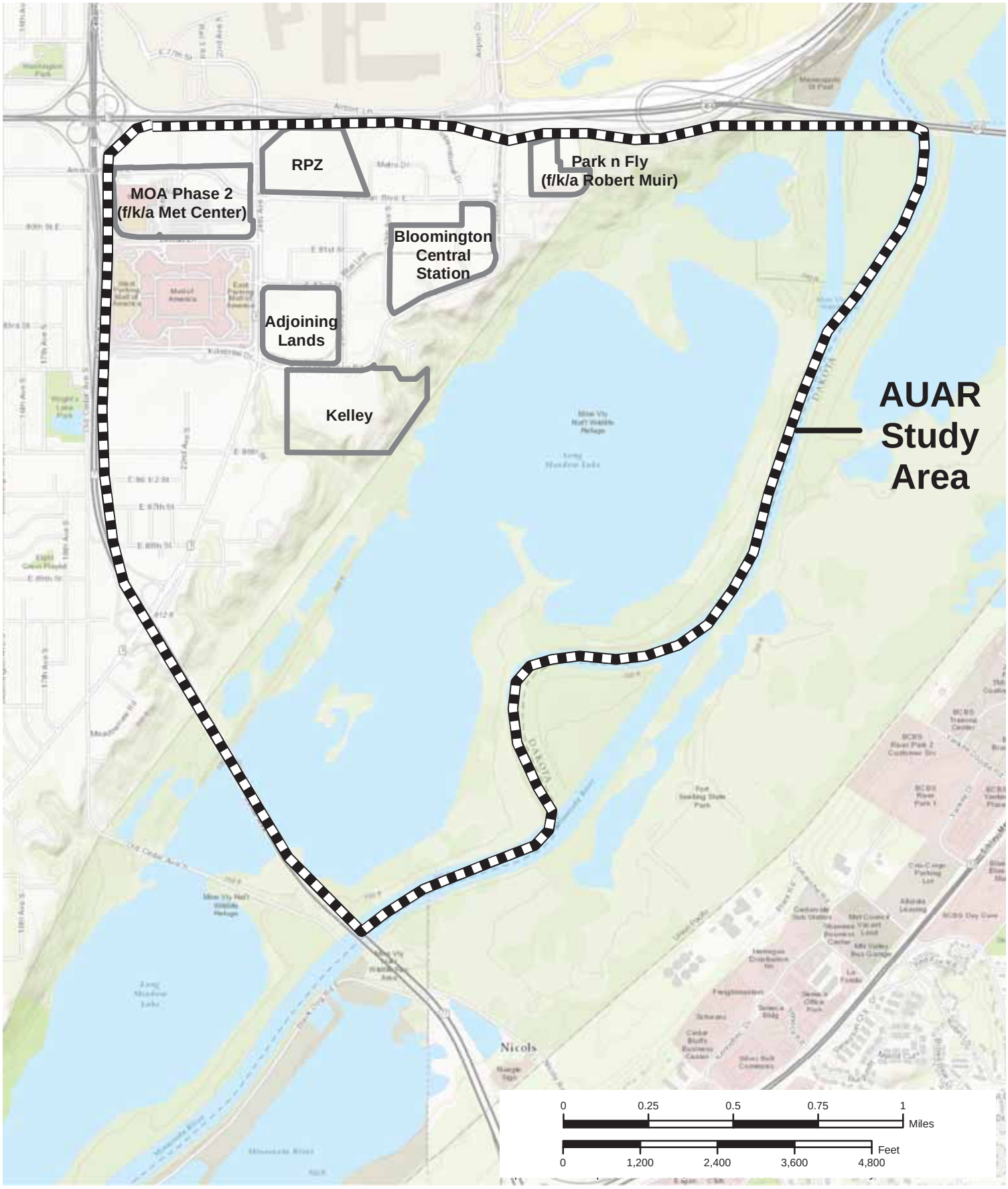
B. PROJECT DESCRIPTION

The development scenario reviewed in the AUAR describes existing and future development anticipated to occur on multiple sites throughout the study area (South Loop District). This development scenario has been revised and updated since the original AUAR was approved in 2002. Whereas the original (2002) development scenario had a 5-year horizon, the updated development scenario anticipates the maximum development that will occur over the next 20 years to achieve full "build out" of the study area.

Original 2002 AUAR Development Scenario

The original AUAR development scenario, depicted in Figure 6.1, identified six parcels for redevelopment over the period 2002-2007. The 2002 AUAR assumed the existing development on sites not identified for redevelopment by 2007 would remain and that additional redevelopment sites would be added, as appropriate, during routine AUAR updates every five years. This existing "background" development was factored into the original traffic and utility studies and other impact assessments.

The amount and type of development proposed on the six specified redevelopment sites in 2002 are described in Table 6.1. The 2002 AUAR also references a separate Environmental Impact Statement (EIS) completed for the Mall of America (MOA) expansion in 2001. Impacts specific to the proposed MOA Expansion on the Met Center site (now known as MOA Phase 2 site) were evaluated in the EIS as footnoted in Table 6.1. The 2002 AUAR reflected the impacts and development amounts for MOA described in the EIS, which were carried through in the 2009 and 2012 AUAR updates.



Source: ESRI World Street Map and Topographic Map, 2016

CITY OF BLOOMINGTON MINNESOTA

2002 AUAR Redevelopment Scenario

South Loop District AUAR

FIGURE 6.1

TABLE 6.1: DEVELOPMENT SCENARIO AND EXISTING LAND USES - 2002

Site	Existing Land Use (2002)	2002 AUAR Development Scenario
Mall of America Phase 2 (Met Center Site)	7,500 surface parking spaces	5.6 msf mixed use *(1)* ・ 1,600 hotel rooms ・ 3,425,000-square foot retail/ entertainment ・ 600,000-square foot office
Adjoining Lands	1,775 surface parking spaces and a storm water pond	1.0 msf of retail and 7,500 parking spaces
Federal RPZ Block (includes 11 parcels)	Hotel, a meeting hall, gas stations, car rental, offices	No parking, no development— future RPZ
Bloomington Central Station (Health Partners Campus)	865,094 SF office space	Bloomington Central Station Transit Oriented Development *(2)* concepts: • 2,250,500 SF office/hotel or • 2,189,500 SF office
Park 'N Fly 3700/3750 East 80th Street Ramp	996-stall parking ramp, 1,220 surface parking spaces and a 430,000 square foot structure	750,000-square foot office; 3,000 parking spaces
Proposed LRT Corridor	Streets and parking areas	Hiawatha LRT - four LRT stations serving the district.
Kelley Farm Property	Agriculture/open space	650,000-square feet office and 931 residential units.
Remainder of South Loop District	Existing land uses	Existing land uses

(1) The proposed Mall of America Expansion on the Met Center site was also studied in a separate EIS process completed in early 2001.

(2) Two development concepts were considered. The "worst case" impacts were considered relative to traffic (e.g., office only) and water and wastewater (e.g., office/hotel concept)

Revisions to the AUAR Development Scenario Since 2002

Minor AUAR updates in 2009 and 2012 did not modify the development scenario analyzed. The 2017 AUAR update significantly revised the development scenario to reflect entitled development and updated growth forecasts through "full build out". Changes were made to the location, type, and amount of future development anticipated throughout the study area. The updated development scenario increased the number of redevelopment sites and extended the development horizon to 2040, when "build out" is anticipated. The amount of development assigned to individual redevelopment sites was also updated to reflect what the City believes will be the maximum amount of development by 2040 based on approved plans, current forecasts, and land use regulations.

The revised AUAR development scenario reflects two key changes relative to the original 2002 development scenario: 1) an overall reduction in total amount of development (square feet); and 2) a shift in types of land uses. These changes and implications are described below:

- In 2015 and 2019, revisions to the MOA Preliminary Development Plan (PDP) were approved for the MOA Phase 2 site (f/k/a Met Center site) and MOA Phase 3 site (aka Adjoining Lands). The approved PDP results in a net reduction in the total amount of development on the Phase 2 site from what was anticipated in the 2002 AUAR development scenario. The most significant change is a decrease of over 2,920,000 gross square feet (gsf) of forecast retail. This reflects a major shift in the retail market and growing demand for entertainment and experience-oriented uses.

- Since the 2017 AUAR update, forecasts continue to indicate shifts in land use away from office and retail to more hotel and residential development by 2040. The updated future development scenario described in Table 6.2, results in forecast changes for specific land uses between the 2017 and current (2022) development scenario as follows:
  - Office: (-) 1,555,300 gsf
  - Retail: (-) 1,068,330 gsf
  - Hotel: (+) 476 rooms
  - Residential: (+) 1,700 dwelling units

About half of the retail forecast in 2017 is expected to be converted to uses defined as "entertainment" or recreational (e.g., "water park" and "performing arts"), which are now forecast to add 563,000 gsf. The updated development scenario also forecasts adding 259,000 gsf of industrial land use.

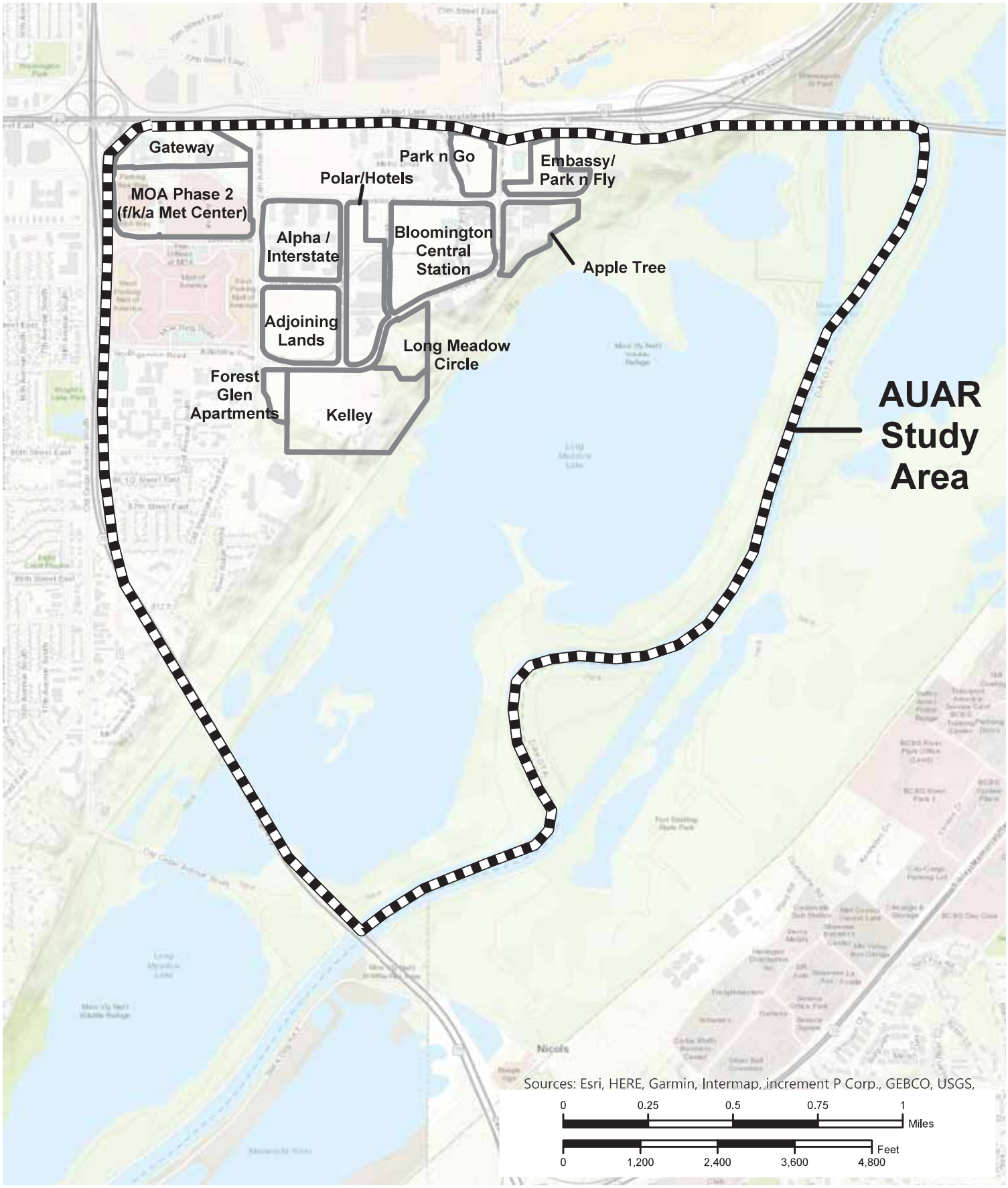
While, increases in residential and hotel development can alter demand on the road and utility systems, generally, these land use shifts results in more evenly dispersed traffic flows and reduced peak hour traffic volumes. On the other hand, more residential and hotel development increases demand on water and sanitary sewer systems resulting in the need for increased capacity.

Impacts of these land use changes on infrastructure are evaluated in studies submitted with specific development proposals as well as routine, areawide updates to studies regarding traffic, utility, and other infrastructure needs in the South Loop District. Upgrades to infrastructure (roads, utilities) to accommodate the land uses in the updated AUAR development scenario are described in greater detail in sections 12 and 20, and in the Mitigation Plan (Appendix H).

Updated - 2022 AUAR Development Scenario

The development scenario for this AUAR update includes the same sites analyzed in 2017, although the boundaries of two sites (Apple Tree and Gateway), have been expanded to incorporate adjacent parcels (see Figure 6.2).

Table 6.2 below describes the existing and forecast development for each site in the updated AUAR development scenario depicted in Figure 6.2. This reflects what the City believes would be the maximum amount of development by 2040 or 2045 based on approved plans, current demographic forecasts, land use designations and zoning. The



Source: ESRI World Street Map and Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Revised AUAR Redevelopment Scenario

South Loop District AUAR

FIGURE 6.2

types of land use and intensities described are consistent with the vision in the *South Loop District Plan* (adopted in 2012) and the Bloomington Comprehensive Plan - Forward 2040 (adopted in 2019).

TABLE 6.2: EXISTING LAND USES AND UPDATED DEVELOPMENT SCENARIO

Site (subTAZ)	**Existing LU / Development** (2022)	**2022 Future Development Scenario (2045 "full build")**
Kelley Farm/Forest Glen Apt (471c)	Farm/residential (4 du) Forest Glen: Hotel (182 rooms) Entertainment (35,700 sf)	Hotel (482 rooms) Entertainment (35,700 sf) Ind/Office (200,000 sf) Office (200,000 sf)
Long Meadow Circle (471d)	Vacant	Office (250,000 sf)
Apple Tree (471e)	Office (435,000 sf) Hotel (135 rooms) Residential (657 du)	Office (435,000 sf) Hotel (135 rooms) Residential (832 du) Retail (8,000 sf)
Embassy/Park n Fly (471f)	Hotel (610 rooms) Car park	Residential (548 du) Retail (10,000 sf) Hotel (811 rooms)
Park n Go (472c)	Office (298,000 sf) Hotel (113 rooms)	Office (298,000 sf) Hotel (463 rooms) Retail (30,000 sf) Residential (581 du)
Bloomington Central Station *(Health Partners)* **(472d)**	Office (616,000 sf) Hotel (302 rooms) Residential (1,059 du)	Office (1,461,400 sf) Hotel (302 rooms) Residential (1,984 du) Retail (40,000 sf)
Polar/Hotels (472e)	Industrial (220,000 sf) Hotel (164 rooms)	Industrial (220,000 sf) Hotel (264 rooms) Retail (6,000 sf)
Alpha/Interstate (472g)	Hotel (537 rooms) Office (129,000 sf) Ind/Warehouse (140,000 sf) Retail (12,000 sf)	Office (400,000 sf) Hotel (537 rooms) Retail (12,000 sf) Industrial (259,000 sf)
Adjoining Lands *(MOA Phase 3)* **(472f)**	Vacant/parking (1,775 spaces)	Retail/Ent (465,000 sf) Hotel (1,000 rooms) Parking (2,500 spaces)
Gateway (473a)	Hotel (472 rooms)	Hotel (797 rooms) Retail (130,000 sf)
MOA Phase 2 *(f/k/a Met Center site)* **(473b)**	Retail/IKEA (332,000 sf) Surface parking	Office (400,000 sf) Retail (502,000 sf) Waterpark (328,000 sf) Perf Arts (200,000 sf) Hotel (1,800 rooms)

Infrastructure

This AUAR update describes infrastructure improvements to transportation (roads, pedestrian/bicycle) and utility (sanitary, watermain, and storm water) systems needed to facilitate and support current and anticipated future development forecast in the updated AUAR development scenario described above. Needed infrastructure improvements identified in recently updated traffic and sewer models are summarized below and described in greater detail in other sections of this report (mainly sections 12 and 20) and the Mitigation Plan (Appendix H). Known projects planned by other agencies, including Hennepin County, the City of Richfield, the Metropolitan Airports Commission (MAC), and the Minnesota Department of Transportation (Mn/DOT), are also noted.

Transportation:

The South Loop District is served by local and regional roadways, regional trails and sidewalk/bikeways, numerous bus routes, the Red Line bus rapid transit (BRT), and the Blue Line light-rail transit (LRT). Studies conducted prior to the 2017 AUAR update are summarized in Appendix C.

The City routinely requests traffic studies be completed in conjunction with private development proposals. Most of these were conducted to evaluate transportation system improvements needed to facilitate specific development proposals. However, given the concentration of projects in the South Loop (study area), these individual studies together cover the broader area. Periodically, studies of the broader study area are also conducted. The South Loop District Roadway Infrastructure Improvement Study was underway during the 2017 AUAR update and was finalized in 2018. A copy of the approved study is included in Appendix H.

In addition, there have been a number of transportation projects completed in the South Loop in recent years. A list of projects completed prior to the 2017 AUAR update is included in Appendix C. Local transportation projects completed since 2017 are shown in Table 6.3, along with planned and programmed roadway improvements identified in the Bloomington 2022-2031 Capital Improvement Plan (CIP).

TABLE 6.3: SUMMARY OF PLANNED/PROGRAMMED ROADWAY IMPROVEMENTS

Location		Scheduled to Complete by:	Lead Agency
East Old Shakopee Road/33rd Avenue (SL-07-004)	Construct a traffic signal at 33rd Avenue and East Old Shakopee Road	2024	Bloomington
I-494 / 24th Avenue (SL-16-006)	Construct dual northbound right turn lanes onto eastbound I-494 ramps; signal timing improvements and possible ramp signalization	2026	Bloomington/ Hennepin Co/MnDOT
I-494 / 34th Avenue (SL-16-007)	Construct dual northbound right turn lanes onto eastbound I-494 ramps; eliminate the eastbound free right at American Boulevard/34th Avenue by either adding a yield or brining the turn lane into the intersection at 90 degrees; signal timing improvements and ramp signalization	2026	Bloomington/ MnDOT

Location		Scheduled to Complete by:	Lead Agency
Signal Timing, as needed (SL-16-009)	Signal timing improvements on a three-year cycle are expected to be needed at 15 South Loop intersections to accommodate traffic forecast	2023, 2026, 2029	Bloomington/ Hennepin Co/MnDOT/ Metro Transit
Lindau Lane at IKEA Way and 22nd Avenue (SL-16-010)	Modify "cat-tracking" northbound left and southbound right at Lindau Lane/IKEA Way into the two south lanes; add "cat-tracking" southbound right at Lindau Lane/22nd Avenue; update signal cycle lengths/splits; modify wayfinding signage	2024	Bloomington
American Boulevard at International Drive and Metro Drive East (SL-16-011)	Modify American Boulevard/International Drive intersection to three-quarter access; construct a roundabout or traffic signal at American Boulevard/Metro Drive East intersection	2031	Bloomington
24th Avenue Corridor (SL-16-005)	Develop a concept layout to better utilize the existing roadway width; may include restriping/median work, removal of channelized right turns, removal of add-in lanes, access control, pedestrian improvements	2028	Bloomington/ Hennepin Co/MnDOT
East Old Shakopee Road/28th Avenue (SL-16-012)	Construct a multi-lane roundabout or traffic signal at intersection	2025	Bloomington
American Boulevard E/30th Avenue (SL-16-013)	Install a signal	2031	Bloomington
American Boulevard/ 28th Avenue (SL-21-001)	Repurpose lanes on south approach to better utilize existing roadway width.	2022	Bloomington
30th Ave at EOSR Signal (SL-16-003)	Construct a signal at 30th Avenue and East Old Shakopee Road for the next Bloomington Central Station phase	2027	Bloomington
TH 77/494 CD Access at Thunderbird Rd (SL-06-012)	Interim connection at Thunderbird Road from/to TH77/494 CD	2027	Bloomington/Mn DOT

Regional planned or programmed transportation projects that impact the South Loop District are summarized in Table 6.4.

TABLE 6.4: SUMMARY OF REGIONAL ROADWAY IMPROVEMENTS IMPACTING SOUTH LOOP DISTRICT

Location		Lead Agency	Status
24th Ave	Modify westbound ramp to northbound free right	MAC/ Mn/DOT	Delayed
77th Street	Connection under TH-77 north of I-494	Richfield	Construction began 2021
TH 77	Mill and overlay between I-494 and Mn River	Mn/DOT	FY 2022
I-494	Mill and overlay between TH 77 and Mn River	Mn/DOT	FY 2023

Sanitary Sewer:

The City's current *Wastewater and Comprehensive Sewer Plan (WWCSP),* which is a supplement to the City's 2040 Comprehensive Plan, adopted in 2019, used a series of computer models to identify sewer infrastructure capacity improvements needed to serve estimated additional flow from forecast future development. These improvements are included in the collection of capital improvement items that forms the basis of Bloomington's Wastewater Capital Improvement Program (CIP).

The models identified six CIP work items that will be needed to accommodate estimated flows resulting from the revised AUAR development scenario described in Table 6.2. The list of future or new CIP items that will be needed to serve the AUAR study area is shown in Table 6.5 and Figure 12.6. These items will be constructed to provide additional sewer capacity as development is entitled and as funding sources are realized. Additional information on sewer infrastructure needed to accommodate future development is provided in Section 12.

TABLE 6.5: PROPOSED FUTURE SANITARY SEWER PROJECTS IN SOUTH LOOP

2021 AUAR CIP Item #	Description	Year Proposed
12	o Upsize 18" sewer to 21" and 24" (American Boulevard East from 34th Avenue to 28th Avenue) In Design now.	2022
13	o Upsize several 30" sewer pipes to 36" (Killebrew Dr and Cedar Ave) - An alternate design of restoring abandoned pipe in that area is being examined.	2025
14	o Upsize 10" sewer to 12" (24th Ave and American Blvd East) – Alternate service routing for new development may reduce or eliminate this need.	2030
27	o Watch/Monitor recently lined 36" pipes in (Old Cedar Ave from East 85th St to E 91st St) to see if upsizing to 42" pipe will be needed by 2040.	2040
29	o Watch/Monitor recently installed 24" pipes in (28th Ave S south of American Blvd East) to see if upsizing to 27" pipe will be needed by 2040. An alternate route via an existing overflow MH and pipe is being examined.	2040
30	o Watch/Monitor existing 27" pipes in (Killebrew Dr East of Cedar Ave) to see if upsizing to 30" pipe will be needed – An alternate design of restoring abandoned pipe in that area is being examined.	2040

Water Facilities:

As described in Section 12, modeling done to assess water facility capacity to accommodate the updated AUAR development scenario through 2040 indicates a demand increase of 1.9 million gallons per day (MGD) above existing demand. As development proceeds, local distribution pipes will need to be added to interconnect with, and strengthen, the existing pipe network. Some additional distribution piping and some larger

trunk water mains may also need to be constructed for system reliability and to ensure adequate pressures and fire flow to hydrants during high demand days.

The largest future water demand is anticipated to be concentrated in the north half of South Loop District (study area). Based on current development forecasts, approximately 2,640 linear feet of new 16" diameter trunk water main should be constructed on or before 2025. This pipe segment would extend along W. 82nd Street from 12th Ave. S. to the west side of Cedar Avenue. While the pipe is located entirely outside of the South Loop District, it supplies water to distribution pipes in the District. Figure 12.7 in Section 12 illustrates the network of existing and future water pipe serving the South Loop District.

The other major water system improvement will be required when the Kelley Farm property redevelops. At that time, the water system will need to be extended into the Kelley property. No additional improvements to the City's water system are required to support the updated AUAR development scenario.

Surface Water Management:

The study area (South Loop District) currently has a high amount of impervious coverage. Most of the sites identified for redevelopment in the AUAR redevelopment scenario are currently, or have been developed with urban/suburban development. The updated redevelopment scenario is not expected to increase the rate of discharge under normal conditions when compared to existing conditions. In addition, redevelopment can provide opportunities to increase the amount of pervious surface area and implement green infrastructure and other stormwater BMPs to improve stormwater management. The City routinely encourages private developers to incorporate low-impact design practices in new development projects, such as pervious pavement, underground pipe galleries, and green roofs.

Three sites proposed for future development are partially located within the City's Bluff Protection (BP) Overlay District which requires that post-development over-the-bluff storm water discharge rates be no greater than pre-development discharge rates. The three sites that must comply with these regulations, include: Kelley Farm, Long Meadow Circle, and Apple Tree sites (see Figure 6.2). It is noted that the Forest Glen Apartment site is now fully developed. The City updated its BP Overlay District requirements in 2020 to align with updated watershed district requirements. These requirements are described in greater detail in the Mitigation Plan (Appendix H).

Modeling indicated areas with potential for flooding under existing and future conditions. Since the last AUAR update, modifications have been made to alleviate potential flooding at the MOA Transit Station and Lindau Lane low point. Future flood mitigation in the study area is anticipated as follows:

- *Pond 30* – Modeling indicates this existing "dry" pond located on the Adjoining Lands site (MOA Phase 3) currently retains stormwater from the local sub-watershed as well as backflow from the 24th Avenue trunk storm sewer system. Reconfiguration of Pond

30 is anticipated with redevelopment of the Adjoining Lands site. Development of the Kelley Farm and the Adjoining Lands sites have potential to significantly alter runoff in this area. Alternative infrastructure modifications evaluated in the model were identified that could successfully mitigate the flood elevation increases resulting from reconfiguration of Pond 30. However, redevelopment plans for sites that currently drain to this area will need to include significant rate control best management practices to mitigate the effects of potential future Pond 30 reconfiguration or removal. In addition, volume control may be necessary in order to mitigate the effects of additional flow volumes on the system.

Stormwater facility needs will be reviewed on a case-specific basis as actual redevelopment plans are presented to the City. All new development is required to meet current standards for stormwater management, which were updated in June 2018. In addition, development must meet the requirements of the City's *Comprehensive Surface Water Management Plan* (CSWMP) to address volume retention, water quality, and rate control. Surface water discharge rates must be maintained at or below existing levels. These requirements maintain, if not improve on, the water quality guidelines in place when the original AUAR was prepared in 2002. Our requirements align with Atlas 14 data, which acknowledges future increases in rainfall resulting from climate change.

More detailed information on stormwater management and mitigation is provided in Section 12 and in the Mitigation Plan. It is further noted that the Minnesota Pollution Control Agency (MPCA) replaced the non-degradation water quality rules with new anti-degradation rules in 2015. The City meets the anti-degradation rules through post construction stormwater management requirements detailed in Section 4 of the CSWMP.

C. PROJECT MAGNITUDE

Table 6.6 summarizes the total amount of development by general land use type in the entire South Loop District (study area). It includes existing and forecast development when the original 2002 AUAR was prepared and existing development today (2022) and total development anticipated at "full build", in 2040 or 2045. The amount of forecast development reflects the updated development scenario analyzed in this AUAR update (see Figure 6.2 and Table 6.2).

TABLE 6.6: EXISTING AND FORCAST DEVELOPMENT IN SOUTH LOOP DISTRICT

Land Use	Existing (2002)	Forecast	Existing (2022)	Forecast (2040/2045)
Residential (units)				
• *Unattached*	254 units	254 units	180 units	180 units
• *Attached*	624 units	1,276 units	942 units	4,137 units
Commercial	8,977,449 SF	18,280,932 SF	12,798,967 SF	17,289,067 SF
Industrial	1,106,508 SF	879,000 SF	672,958 SF	891,958 SF
Institutional	87,832 SF	87,832 SF	128,392 SF	128,392 SF
Agricultural	60 acres	0 acres	60 acres	0 acres
Conservation/Bluff Protection	1,457 acres	1,457 acres	1,457 acres	1,457 acres

The most significant changes to project magnitude between the original development scenario forecast analyzed in the 2002 AUAR and the current development scenario are the increase in attached residential units (e.g., apartments and condos) and significant decline in forecast commercial development. This reflects shifts in the economy and development market, particularly regarding traditional retail and office. Changes in forecast amounts for specific land uses include:

- Unattached residential units: (-) 74 units
- Attached residential units: (+) 2,861 units
- Commercial: (-) 991,866 GSF
- Industrial: (+) 12,958 GSF
- Institutional: (+) 40,560
- Agricultural and Conservation: No change

It is noted that all future development is planned to occur on sites located north of 86th Street, where commercial development has been concentrated for decades.

D. PROJECT PURPOSE

This AUAR update describes the total amount of development anticipated to occur in the study area through “full build” and identifies the infrastructure needed to support forecast development. The study examines any potential environmental impacts resulting from future development and outlines mitigation measures to minimize or alleviate negative impacts.

E. STAGING AND SCHEDULE

The updated AUAR development scenario reflects the maximum amount of development anticipated to occur through “full build-out”, which is anticipated to occur in the year 2040 or 2045. All of the infrastructure modeling and analysis in this AUAR update takes into account the updated development forecasts shown in Table 6.2 as well as existing “background” development. More detailed descriptions of needed future infrastructure is described in other sections of this report (notably, Section 12 Water and Section 20 Transportation) and in the Mitigation Plan.

The timing of individual development projects is difficult to accurately predict. The development estimates reflect approved development plans and parcels developers have expressed strong interest in, although have not yet become formal development applications. On sites anticipated to redevelop further in the future, assumed development amounts reflect guidance in approved plans (South Loop District Plan, 2040 Comprehensive Plan) and current development regulations regarding uses and density.

Future updates to this AUAR will adjust the development forecasts and timing based on actual development that occurs and/or plans that are approved between AUAR updates. Future updates will also incorporate any updates made to traffic and utility models to

reflect actual development proposals or any major unforeseen infrastructure projects.

SECTION 7: CLIMATE ADAPTATION AND RESILIENCE

EAW:

A. Describe the climate trends in the general location of the project(s) (See Guidance: Climate Adaptation and Resilience) and how climate change is anticipated to affect that location during the life of the project.
B. For each resource category in the table below: describe how the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effect identified.

AUAR: No clear guidance as to how to provide the level of detail in B given the AUAR addresses forecast/future development. Because no specific project plans have been developed yet, this section cannot adequately address B and will only address A.

Climate Trends

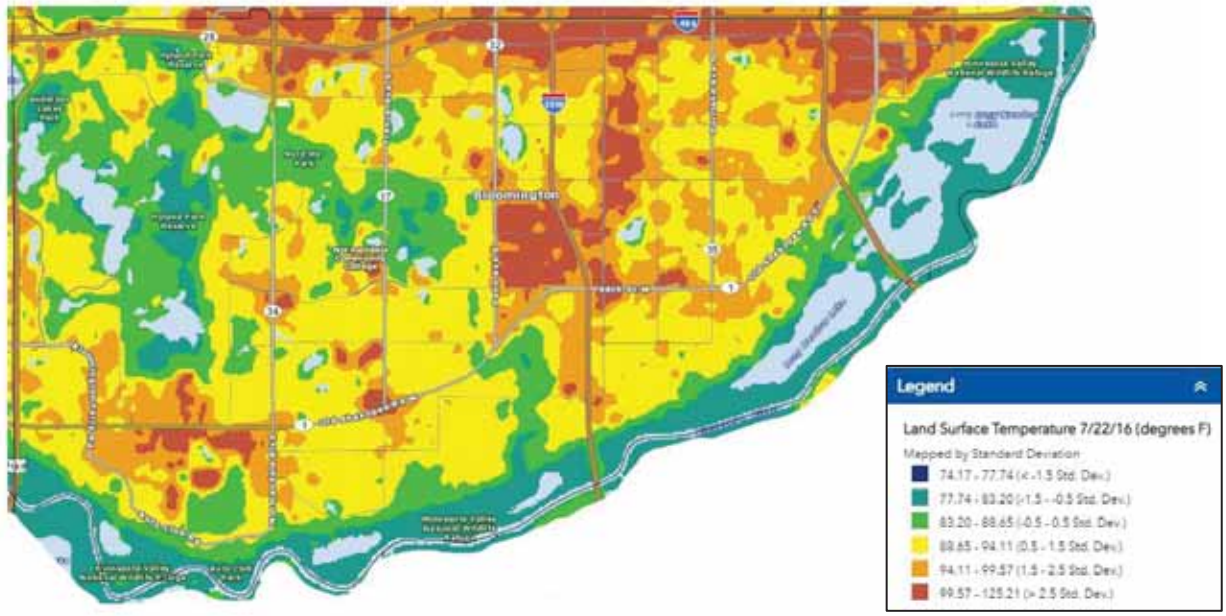
Minnesota is comprised of four distinct biomes, reflecting in part localized climate patterns. However, statewide climate trends that have been tracked since about 1895, indicate the broad climate changes effecting the entire state. Key trends reported by the Minnesota Department of Natural Resources indicate the state is getting warmer and wetter. From 1895 to 2020 temperatures across Minnesota increased 3 degrees F, an average of 0.51 degrees F per decade. Nine of the 10 warmest years occurred in the last few decades.

During that same period, annual precipitation increased by an average of 3.4 inches. Data show an increase in the number of heavy rain occurrences, which can lead to severe flooding that overwhelms the capacity of the land and infrastructure (sewers, roads). Despite the trend toward wetter conditions, changes in seasonal precipitation have been documented, including a reduction of rain during summer, which, with higher temperatures, raises the potential for drought.

These shifting climate patterns have implications for various land uses (e.g., agriculture, and urban heat islands), infrastructure (e.g., water utilities, flooding of transportation systems), ecosystems (e.g., habitat loss, spread of invasive species, pests and pathogens), air pollution (e.g., wildfire smoke, stagnant smog), and public health (e.g., respiratory and cardiovascular diseases, heat-related illness and mortality, drowning) due to changes in air pollution, extreme heat, floods, droughts, and ecosystem threats.

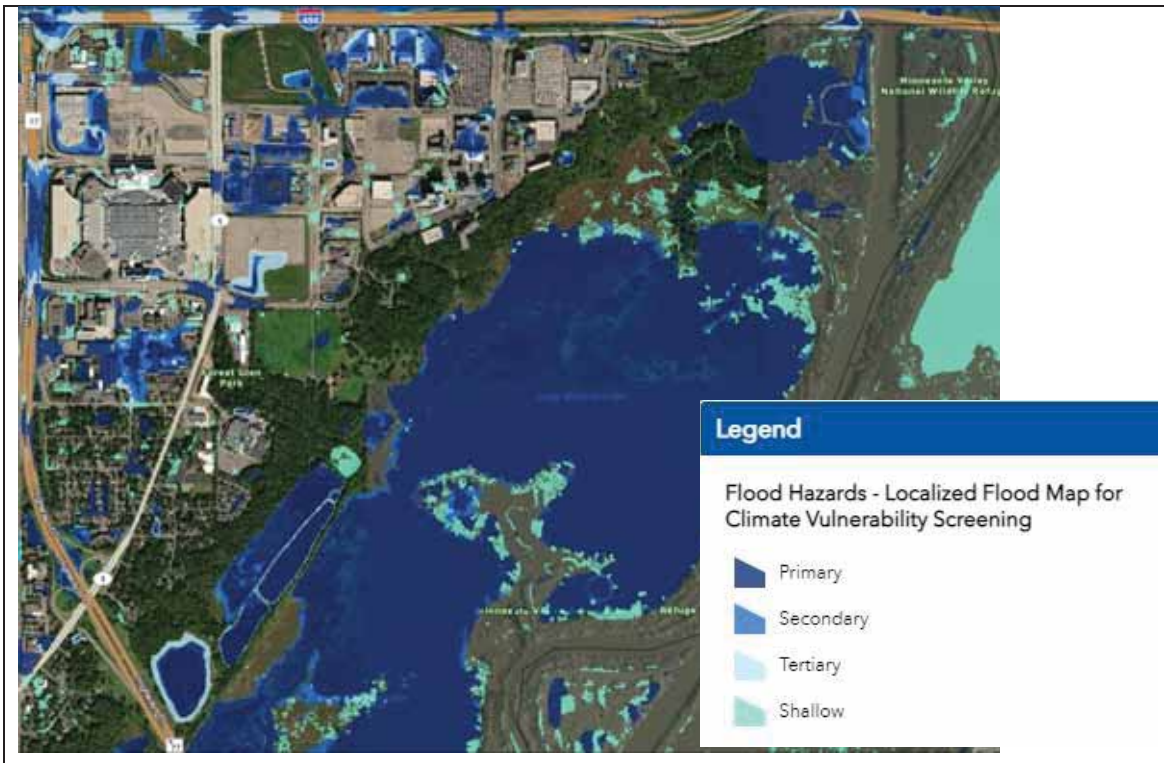
According to the Metropolitan Council's Extreme Heat Map Tool (see Figure 7.1) and Localized Flood Map Screening Tool (see Figure 7.2), areas in the South Loop District are vulnerable to both extreme heat and flooding. Furthermore, air pollution from traffic is the highest in Bloomington near regional arterial roadways, two of which border the South Loop District (e.g., TH 77 and I-494).

FIGURE 7.1: EXTREME HEAT (LAND SURFACE TEMPURATURE) – BLOOMINGTON



Source: Metropolitan Council Extreme Heat Planning Tool, created Oct 13, 2017, updated Sept 1, 2021

FIGURE 7.2. LOCALIZED FLOOD HAZARDS – SOUTH LOOP DISTRICT



Source: Metropolitan Council Localized Flood Map Screening Tool, created Dec 19, 2017, updated Nov 19, 2021

Approaches to Climate Change Mitigation

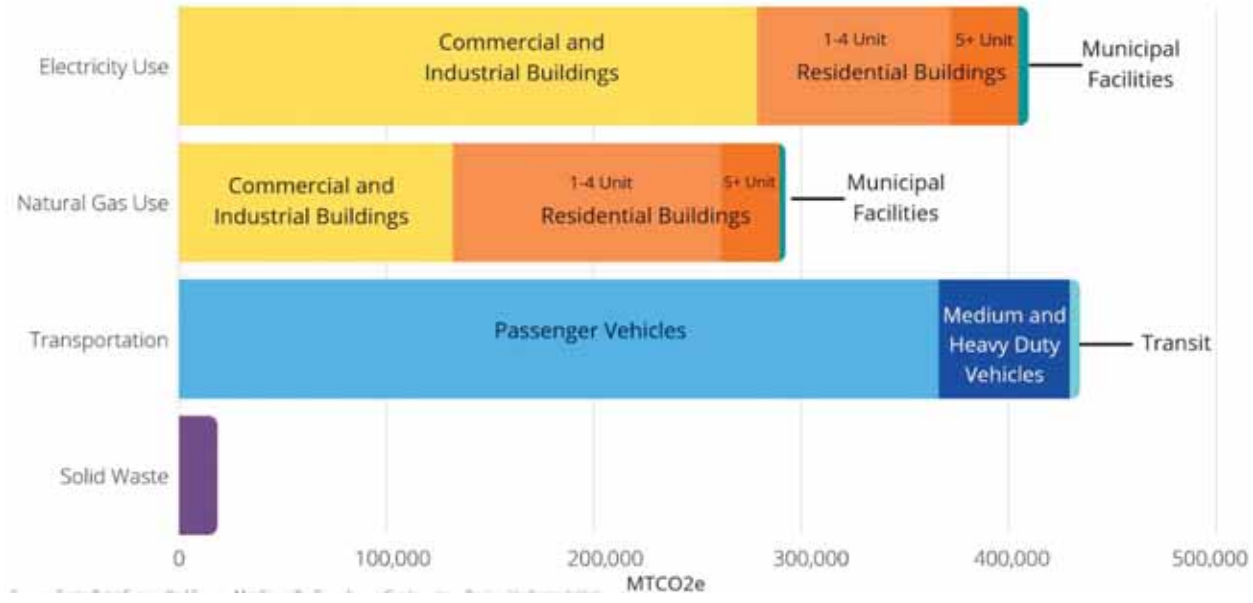
Addressing climate change at the local city level primarily involves regulatory policies to reduce the impacts of development. Some of these regulations have been in place in Bloomington, and many cities for a long time (e.g., stormwater management, tree preservation, landscape requirements). Others involve creation of new regulations and practices aimed at addressing energy use, greenhouse gas emission, and resiliency.

In recent years, Bloomington has begun to analyze climate-related impacts and identify potential strategies to mitigate those impacts. The primary focus to date has been on strategies to address energy use and to reduce GHG emissions from vehicles. These are described in greater detail in the Mitigation Plan (Appendix H).

Energy: The electricity and natural gas used to fuel buildings are the largest source of greenhouse gas emissions in Bloomington. Figure 7.3 illustrates and compares existing sources of greenhouse gas emission in Bloomington.

While energy use data is compiled on a citywide scale, the area of the South Loop District north of E. 86th Street contains many large buildings and has long been planned to accommodate a major portion of Bloomington's future growth. All parcels forecast for additional development in the AUAR development scenario (see Figure 6.2) are located in this area.

FIGURE 7.3. SOURCES OF BLOOMINGTON'S GREENHOUSE GAS EMISSIONS



Source: CenterPoint Energy, Xcel Energy, Met Council's Greenhouse Gas Inventory, Regional Indicator Initiative, 2020 (Electricity, Natural Gas, Solid Waste) 2018 (Transportation)

Improving existing buildings through energy efficiency upgrades and designing new buildings to be efficient are the most cost-effective ways to achieve these goals. Using renewable energy sources and electrification are also important strategies.

Transportation: As shown in Figure 7.3, transportation is the second largest source of greenhouse gas emissions in Bloomington. Most transportation-related greenhouse gas emissions come from passenger vehicles. Thus, the focus of mitigation is on actions to reduce reliance on passenger vehicles.

This can be done through investments in alternative transportation infrastructure (e.g., sidewalks, bike trails, transit facilities) and policies and regulations that incentivize alternative modes of transportation. Other approaches involve implementing development regulations to foster compact and mixed-use land use patterns and supporting flexible work arrangements (i.e., remote work). The aim is to make travel via alternative modes of transportation an easy and convenient choice.

As noted above, the South Loop District is planned to be a fairly dense, mixed-use district. This area is very well served by a range of transit, including light-rail and bus rapid transit. The *South Loop District Plan (2012)* recommends expanding the pedestrian/bicycle network to facilitate and encourage non-vehicular trips within the district. It is also noted the City has several policies and plans aimed at fostering low-carbon transportation and mobility.

Increased Precipitation: All development must comply with our Comprehensive Stormwater Management Plan (CSWMP) requirements, which were recently updated to align with Atlas 14 data, which was compiled from newer rainfall data from the last 30 years. To address increasing flood vulnerability, the City is currently working with our local watershed districts and other agencies to assess vulnerabilities from potential future "mid-century (e.g., 2050)" rainfall events. The City will continue to work with our partners to identify strategies to address changes to rainfall frequency and intensity.

Drought: The City has a DNR mandated and approved Water Supply Plan that implements long term water sustainability, conservation, and critical emergency preparedness measures. The City has also adopted a Critical Water Deficiency ordinance that defines procedures to restrict water usage under certain emergency declarations. To further encourage reductions in water usage, the City has adopted the State Plumbing Code that regulates the use of low-flow plumbing fixtures for permitted construction. The City's water conservation activities are reviewed and documented annually during DNR Water Conservation Reporting.

Approaches to Climate Resiliency

The City is engaged in multiple efforts to address sustainability and resilience. The City joined the Minnesota Green Step Cities initiative in August 2017 and achieved steps 4 and 5 in May 2021. The City's Green Step City efforts identify a range of actions the City will take to achieve our sustainability goals.

City efforts to enhance climate resiliency are embodied in a variety of plans and studies that include strategies to foster alternative transportation, compact and low-impact

development design, address urban heat islands, invasive species management, and extreme rain events. Examples include:

- The City has several policies and plans aimed at fostering alternative transportation and mobility.
- Zoning Code updates that promote and foster compact, mixed-use development. Landscape standards require a minimum number of overstory trees and other vegetation as well as parking lot landscaping, both perimeter and internal islands, must be planted with deciduous trees to provide shade.
- Adoption of the Park System Master Plan (2021) that highlights “resiliency” as a guiding principle.
- Conducting an inventory of natural resources and identification of strategies to protect and enhance these priority resources.
- Adoption and enforcement of various development standards and regulations related to stormwater management, bluff protection, shoreland protection, native landscaping, and solar infrastructure.

While the City recognizes and is beginning to track air pollution, there are no resiliency efforts in place aimed specifically at air pollution. The City is considering establishing sustainable development standards, which could include use of low-impact design BMPs and landscape guidance to enhance micro-climate benefits, such as planting deciduous trees on south/west sides of buildings to provide summer shade and allow winter radiant heat.

This is not an exhaustive list but illustrates that the City is actively working to develop and implement policies and programs to enhance our climate resilience. The City also has a Sustainability Commission and staff focused on coordinating sustainability efforts across the organization.

SECTION 8: COVER TYPES

EAW: Estimate the acreage of the site with each of the following cover types before and after development (before and after totals should be equal).

AUAR: The following information should be provided instead:

A. A cover type map, at least at the scale of a USBS topographic map, depicting:
- *Wetlands – identified by type (Circular 39)*
- *Watercourses – rivers, streams, creeks, ditches*
- *Lakes – identify protected waters status and shoreland management classification*
- *Woodlands – breakdown by classes where possible*
- *Grassland – identify native and old field*
- *Cropland*
- *Current development*

B. An "overlay" map showing anticipated development in relation to the cover types; this map should also depict any "protection areas", existing or proposed, that will preserve sensitive cover types. Separate maps for each major development scenario should generally be provided.

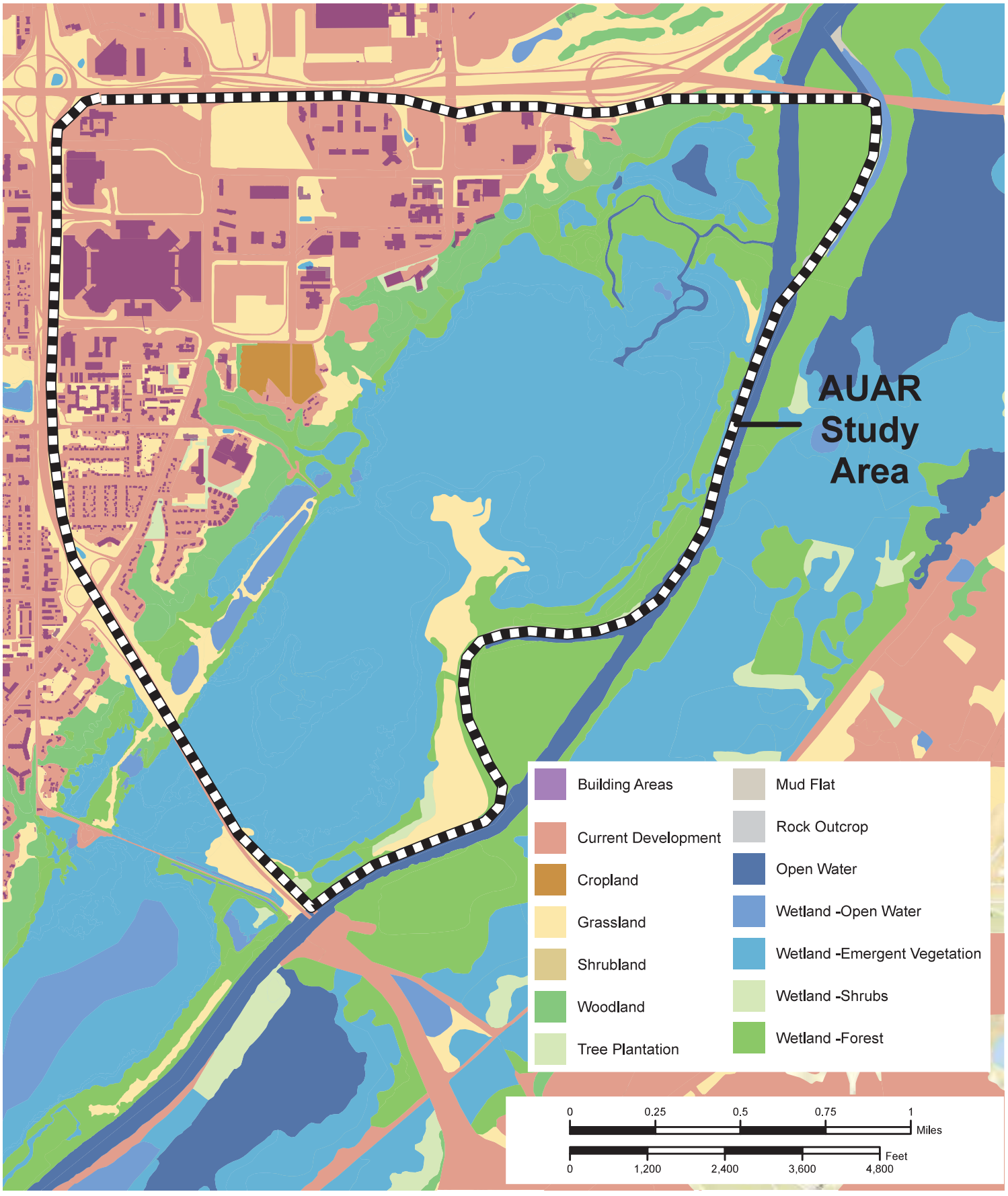
About 38 percent (893 acres) of the 2,350-acre AUAR study area is developable, while 62 percent (1,457 acres) is designated for conservation/open space. Figure 8.1 illustrates the existing cover types. The developable area is generally above the river bluff and includes the cover types: Building Areas, Current Development, Cropland, and some of the Grassland. Much of this area has been developed to some extent. Buildings were removed from several parcels impacted by airport noise and subsequent land use restrictions put into place with adoption of the 2004 MSP Zoning Ordinance. The conservation area includes the areas of the bluff-face and the land and water areas in the river valley below, most of which is contained within the Minnesota Valley National Wildlife Refuge (MVNWR) boundaries. Cover types in these areas include: Woodland, Water, and various types of Wetland. These areas are not expected to change and are subject to development restrictions due to their conservation land use and zoning designations and location within the MVNWR.

Through 2040, cover type is anticipated to change on only two sites in the study area as shown on Figure 8.2. These include: the Kelley property, which is currently farmed and a portion of the "adjoining lands" redevelopment site, which is planned for Mall of America Phase 3 expansion. All other sites forecast to redevelop are currently developed with urban/suburban land uses.

SECTION 9: PERMITS AND APPROVALS REQUIRED

EAW: List all known local, state and federal permits, certifications, and financial assistance for the project. Include modifications of any existing permits, government review of plans, and all direct and indirect forms of public financial assistance including bond guarantees, tax increment financing, and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

AUAR: *A listing of major approvals (including any comprehensive plan amendments and zoning amendments) and public financial assistance and infrastructure likely to be required by the anticipated types of development projects should be given. This list will help orient reviewers to the idea that the AUAR process is only one piece of the regulatory framework that will protect environmental resources. The list can also serve as a starting point for the development of the implementation aspects of the mitigation plan to be developed as part of the AUAR.*



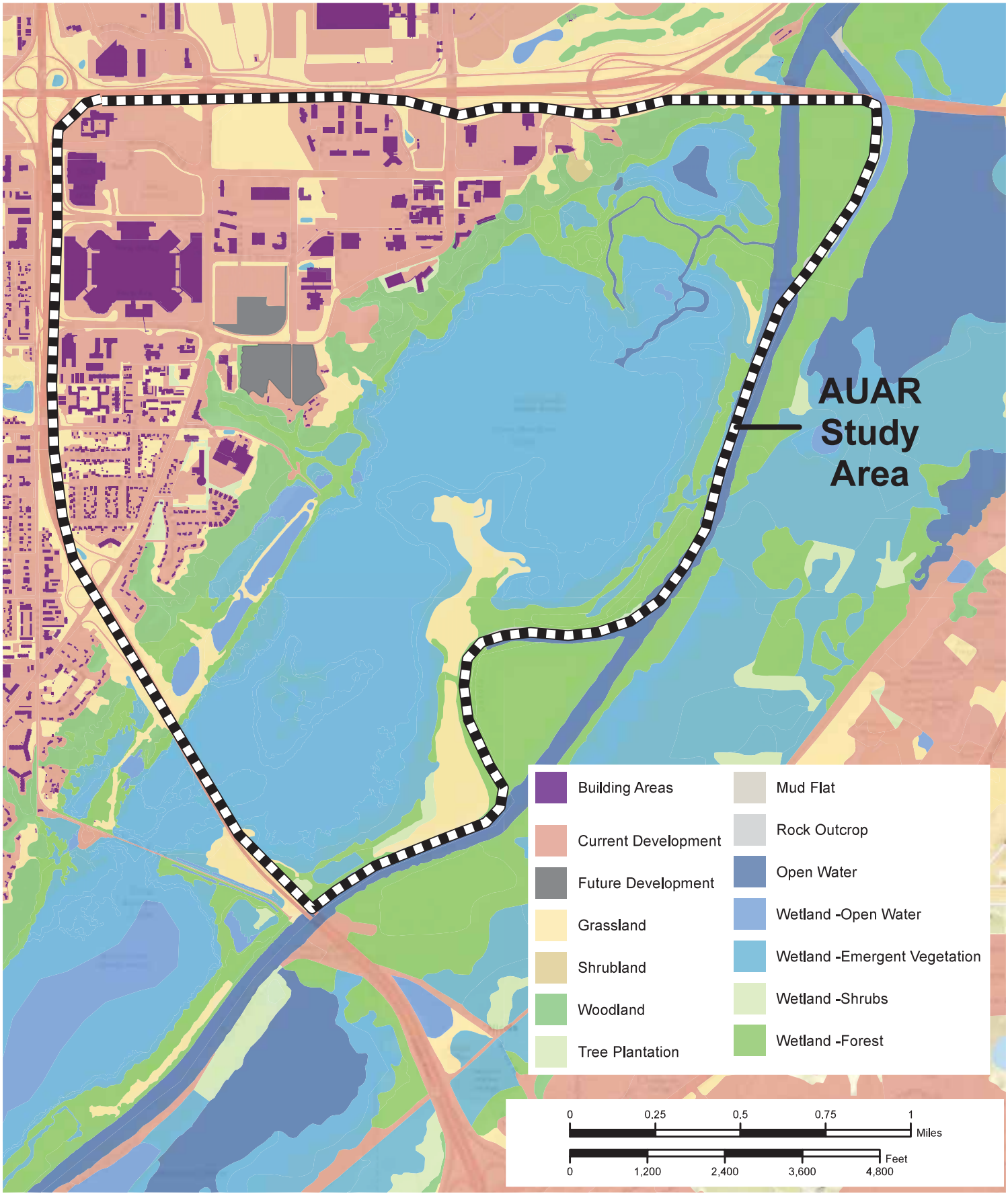
Source: City of Bloomington and MLCCS Land Cover, 2016; ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Cover Types and Existing Development

South Loop District AUAR

FIGURE 8.1



Source: City of Bloomington and MLCCS Land Cover, 2016; ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Future Cover Types

South Loop District AUAR

FIGURE 8.2

Various governmental agencies are involved in the review of development proposals and/or infrastructure projects. The required permits and jurisdiction of review are case-specific, depending on the scope of the project and the phase of review. For example, permits related to construction of specific projects (buildings, infrastructure) are typically reviewed by more agencies than development proposals that can be more conceptual in scope. Table 9.1 lists the various permits and approvals likely to be required for development projects and the unit of government with jurisdiction over specific permits or reviews.

TABLE 9.1: DEVELOPMENT APPROVALS AND PERMITS BY JURISDICTION

Unit of Government	Permit or Approval
Local	
City of Bloomington	AUAR decision and adopt Mitigation Plan; Preliminary and Final Plan Approvals; Grading Permits; Foundation Permits; Water Connection Permits; Sewer Extension Permits; Building Permits; Airport Zoning Permits; ROW Permits
Regional	
Hennepin County	Contiguous plat review/plan review (for parcels adjacent to County roads)
Metropolitan Council	Approval of City of Bloomington Comprehensive Plan and South Loop District Plan (including Land Use, Transportation, and Utilities Elements)
Metropolitan Council Environmental Services	Sanitary sewer extension permit
MSP Airport Zoning Board of Adjustment	Airport Zoning Variances
Lower MN River Watershed District	Grading and drainage and storm water plan review *[note: the LMRWD has granted the City primary permitting authority within their area of jurisdiction.]*
Bloomington-Richfield Watershed Management Organization	Grading and drainage and storm water plan review
State	
Minnesota Department of Transportation	Contiguous Plat review (for parcels adjacent to Mn/DOT trunk highways); Mn/DOT Right-of-Way permits and Mn/DOT drainage permits
Minnesota Department of Health	Plan review; approval of water/sewer plans Approval of well and boring sealing records (if required)
Minnesota Department of Natural Resources	Temporary or permanent groundwater appropriation permit

Unit of Government	Permit or Approval
Minnesota Pollution Control Agency	NPDES Construction Permit, Sanitary Sewer Extension Permit, Noise standards compliance, Indirect Source Permit Revision (no longer required)
Minnesota State Historic Preservation Office	Historic and Archaeological Clearance
Minnesota Office of the State Archaeologist	Identification and authentication of burial/mound sites pursuant to State law (Kelley property only)
Minnesota Indian Affairs Council	Consultation on mound management planning activities (Kelley property only)
Joint MnDOT/Metropolitan Council Interchange Planning Review Committee	Review requests for interchange modifications.
Federal	
Federal Aviation Administration	Air space review (Form 7460) No hazard to navigation determination
Federal Highway Administration	Interstate Modifications and Interstate Access Requests

The City of Bloomington reviews all development proposals and infrastructure projects that occur in the city. Typical entitlement reviews include: preliminary and final plans; zoning and comprehensive plan compliance; plats and subdivisions; and identification of historic resource impacts. Other governmental agencies are involved on projects where they have permitting and/or review jurisdiction. Whether or not agencies beyond the City are required to review proposals at this level will depend on the particulars of the development proposal.

Table 9.2 illustrates other jurisdictions, beyond the City of Bloomington, that may have review authority over permitting of specific projects. The process for permit review generally does not begin until after the overall development project has received approval from the Bloomington City Council to proceed. Permit review typically requires preparation of detailed design and construction plans. Typical permits include: grading permits; water and sewer connection permits; groundwater appropriation permits; and air space review.

TABLE 9.2: REVIEW JURISDICTION BY PLANNED OR PROGRAMMED INFRASTRUCTURE IMPROVEMENT PROJECT

Project	Regional	State	Federal
Roadway			
I-494/24th Avenue	Hennepin County	MnDOT	Federal Highway Administration
I-494/34th Avenue	Metro Transit MAC	MnDOT	Federal Highway Administration
Lindau Lane at IKEA Way and 22nd Avenue			

Project	Regional	State	Federal
American Boulevard at International Drive and Metro Drive East			
24th Avenue Corridor	Hennepin County Metro Transit	MnDOT	Federal Highway Administration
East Old Shakopee Road/28th Avenue	Metro Transit	MnDOT (ICE Report)	
East Old Shakopee Road/33rd Avenue Pedestrian Improvement			
American Boulevard/30th Avenue Signal		MnDOT (ICE Report)	
American Boulevard/28th Avenue			
Sanitary Sewer			
• CIP-12	MCES		
• CIP-13	MCES	MnDOT	
• CIP-14	MCES		
• CIP-27	MCES	MnDOT	
• CIP-29	MCES		
• CIP-30	MCES		
Water			
Misc. distribution pipes and mains		Mn Dept of Health	
New groundwater wells		MnDNR	
Water appropriation permits		MnDNR	

Summary of Public Financial Assistance

The infrastructure projects highlighted above involve public financing. The City and its Port Authority have multiple funding sources that can be used to supplement special assessments to private property. These public sources include Tax Increment Financing (TIF) and the South Loop Development Fund (local liquor and lodging taxes). Grants from other agencies have typically been received to fund infrastructure as well.

SECTION 10: LAND USE

EAW:

A. DESCRIBE:
   i. Existing land use as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, prime or unique farmlands.
   ii. Plans – describe planned land use as identified in Comprehensive Plan (if available) and any other applicable plan or land use, water, or resources management by a local, regional, state, or federal agency.
   iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical areas, agricultural preserves, etc.

B. Discuss the compatibility of the project with adjacent and nearby land uses, zoning, and plans listed in Item 10A above, concentrating on implications for

environmental effects.

C. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 10B above.

AUAR: *No changes from the EAW form.*

A. DESCRIBE:

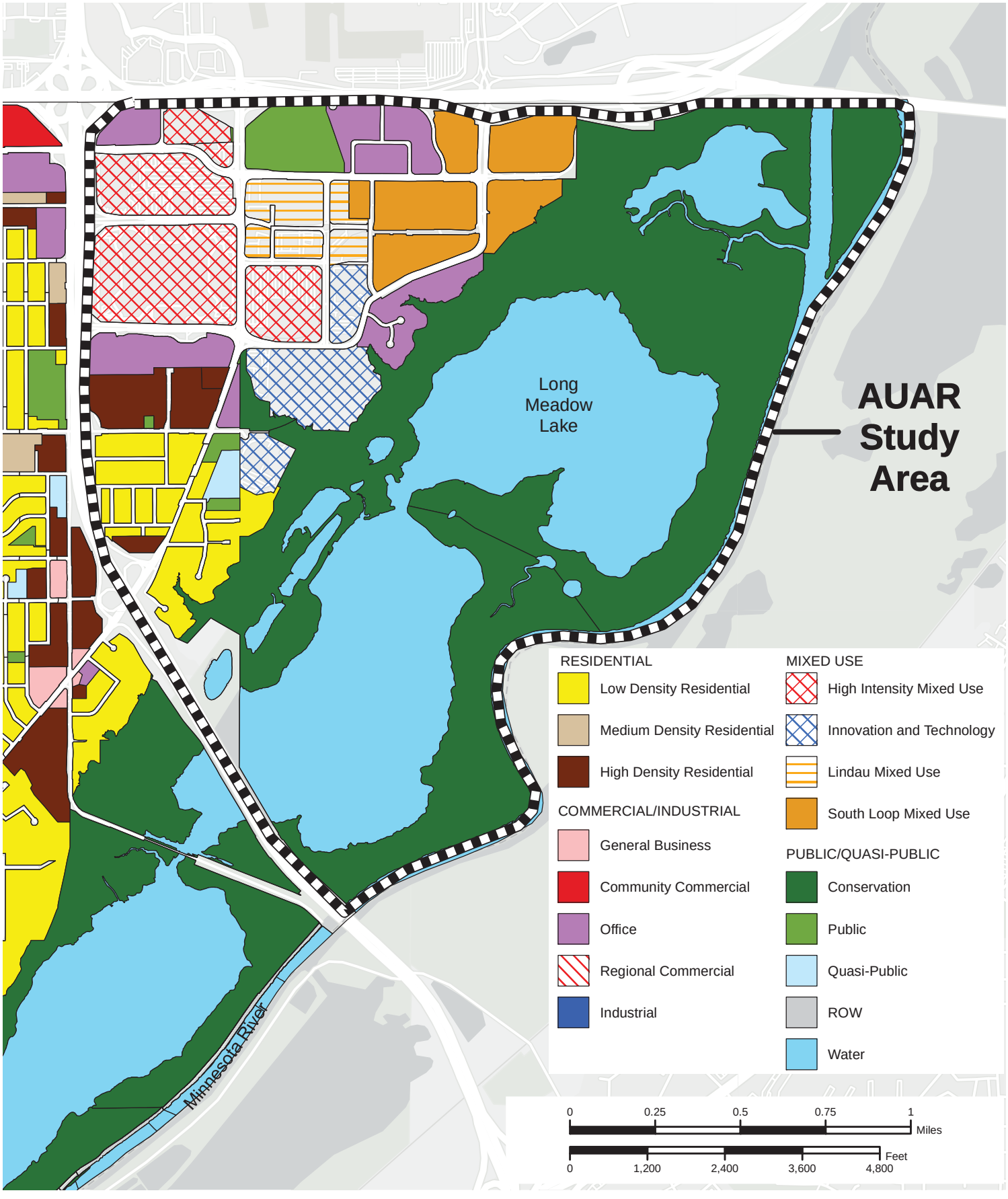
Existing Land Use: The South Loop District (AUAR study area) is projected to accommodate two-thirds of the City's forecast growth. Located in the northeast corner of Bloomington, just south of the Minneapolis-St. Paul International Airport, this area includes an existing and planned mix of retail, office, hotel, and residential land uses. All proposed future urban development will be located in the relatively flat upland area (approximately 890 acres) that lies above the river bluff (760-foot elevation). Over 60 percent of the study area will remain as open space/conservation uses, which includes a portion of the Minnesota Valley National Wildlife Refuge (MVNWR). Figures 10.1 and 10.2 indicate the planned land uses (based on the City's adopted land use guide plan) and current zoning in the study area, respectively.

The development forecasts described in Section 6 (see Table 6.2) reflect what the City believes will be the maximum amount of development at "full development" based on approved plans, current demographic forecasts, land use designations and zoning. While the existing land use and zoning designations accommodate the uses in the updated AUAR development scenario, amendments may be needed to align land use and/or zoning to accommodate specific future redevelopment proposals.

The majority of the upland, developable area is currently or was formerly developed with urban/suburban uses, including housing, retail, office, and industrial development (see Section 8, Cover Types). The AUAR redevelopment scenario identifies eleven sites expected to redevelop by 2040 or 2045. Several of these sites are comprised of multiple individual parcels, some of which have already redeveloped as described under "existing land use" in Table 6.2. The remaining parcels will redevelop in phases. Likewise, most sites have been previously developed for urban/suburban uses. One of the largest sites – the Kelley Farm - has been actively farmed for many decades and much of its natural condition and, potentially, its pre-settlement cultural resources have been altered.

Sites abutting the Minnesota River bluff included: the Kelley Farm/Forest Glen apartment site, the Long Meadow Circle parcels, and the two parcels on the Appletree site. Current development status of these bluff-adjacent properties is described below:

- The Kelley property is currently in farm/residential use and is bordered by the bluff on the south and east. The property owner listed the property for sale several years ago, but to date, no formal redevelopment proposal has been presented. Redevelopment is expected subsequent to the sale of the property and will involve a determination related to cultural preservation of what is known as the Van Ness mound area.



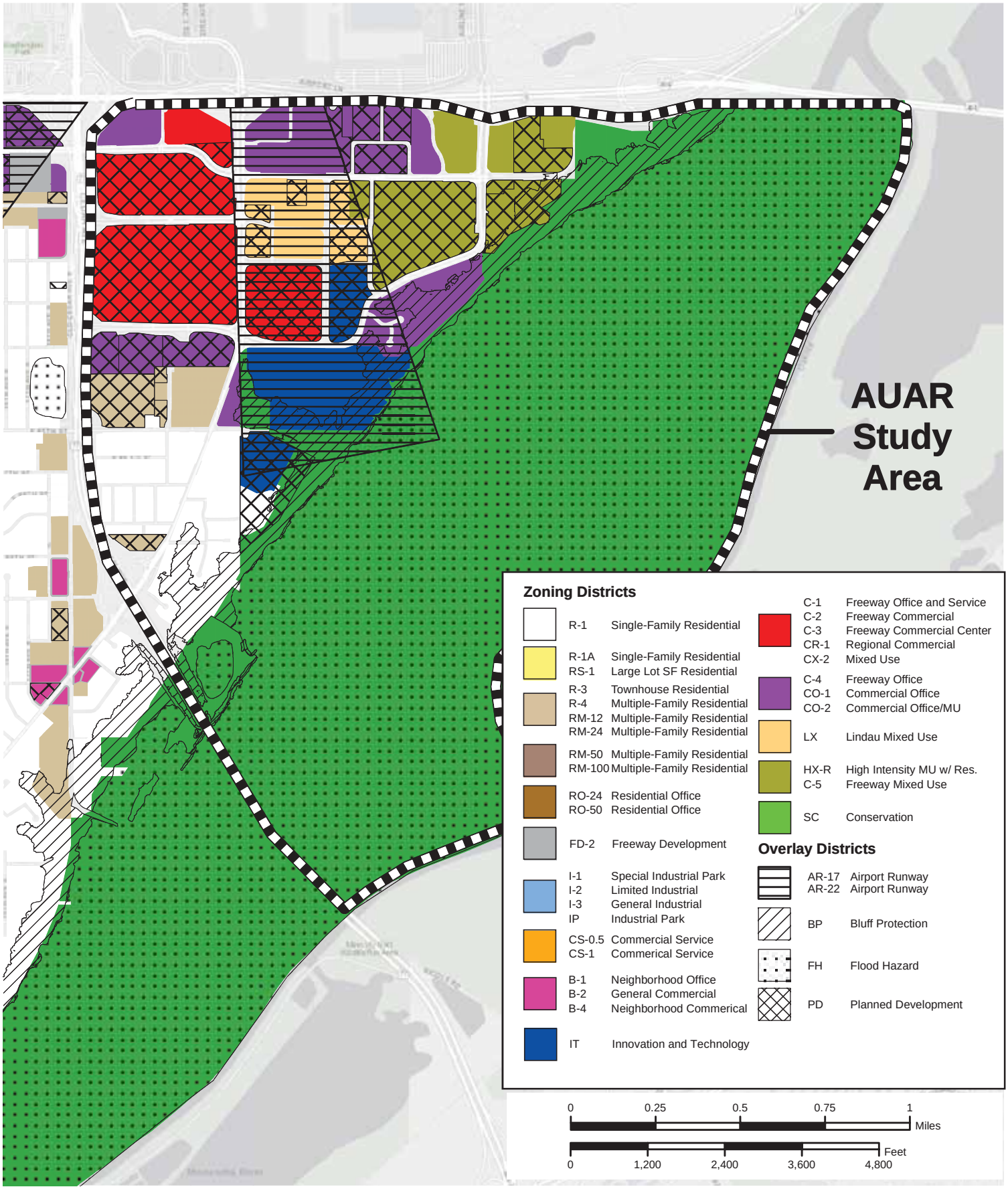
Source: City of Bloomington Land Use Guide Plan, September 2021, ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Planned Land Uses

South Loop District AUAR

FIGURE 10.1



Source: City of Bloomington Zoning Map, September 2021, ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Current Zoning

South Loop District AUAR

FIGURE 10.2

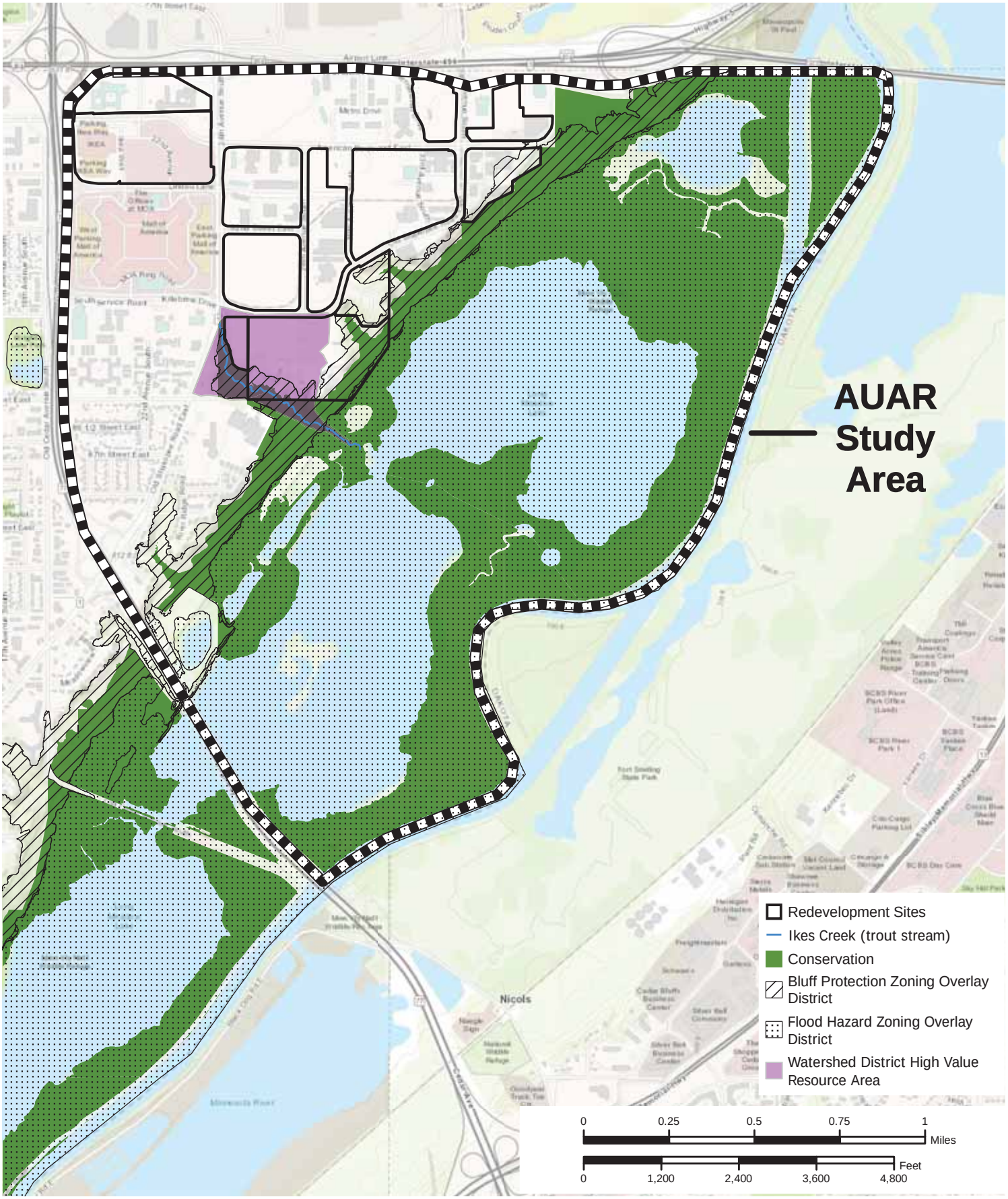
- The Forest Glen apartment site formerly contained a 92-unit apartment building and associated parking lot. Due to noise and safety zoning impacts, the Metropolitan Airports Commission (MAC) purchased the property and worked with the City to zone the area. The apartment building was removed in 2006. The MAC sold this property in 2018, which has been redeveloped with a 182-room hotel and a 35,700 sf commercial entertainment use.
- The 21 parcels on the Long Meadow Circle site were purchased by MAC due to noise considerations in the mid-2000s. The 18 homes have all been removed. The MAC currently has a purchase agreement with an entity seeking to redevelop the properties.
- The Appletree Square site consists of 11 parcels. A phased redevelopment plan was approved for five parcels. Redevelopment projects entitled and under construction include the conversion of the existing hotel (430 rooms) to 229 residential units with retention of 135 hotel rooms and a new building with146 units of senior residential units. Also entitled and advancing to construction in 2022 are 242 new residential units. Entitled plans for future phases include 86 additional residential units.

Portions of the sites listed above are located within the City's overlay zoning districts:

- The *Bluff Protection Overlay* district encompasses areas between the Minnesota River floodplain and the 800-foot elevation contour, as well as areas with steep slopes, as defined by the watershed district. This overlay district is intended to preserve the environmental, historic, and scenic value of the bluff by minimizing physical and visual impacts to the bluff environment. Properties in this district are subject to additional standards that minimize site disturbance (e.g., grading, vegetation removal, erosion control), address stormwater management, promote tree preservation and encourage planting of native species. It is further noted that the LMRWD identifies some areas along the bluff as "high value resource areas" which are subject to more stringent development standards. It is noted that the City's stormwater management regulations exceed those of the LMRWD, and also apply to new development. Together, these regulations will help to mitigate the impacts of future development on areas of significant natural resources in the AUAR study area.
- The *Flood Hazard Overlay* district areas below the bluff and generally prohibits structures, fill or storage of materials or equipment.
- The *Airport Runway Overlay* covers the middle of the study area, roughly between 24th and 30th Avenues and restricts sensitive uses, such as residential development.

The location of these overlay districts is shown on Figures 10.3 and Figure 10.4

Prime/Unique Farmland or Agricultural Preserve Land: The Kelley Farm is the only land in the South Loop District that is currently in agricultural use, primarily as pastureland. The property is not part of any special agricultural land protection program. All of Bloomington, including this property, is located within the Metropolitan Council's Metropolitan Urban Service Area (MUSA) and is planned for eventual urban development. The property is currently for sale. It is anticipated that a future owner will seek to develop the site.



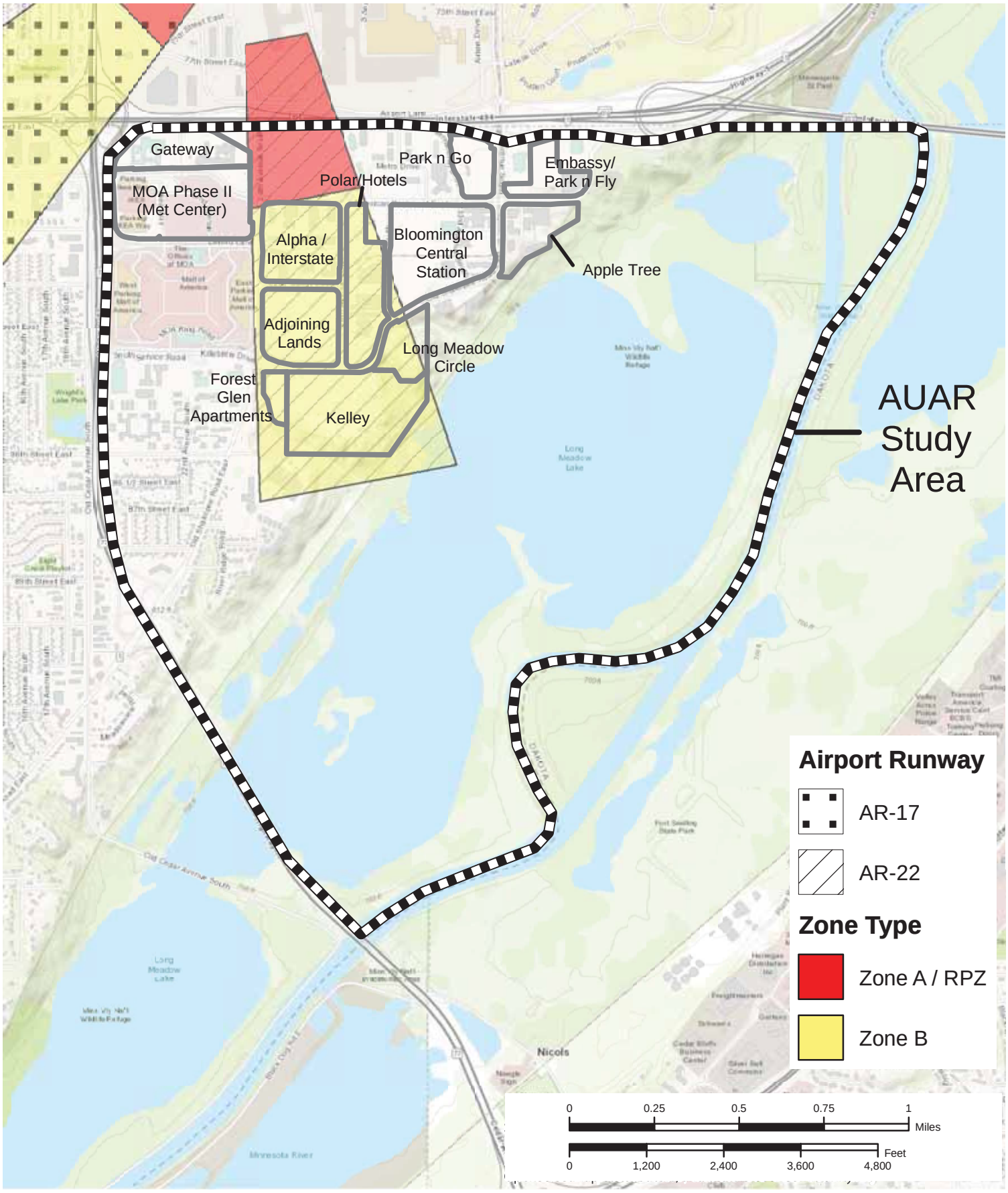
Source: City of Bloomington Planning Division, 2021; ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Overlay Zoning Districts

South Loop District AUAR

FIGURE 10.3



Source: Metropolitan Airports Commission; ESRI World Street Map and Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Airport Runway Overlay Districts

South Loop District AUAR

FIGURE 10.4

Anticipated future development on the Kelley Farm site is described in the AUAR redevelopment scenario (see Figure 6.2 and Table 6.2).

Designated Parks, Recreation Areas or Trails: Park, trail and recreation facilities in or near the South Loop District are shown on Figure 10.5 and include:

- *Central Station Park* – This two-acre park located in the center of the Bloomington Central Station (BCS) development is designed to allow for a range of passive and limited active recreation opportunities. The park will play an important urban design role as a major green space framed by buildings and the BCS LRT Station. It also provides an easily accessible green space for current and future residents, employees, and hotel guests.

- *Forest Glen Park* – This 7.7-acre park encompasses an undeveloped, steep, wooded ravine, including an unnamed stream that has been stocked with trout. The park is planned to remain a passive, natural park, with potential addition of a natural-surfaced trail. To date, the unnamed stream and adjacent tributaries have not been added to the Minnesota Department of Natural Resources (DNR) designated trout stream list.

- *River Ridge Playlot and Tennis Courts* – This 2-acre playlot includes two tennis courts, playground equipment, and a soccer field. Parking is located on the adjacent Evergreen Community Church site to the north. This park mostly serves the surrounding residential neighborhood, south of E. 86th Street.

- *Minnesota Valley National Wildlife Refuge (MVNWR)* encompasses the area at the bottom of the river bluffs in the east and south portion of the AUAR study area. The MVNWR, administered by the U.S. Fish and Wildlife Service, extends along the entire southern border of Bloomington and stretches from Fort Snelling State Park, north of the South Loop District, to LeSueur MN. The MVNWR headquarters offices and main visitors center is located at the top of the bluff in the northeast corner of the AUAR study area. The MVNWR offers a variety of nature-based recreation and educational activities. There are currently three trailhead accesses located in the South Loop District. Additional trailheads are envisioned in the South Loop District Plan adopted in 2012. The City will continue to explore opportunities to provide additional trailheads elsewhere in the South Loop and will work cooperatively with U.S. Fish and Wildlife Service staff to identify appropriate locations and designs.

- *Fort Snelling State Park*, is located northeast and outside of the South Loop District. The primary entrance and visitors center is accessed off TH 5 via Post Road, a few miles north of the South Loop District. The State Park offers a variety of nature-based recreation and education activities, including hiking and cross-country ski trails.

- *Nine Mile Creek Regional Trail* – This 15-mile regional trail extends between the cities of Hopkins and Bloomington. The Bloomington segment will pass through the South Loop District; utilizing existing infrastructure built along American Boulevard. The east terminus of the trail is the MVNWR Visitors Center east of 34th Avenue.

- *Nokomis-Minnesota River Regional Trail* – This trail extends from Lake Nokomis Parkway in Minneapolis to the Minnesota River; mostly following the Old Cedar Avenue alignment through Richfield and Bloomington. The north end connects to the Minneapolis Grand Rounds – a national scenic byway encircling the city. The trail extends south to the Old Cedar Avenue Bridge. The renovated bridge provides connections to the Minnesota River Greenway and Big Rivers Regional Trail in Dakota County and will also connect to the planned Minnesota Valley State Trail.

- *Minnesota Valley State Trail* – The Bloomington segment of this State Trail will be located within the MVNWR, in the bottomlands below the bluff. Originally authorized in 1969, several segments of this 72-mile trail are in place, though the Bloomington segment has not been completed. Funding was appropriated in 2014 for the Minnesota Department of Natural Resources (DNR) to prepare plans and complete required environmental documentation for the project. A cultural resource field investigation was completed for this project in 2016. Findings from the field investigation are described in Section 15. Construction on the first Bloomington segment of the State Trail was completed in 2020. This approximate 1.7-mile segment extends between Lyndale Avenue and the Xcel powerline corridor (roughly Park Avenue), a few miles west of the South Loop District.

The proposed AUAR development will not have any direct negative effects on the MVNWR. However, the quantity and quality of runoff discharged to the Long Meadow Lake wetland complex can influence the quality of floodplain habitat. As described in Section 12, the forecast development within the South Loop District is not anticipated to result in substantial changes in water quantity or quality of discharges to the Long Meadow Lake complex. In fact, planned onsite and regional storm water treatment facilities will likely result in an overall improvement in the quality of storm water discharges to Long Meadow Lake, when compared to existing conditions.

Adopted Plans and Regulations Applicable in South Loop District

Since the 2002 AUAR was adopted, several amendments have been made to the City's land use and zoning regulations that apply to new development in the study area. Key updates, in reverse chronological order, include:

- Bluff District Overlay Amendments – The BP zoning district standards and boundaries were amended in 2020 (Ordinance 2020-19). The amendments expanded the overlay district by adding areas with steep slopes. Amendments also included a new requirement that certain land disturbing activities be certified by a qualified professional to ensure best management practices for erosion control and preservation of existing hydrology and drainage patterns.

- The required 10-year update to the City's Comprehensive Plan was adopted in 2019 (Resolution 2019-52). This identified policy guidance and priorities regarding to development and public investments through 2040. No modifications to land use

Source: City of Bloomington Parks Division, May 2021; ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Parks and Trails

South Loop District AUAR

FIGURE 10.5

designations were recommended with this update.

- *Minnesota River Valley Natural and Cultural Systems Plan*, approved in 2018 as a follow up to the *Minnesota River Valley Strategic Plan* (2016), this plan identifies areas in the River Valley that are of highest priority for protection and describes a variety of management strategies. The plan focuses on city-owned land below the bluffline (approximate 760-foot elevation), much of which is located within the Minnesota Valley National Wildlife Refuge (MVNWR) and guided for conservation uses.

- *Minnesota River Valley Strategic Plan*, approved in 2016, this plan described a strategic framework and management priorities for city-owned land within the Minnesota River Valley. The plan recommended four more detailed plans to identify specific implementation actions around: natural and cultural resources, signage, trails, and maintenance.

- *South Loop District Plan*, adopted in August 2012 (Resolution 2012-97), established a framework for development in the district through 2050. The district plan established two new land use categories and recommended creation of two new corresponding zoning districts (Lindau Mixed Use district and Innovation and Technology district). The land use designations were adopted in August 2012 (Resolution 2012-96). The Lindau Mixed Use zoning district was adopted in 2013 (Ord. 2013-26) and the Innovation and Technology zoning district was adopted in 2019 (Ord. 2019-2). Figures 10.1 and 10.2 illustrate the current land use and zoning designations in the South Loop District.

- Adoption of amendments to the Comprehensive Plan and City Zoning Ordinance in 2004 to require high intensity mixed uses, including residential uses, in the eastern South Loop District near LRT Stations and along 34th Avenue. The amendments created a new land use category called “Airport South Mixed Use”, now called “South Loop Mixed Use” and created a new zoning district called “HX-R, High Intensity Mixed Use with Residential”.

- In 2004 the City adopted Airport Runway Overlay Districts and related height regulations to provide consistency and reference points to the 2004 MSP Zoning Ordinance. The City’s two airport overlay districts correspond to the safety zones for MSP Runway 4-22 and MSP Runway 17-35 (see Figure 10.4). The AR-22 overlay affects properties beyond the AUAR study area (south and west of the I-494 and TH 77 interchange). The AR-17 overlay affects the central portion of the AUAR study area. Within the AR-17 Overlay District, development restrictions apply as described below:
  - Land use regulations prohibit all structural uses within Safety Zone A, except for necessary aircraft navigational structures, as provided for in the 2004 MSP Zoning Ordinance.
  - Uses prohibited within Safety Zone B, as provided in the 2004 MSP Zoning Ordinance, include: amphitheaters, campgrounds, churches, fuel storage farms,

hospitals, nursing homes, stadiums, theaters, trailer courts, residential uses and ponds above the 800-foot elevation (mean sea level).

- o Height regulations are based on the 2004 MSP Zoning Ordinance regulations for Airspace Zones.
- o FAA review of development proposals is required and has the potential to impact development building elevations/heights.

- Substantial update of the 2004 MSP Airport Zoning Ordinance by the MSP Joint Airport Zoning Board (JAZB). The JAZB initiated an update of the 1984 MSP Zoning Ordinance in September 2003 to prepare for future operations on the new north-south runway—Runway 17-35, which opened in October 2005. The resulting amendments to the MSP Airport Zoning Ordinance was adopted by the JAZB in 2004 and approved by the Minnesota Department of Transportation. Key elements of the *2004 MSP Zoning Ordinance* include establishment of Airport Safety Zones and Airspace Zones that regulate land uses and structure height for the MSP north-south runway—Runway 17-35.

Proposed future development is not expected to create environmental hazards. Section 13 describes existing and potential issues related to contamination and generation and storage of hazardous materials in the study area.

B. COMPATIBILITY

Land use types and densities included in the AUAR development scenario described in Section 6, are consistent and compatible with adopted plans and regulations. Any regulatory deviations from code requirements would be considered in conjunction with individual redevelopment proposals to ensure appropriate mitigation of any potential negative impacts of a development proposal. Similarly, the City intends to update the South Loop District Plan in 2023 and will amend the Comprehensive Plan, as warranted, to update and align forecasts.

C. MEASURES TO MITIGATE POTENTIAL INCOMPATIBILITIES

As described above, City regulations require mitigation of potential project impacts. In addition, planned infrastructure improvements have been identified to serve forecast future development. These are described elsewhere in this report (i.e., Sections 6, 12, and 20) and in the Mitigation Plan (Appendix H).

SECTION 11: GEOLOGY, SOILS AND TOPOGRAPHY/LANDFORMS

EAW:

A. Geology – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could

have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

B. Soils and Topography – Describe the soils on the site, giving the NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

AUAR: A map should be included to show any groundwater hazards identified. A standard soils map covering the area should be included.

A. GEOLOGY

The South Loop District does not include any geologic features (karst topography, shallow limestone, etc.) that would result in potential groundwater hazard conditions.

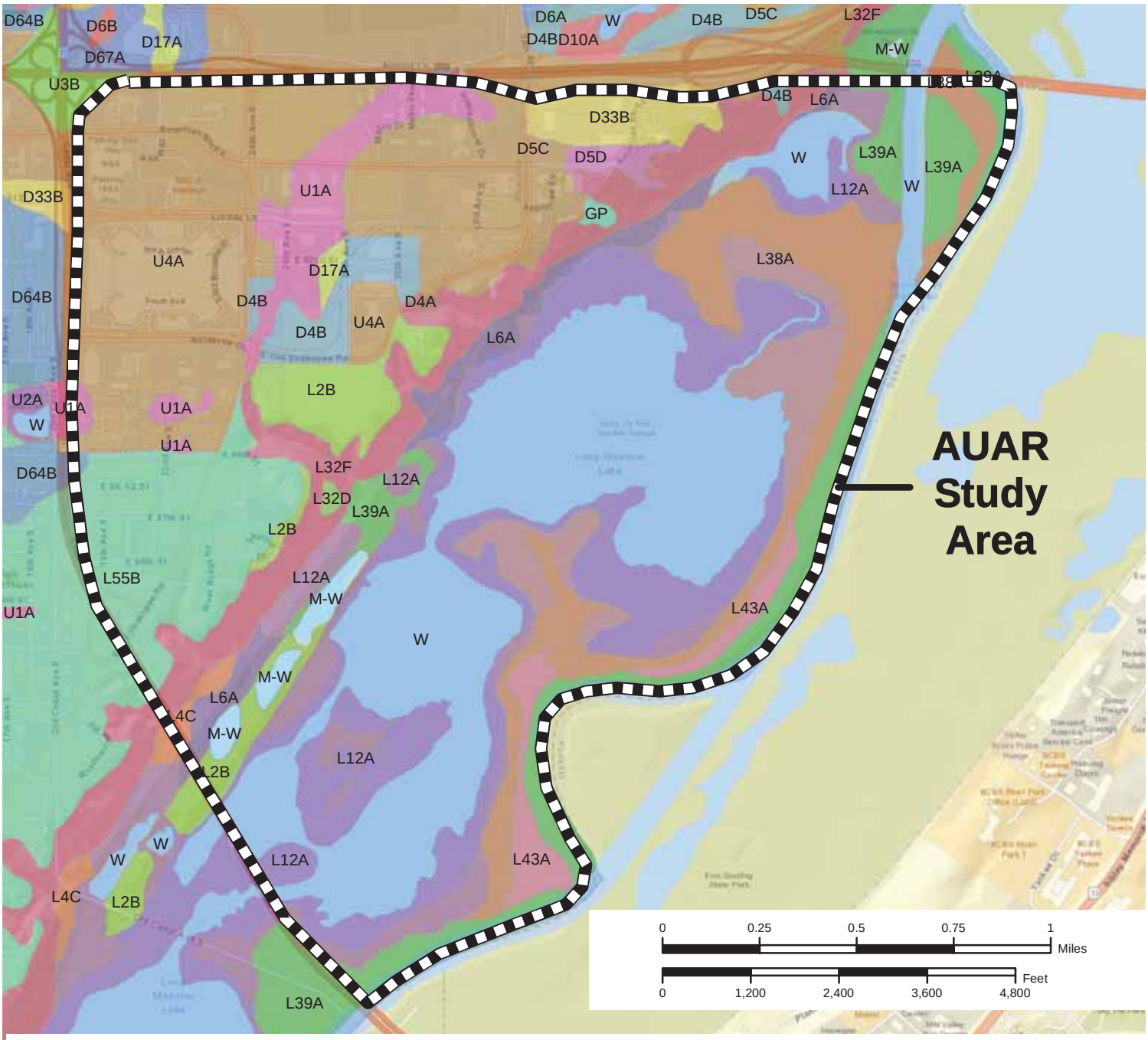
B. SOILS AND TOPOGRAPHY

Soils information for the study area was obtained from the Soil Survey of Hennepin County, MN produced by the U.S. Department of Agriculture and Natural Resource Conservation Service, 2001. The most current information on soils was obtained from the USDA Web Soil Survey. Locations of soil types in the study area, including slope percentages for each soil subgroup, are illustrated on Figure 11.1.

The upland area (defined approximately by the 800-foot contour) consists of sandy, well-drained soils with moderate to rapid permeability. These soils are located in areas that are generally flat, with slopes less than 8 percent. Lowland and floodplain soils consist mostly of marsh (peat) with some clay loam, loam, and mixed alluvial lands. These soils are located in areas that are mostly level and vary from wet all year to occasionally flooded.

An area of steep slopes (defined as 12 percent or greater), comprises the blufflands that extend through the study area from the southwest to the northeast corners and separate the upland (developable) area and the Minnesota River valley bottomlands (development restricted) conservation area. According to the Minnesota Department of Natural Resources (DNR), karst features have been identified in the vicinity of Forest Glen Park and Ike's Creek (see Figures 10.3 and 10.5). This area has been designated by the Lower Minnesota River Watershed District as a "high value resource area". It is also mapped as a Minnesota Biological Survey Site of Moderate Biodiversity Significance.

As discussed in other sections, the City has various regulatory tools in place to ensure



Source: U.S. Dept. of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed 09/28/2021; ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Soils

South Loop District AUAR

FIGURE 11.1

effective stormwater management and prevent groundwater contamination. These tools are discussed in greater detail in Section 12 and in the Mitigation Plan (Appendix H).

SECTION 12: WATER RESOURCES

EAW: WATER RESOURCES:

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.
   i. Surface water – lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.
   ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.
   i. Wastewater – For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.
      a) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.
      b) If the wastewater discharge is to a subsurface sewage treatment system (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system. If septic systems are part of the project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.
      c) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects.

ii. Stormwater - Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post construction including how the project will affect runoff volume, discharge rate and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.

For projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.

iii. Water appropriation – Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. F connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for project diminish in quantity or quality, such as reuse of water, connections with other water source, or emergency connections.

iv. Surface Waters
    a) Wetlands – Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modifications of wetlands,

including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

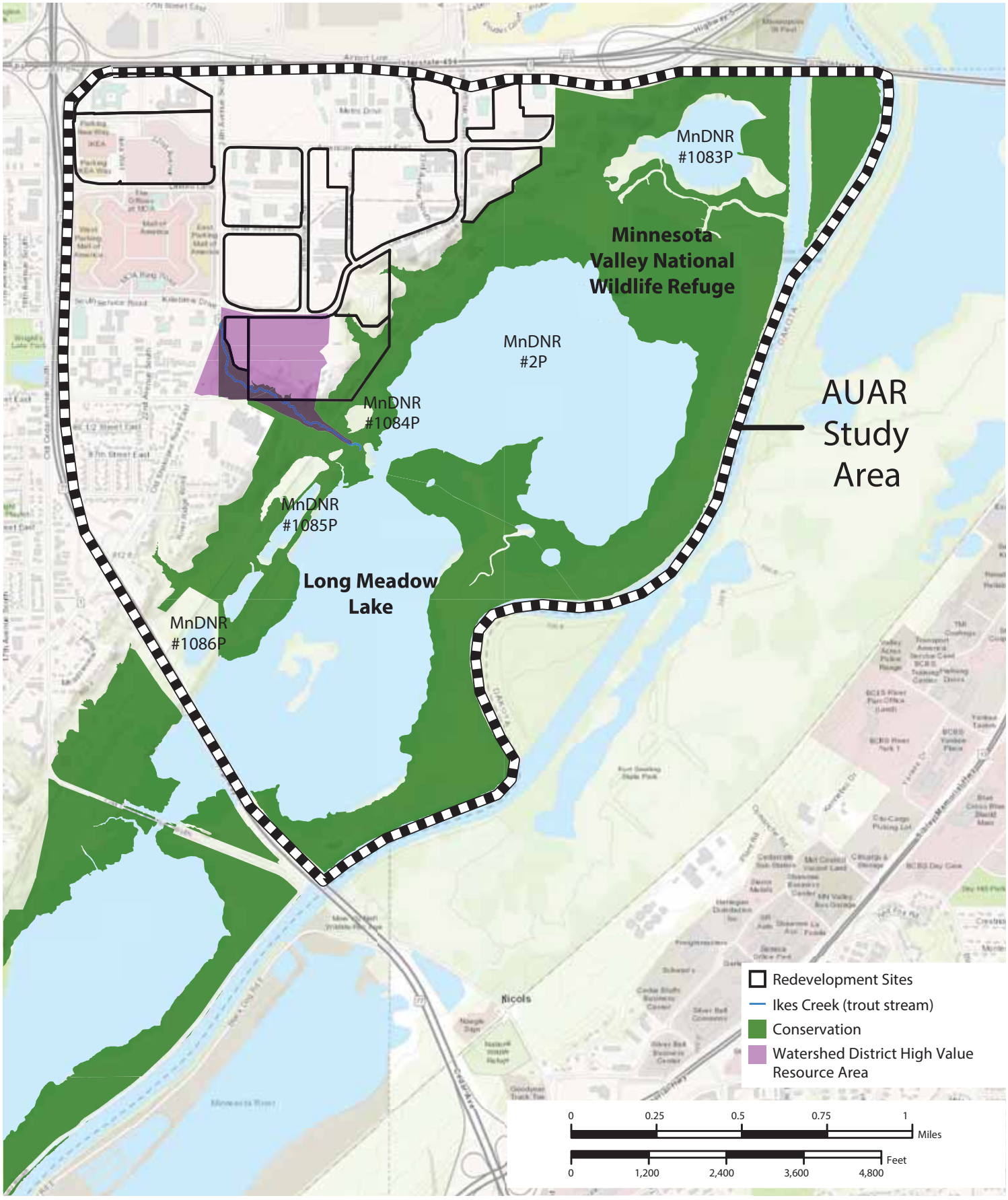
b) Other surface waters – Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditch) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modifications of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

AUAR: The information called for on the EAW form should be supplied for any of the infrastructure associated with the AUAR development scenarios, and for any development expected to physically impact any water resources. Where it is uncertain whether water resources will be impacted depending on the exact design of future development, the AUAR should cover the possible impacts through a "worst case scenario" or else prevent impacts through the provisions of the mitigation plan.

A. SURFACE AND GROUND WATER FEATURES

Surface Waters:

The primary surface water feature in the study area is the Minnesota River, which forms the east-southeast border of the South Loop District. The Minnesota River bluff serves as a transition zone between the upland developed area and the river bottomlands. Land at the bottom of the bluff includes wetlands and bottomlands – as well as the Minnesota River - which together are home to a number of fish and wildlife species, described in greater detail in Section 14. Much of the valley below the bluff is located in the Minnesota Valley National Wildlife Refuge (MVNWR). At the base of the bluff are lowland woods and the floodplain wetland complex habitat that make up the Long Meadow Lake management unit of the MVNWR. There are several identified DNR Public Waters in the floodplain (see Figure 12.1).



Source: City of Bloomington Planning Division, 2021; ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Surface Waters

South Loop District AUAR

FIGURE 12.1

It is noted that the Minnesota River is listed on the Minnesota Pollution Control Agency's (MPCA's) Inventory of Impaired Waters. It is impaired for turbidity, polychlorinated biphenyls in fish tissue, dissolved oxygen, mercury, and in 2016 the MPCA listed the Minnesota River as impaired for nutrients. The impairment dictates increased stormwater treatment during construction and requires additional increased permanent treatment post-construction. These requirements were not in place in 2002 when the original South Loop AUAR was adopted. In addition to the above impairments, the South Metro Mississippi River Total Suspended Solids (TSS) TMDL, which includes the Lower Minnesota River, received EPA approval on 4/26/2016. Bloomington is in a watershed subject to a target load of 154 pounds per acre per year for the MS4-regulated area which includes the South Loop District. It has been determined that Bloomington meets this TMDL, which has been reported to the MPCA.

There is a spring-fed stream located south and east of East Old Shakopee Road and 24th Ave, known by some locally as "Ike's Creek". It is located on land owned by the City of Bloomington, Kelley Farm property, and the U.S. Fish & Wildlife Service (USFWS). The USFWS and the Minnesota Department of Natural Resources (DNR) stocked the stream with heritage-strain brook trout in 2007. The DNR has been evaluating the fish routinely and have found that the stream is supporting a healthy population of brook trout that have been reproducing naturally. To date, the DNR has not added this unnamed stream and an adjacent tributary to the designated trout stream list (see Figure 12.1). It is shown in the Lower Minnesota River Watershed District's (LMRWD) *Watershed Management Plan* as a "trout water" and the City will continue to enforce current regulations to minimize development impacts on the stream and bluff habitat. The LMRWD also designates the area encompassing this stream as a "high value resource area" subject to more stringent development standards. It is noted that the City's stormwater regulations meet or exceed those of the watershed district.

The City of Bloomington has both floodplain zoning (Flood Hazard Overlay District) and shore area management regulations (Article IX of the Bloomington Zoning Code) that are in effect throughout the City. In the South Loop District, these regulatory measures apply to the Minnesota River and Long Meadow Lake areas within the designated floodway and adjoining floodway fringe. These areas are generally located below the 722-foot elevation and are designated for Conservation land uses and are zoned Conservation District (SC) with Flood Hazard Overlay District (FH) (see Figures 10.1, 10.2, and 10.3). Development is prohibited below the 760-foot elevation and no structures are anticipated on land within the Conservation or FH zoning districts or in areas covered by the City's shore area regulations.

In 2016, the City amended its FH Overlay District to align with Federal Emergency Management Agency (FEMA) requirements, which were updated in 2016. Rezonings (map amendments) were also completed to adjust the boundaries of the FH Overlay District to align with the updated Flood Insurance Rate Maps (FIRM).

There are two watershed management jurisdictions in South Loop: the Richfield Bloomington Watershed Management Organization and the Lower Minnesota Watershed District. Figure 12.2 illustrates the boundaries of their physical jurisdictions in the South Loop. Both have adopted new goals and policies that will have an effect on the character and form of future development.

- *Richfield Bloomington Watershed Management Organization* adopted an update to their Watershed Management Plan on March 5, 2018 and now has a policy that encourages low impact development (LID) and stormwater management practices to limit total suspended solids, surface water runoff volume, and phosphorus consistent with state and local standards.
- On October 24, 2018, the *Lower Minnesota River Watershed District* adopted their third generation Comprehensive Watershed Management Plan (2018-2027). On February 19, 2020, the LMRWD adopted Rules to govern soil erosion and sediment control, floodplain and drainage alteration, stormwater management, and development on steep slopes. Also in 2020, Bloomington received a Municipal Permit from the LMRWD delegating authority to the City to implement Rules pertaining to erosion and sediment control, stormwater management, and development on steep slopes.

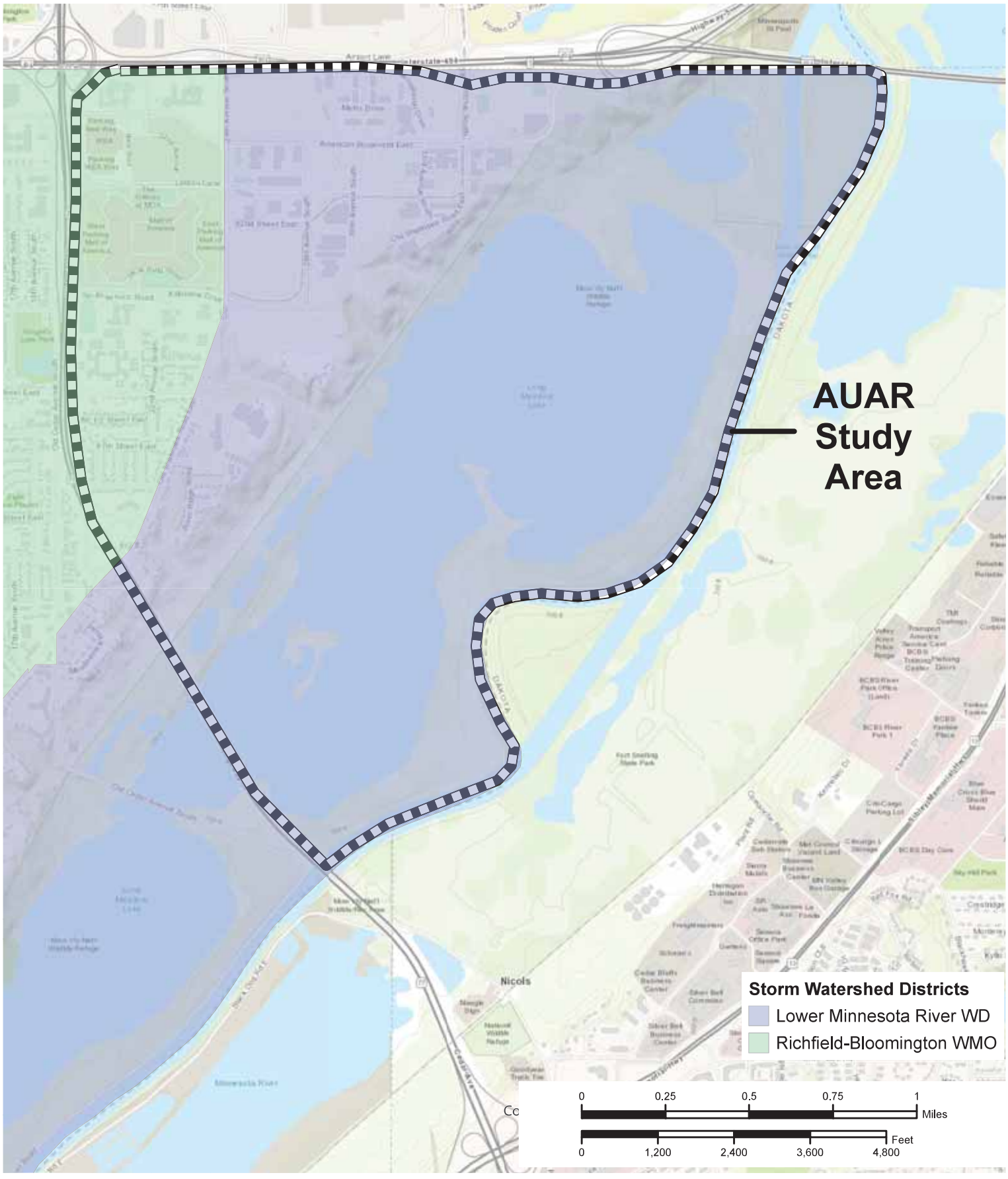
Groundwater and Wells:

Bloomington's public water supply is derived from ground and surface water. Groundwater is provided by six deep wells located in the west half of the City. None of the wells are located in the South Loop District (AUAR study area). Five of the six wells draw water from the Prairie du Chien-Jordan aquifer.

One site identified for future redevelopment (Kelley Farm property) contains an existing onsite well for domestic use. When redevelopment occurs, this well will be sealed in accordance with Minnesota Department of Health (MDH) procedures and requirements. The City has records of private well locations (drinking, dewatering and monitoring) and status because of its history of permitting and inspecting wells since the 1950s. The City has procedures in place to properly locate unknown wells and have them sealed before demolition permits are issued. Currently, there are no active enforcement cases regarding ground water contamination.

While most development proposed in the updated AUAR development scenario will connect to the public water system, new water supply wells may be required to serve some sites. As recommended in the 2017 *Water Supply Plan*, the City will actively engage with the public and industrial water users to encourage water conservation practices for both publicly and privately supplied water. While MDH and the City are the permitting authority for wells, enforcement of any water conservation efforts for private wells falls to the DNR, who also has authority to alter well appropriations as they deem appropriate.

Planned development within most properties in the South Loop District would not likely include construction below the groundwater table (estimated to be at 10 to 25 feet), with



Source: City of Bloomington, 2021; ESRI World Street Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Watershed Management Jurisdictions

South Loop District AUAR

FIGURE 12.2

the possible exception of building foundations in some locations. If foundations are at depths below the groundwater table, temporary dewatering would be required. If utilized, temporary dewatering wells would require permits from the DNR (water appropriation) and the City of Bloomington and MPCA (National Pollutant Discharge Elimination System Permit (NPDES) for water discharge). As noted in the 2001 Mall of America Expansion EIS, if dewatering is required at the MOA Phase 2 site (f/k/a Met Center), testing of groundwater for contamination may be required prior to the MPCA issuing the NPDES permit for the site.

Additionally, there are currently two industrial properties that utilize private wells to supplement their public water supply to operate production facilities: Polar Semiconductor and SkyWater Technology. In 2020, they used 130 million gallons and 268 million gallons and have obtained DNR appropriation permits for up to 250 MGY and 440 MGY, respectively. Any expansion of groundwater appropriation for these industries would need to be reviewed by the DNR for its impact on groundwater levels, surface water levels and potential impacts to protected features such as fens, trout streams (if so designated), etc., as well as surface water quality. This review, and its findings, would require approval by both the DNR and the MPCA.

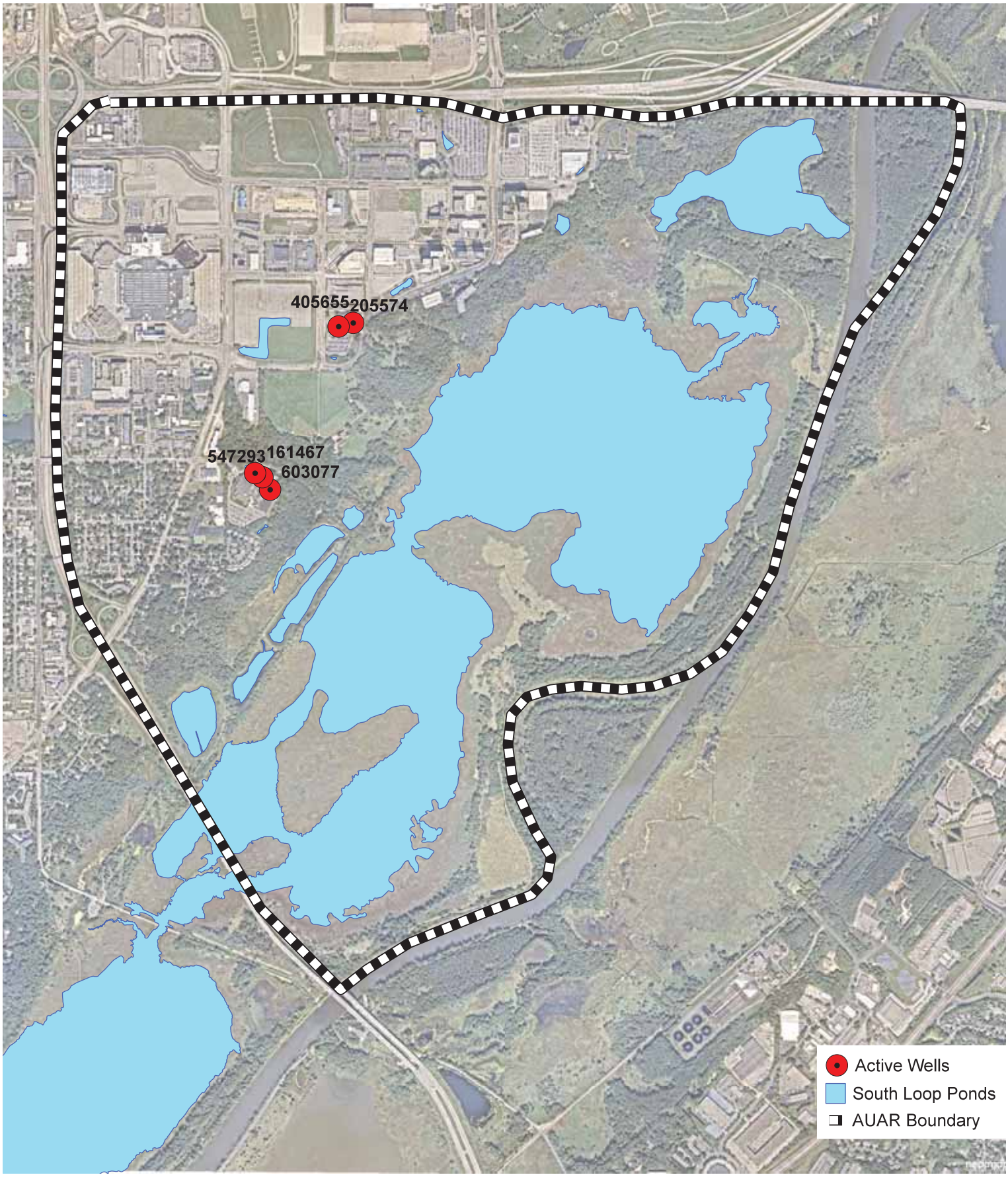
Because the water supplied by these private industrial wells is isolated from the public water supply system, it is not expected to affect future water demand from the public system. Active wells are shown in Figure 12.3 and corresponding data for these wells is described in Table 12.1 below. It is also noted that the DNR installed a monitoring well near the headwaters of Ike's Creek.

Table 12.1: Active Private Industrial Wells with DNR Permits

Well Number	Permit Number	Annual Water Appro-priation (MGY)	Effective Date	Landowner	Max. Flow (gpm)	Well Depth	Aquifer
205574	1973-1413	250	8/5/2011	Polar Semiconductor	1080	385	Prairie du Chien-Jordan
405655	1973-1413	250	8/5/2011	Polar Semiconductor	0	405	Prairie du Chien-Jordan
161467	1986-6091	440	6/7/2017	SkyWater Technology	600	381	Prairie du Chien-Jordan
547293	1986-6091	440	6/7/2017	SkyWater Technology	600	400	Prairie du Chien-Jordan
603077	1986-6091	440	6/7/2017	SkyWater Technology	500	402	Prairie du Chien-Jordan

B. DESCRIBE EFFECTS FROM PROJECT ACTIVITIES

All anticipated future development in the South Loop District will occur on sites, or portions of sites, located in the flat upland area of the district. Nearly all sites anticipated for future development are currently developed with urban/suburban land uses. All future development must comply with applicable regulations and permit requirements in effect at the time of development. The bluff and bottomlands along the Minnesota River are guided



Source: City of Bloomington, 2021; Nearmap, Fall 2021

CITY OF BLOOMINGTON MINNESOTA

Active Wells

South Loop District AUAR

FIGURE 12.3

and zoned for Conservation (see Figures 10.1 and 10.2). Development in this area is limited to conservation and recreational uses. Only buildings and structures accessory to those primary uses are allowed through approval of conditional use permits (e.g., nature centers, parking lots, utilities).

Portions of three future redevelopment sites are within the Bluff Protection Overlay District, which applies to land along the bluff between the 722-foot and 800-foot elevation contours. Development is prohibited below the 760-foot elevation. The BP zoning overlay also stipulates erosion control measures, restrictions on tree removal, larger structure setbacks, and limits maximum impervious coverage. In addition, all development in the South Loop is subject to the City's stormwater management regulations that require discharge rates to be maintained at, or below, pre-development over-the-bluff discharge rates.

Potential effects of forecast future development in the study area on wastewater and the public water supply, stormwater, groundwater, and surface waters are described below.

Wastewater

The current domestic wastewater flows from the South Loop District are generated primarily by commercial and residential development. The average daily flows for these existing commercial and residential developments, including estimated average daily flows for approved commercial and residential development projects that are under construction, is about 2.38 MGD (million gallons per day). A few industrial properties in the South Loop District currently generate another 0.45 MGD of wastewater flow. Therefore, the total current average daily wastewater flow from the South Loop District is about 2.83 MGD.

Future wastewater flows (year 2040 and beyond) were calculated by utilizing unit flow rates derived from the Metropolitan Council Sewer Availability Charge (SAC) parameters, multiplied by each of the updated development units reflected in the updated AUAR future development scenario described in Section 6. It is estimated that forecast development could contribute an additional 1.28 MGD of domestic flow and another 0.03 MGD of industrial flow, for a total increase of 1.31 GMD. Therefore, the future total average daily wastewater flow generated by forecast development in the South Loop District may increase to about 4.14 MGD, if and when all anticipated future development occurs.

Onsite Systems: The Kelley Farm site contains the only remaining onsite sewage system in the South Loop District. It is anticipated that when the site is redeveloped the onsite system will be removed and an extension of the public sewer system will be installed to serve the new development. No additional onsite systems should be installed. There is also no need for liquid animal manure disposal currently or in the future within the South Loop District.

Wastewater Treatment: Wastewater from the South Loop District is collected in Bloomington's public wastewater system and directed to a Metropolitan Council Regional Interceptor, located west of TH 77 and the AUAR study area. As mentioned in the 2017

AUAR, after abandonment of the Metropolitan Council's lift station in that area, City staff worked with the Metropolitan Council on re-conveyance of several segments of the Metropolitan Council's Regional Interceptors. In 2015 and 2017 several of those lines were rehabilitated and ownership transferred to the City of Bloomington. Other interceptor lines were abandoned in place.

Wastewater flows from the South Loop District are treated at the Seneca Wastewater Treatment Plant, which is owned and operated by the Metropolitan Council Environmental Services (see Figure 12.4). The Seneca Wastewater Treatment Plant has a capacity of 32 MGD and currently treats an average of 21.9 MGD. Therefore, it appears that there is adequate capacity to treat the future estimated additional average daily wastewater flow (1.31 MGD) generated by forecast development in the South Loop District to year 2040 and beyond.

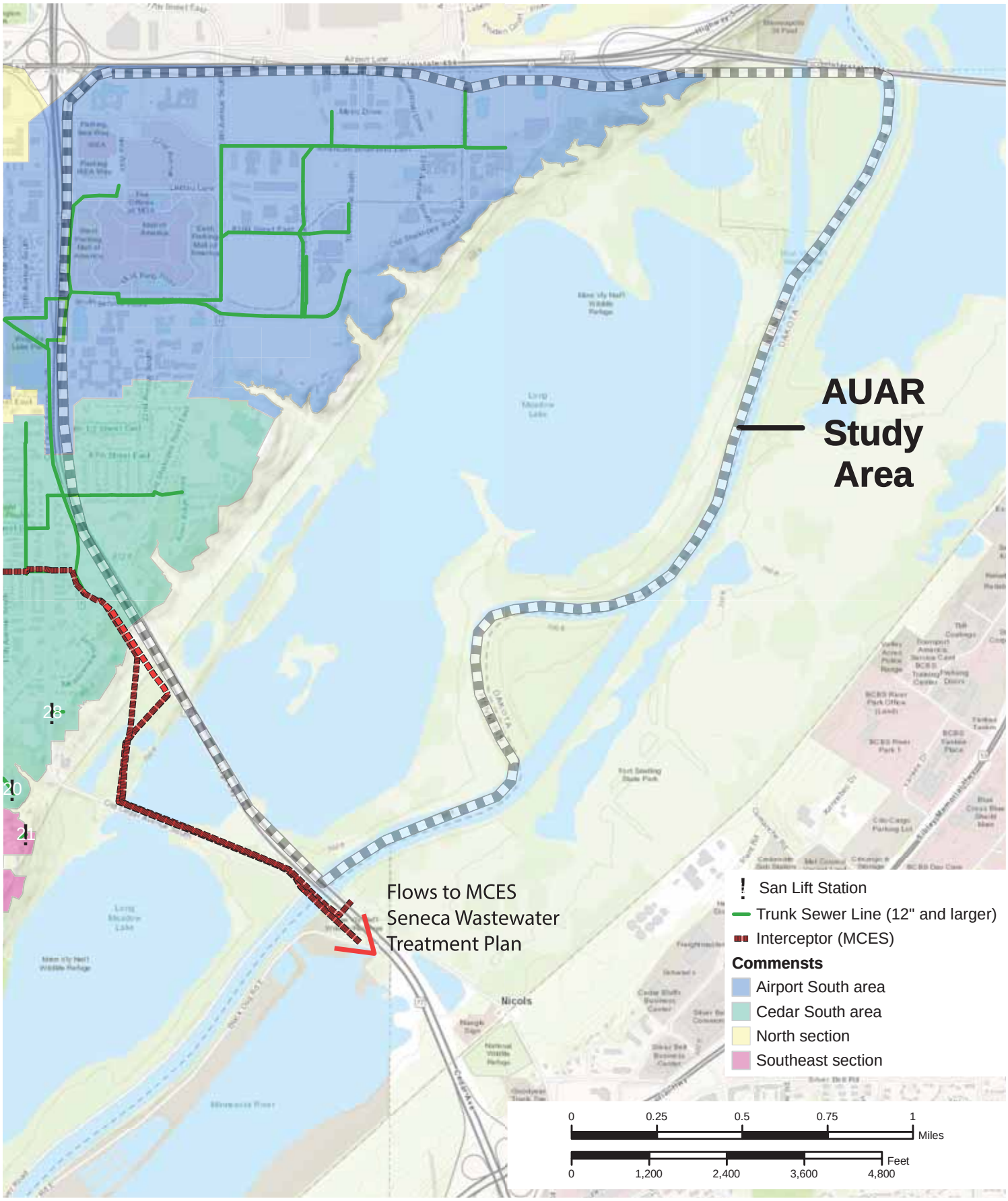
Sanitary Sewer System Modeling and Capacity Analysis: Hydraulic sewer system modeling was completed using InfoSWMM Software (from Innovyze). The model was rebuilt in 2018 by the City's consultant, Barr Engineering as part of preparation of Bloomington's *Wastewater and Comprehensive Sanitary Sewer Plan (WWCSP),* which is a supplement to the City's Comprehensive Plan. Updates to this model reflecting system pipe changes, as well as the revised flow forecasts mentioned above, were input by City staff in 2021. Hydraulic modeling and capacity analysis were conducted based on forecast development in the AUAR study area anticipated to occur by Year 2040 and beyond.

Modelling indicates that under peak flow conditions (as defined by MCES and Ten States Standards), several of the mainline segments currently have inadequate capacity to serve all of the forecast development. Hydraulic analysis examined the calculated volume of flow in all of the sanitary sewer system pipes, under wet weather conditions. Pipes with modeled flow volumes exceeding 75% of pipe capacity, under peak flow conditions, were considered unacceptable and the associated pipe systems were examined to identify potential upgrades. Modeled sewer flow loading inputs were based upon the following:

1. For all properties (citywide) that are not expected to experience any future redevelopment, current annual average daily consumption records from the 2018 WWCSP were used.
2. All properties (citywide) identified for redevelopment were loaded with estimated flows based upon unit flow rates derived from the Metropolitan Council's Sewer Availability Charge (SAC) parameters applied to the City's development forecasts to year 2040 and beyond.

Modeling Results: InfoSWMM modeling results of the wastewater system capacity to accommodate forecast development amounts to the year 2040 and beyond identified several pipe segments with unacceptable flow rates as follows:

- 100% full in twelve pipe segments;
- 85% to 100% full in three pipe segments; and
- 75% to 85% full in seventeen pipe segments.



Source: City of Bloomington Utilities Division, 2021; ESRI Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Existing Sanitary Sewer Facilities

South Loop District AUAR

FIGURE 12.4

These critical pipe segments, shown on Figure 12.5, comprise approximately 10,450 feet of pipe of various sizes, as follows:

- ~5,960 feet of 30 to 36-inch pipe;
- ~1,370 feet of 20 to 27-inch pipe; and
- ~3,110 feet of 10 to 18-inch pipe.

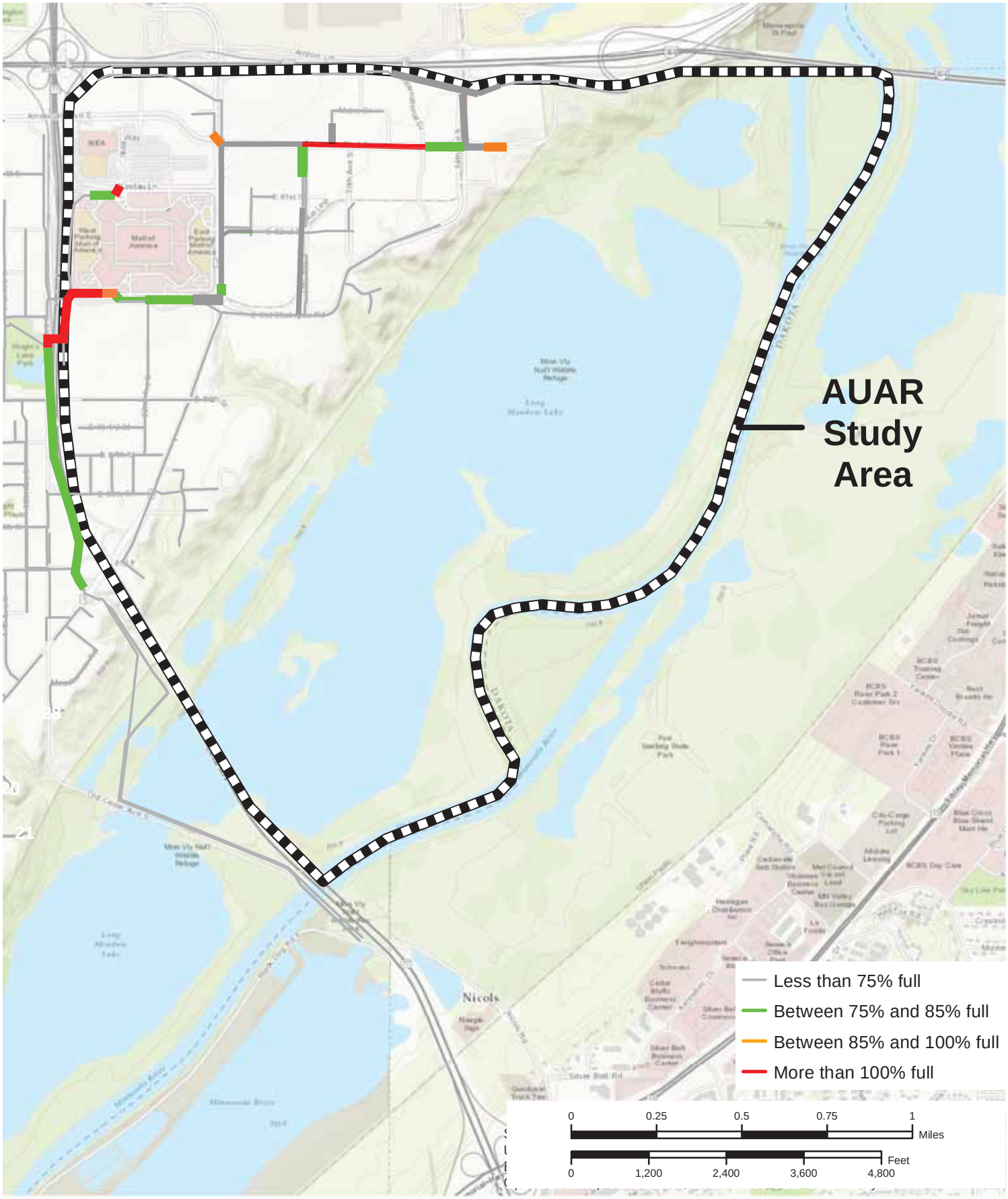
Proposed Sanitary Sewer Improvements: The City's Wastewater Capital Improvement Program (CIP) includes six work items to address future sewer capacity issues near the study area (See Table 12.2 and Figure 12.6 *Proposed Sanitary Sewer Projects*). These items are intended to address the capacity issues associated with the critical pipe segments listed above. Work item (CIP-12) is currently being designed and is anticipated to be constructed in 2022.

TABLE 12.2: PROPOSED FUTURE SANITARY SEWER PROJECTS

2021 AUAR CIP Item #	Description	Year Proposed
12	o Upsize 18" sewer to 21" and 24" (American Boulevard East from 34th Avenue to 28th Avenue) In Design now.	2022
13	o Upsize several 30" sewer pipes to 36" (Killebrew Dr and Cedar Ave) - An alternate design of restoring abandoned pipe in that area is being examined.	2025
14	o Upsize 10" sewer to 12" (24th Ave and American Blvd East) – Alternate service routing for new development may reduce or eliminate this need.	2030
27	o Watch/Monitor recently lined 36" pipes in (Old Cedar Ave from East 85th St to E 91st St) to see if upsizing to 42" pipe will be needed by 2040.	2040
29	o Watch/Monitor recently installed 24" pipes in (28th Ave S south of American Blvd East) to see if upsizing to 27" pipe will be needed by 2040. An alternate route via an existing overflow MH and pipe is being examined.	2040
30	o Watch/Monitor existing 27" pipes in (Killebrew Dr East of Cedar Ave) to see if upsizing to 30" pipe will be needed – An alternate design of restoring abandoned pipe in that area is being examined.	2040

Public Water Supply-Distribution System:

The City's 2010 *Water System Master Plan,* and the more recent *City of Bloomington 2040 Water Plan (November 2018)* assess the impact of future water demand through 2040 on the water supply, storage, treatment, and distribution system. It reflects planned future land uses in the City, including planned redevelopment forecast for the South Loop District. The 2010 hydraulic model estimated that forecast development in the South Loop District would result in a water demand increase of 1.7 MGD for an average day. Recent modeling was done to assess water demand associated with the updated South Loop development scenario (described in Section 6) and indicates a demand increase of 1.9 MGD above existing demand through 2040.



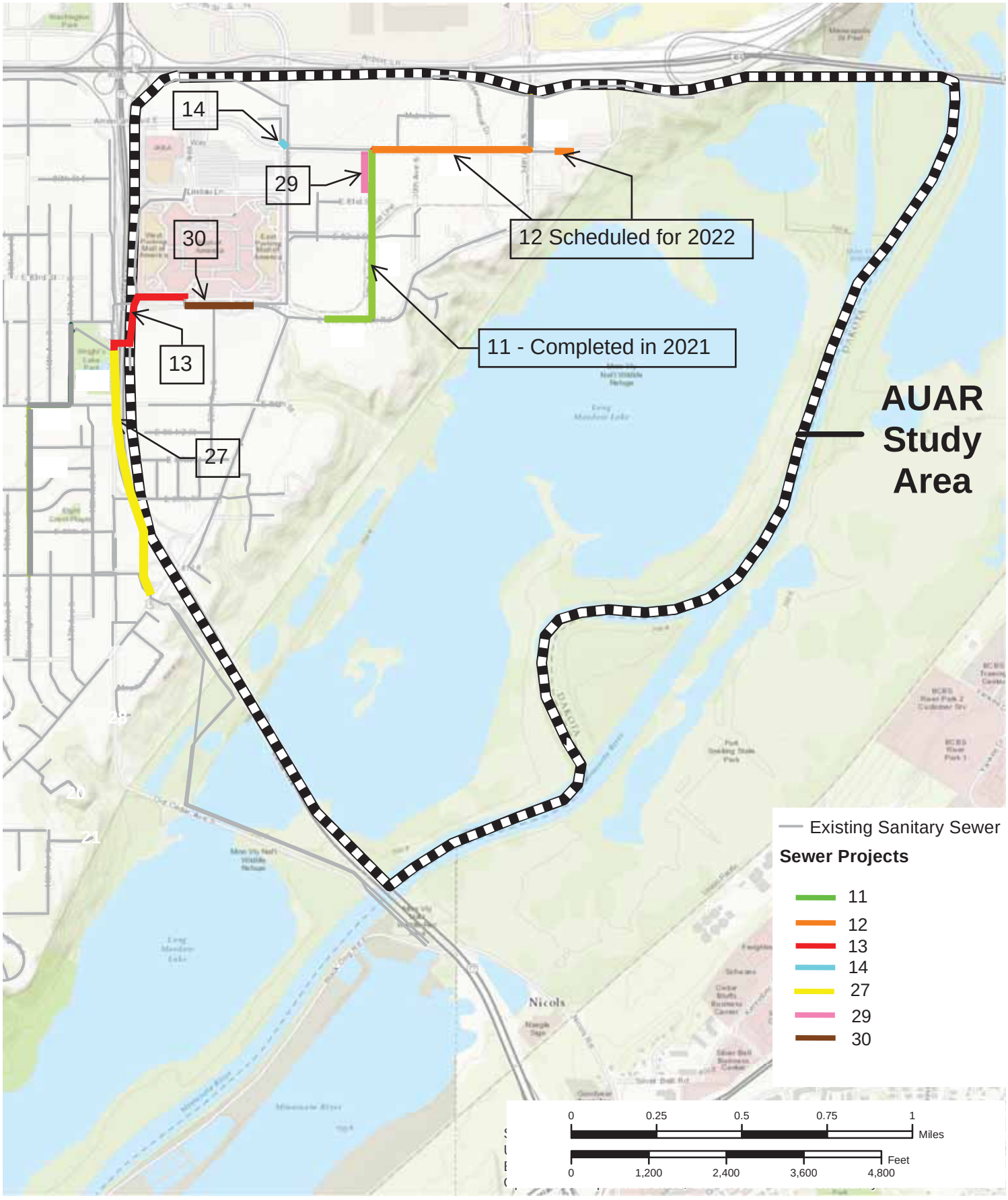
Source: City of Bloomington Utilities Division, 2021 ESRI Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Sanitary Sewer Modeling for Forecast Development up to Year 2040+

South Loop District AUAR

FIGURE 12.5



Source: City of Bloomington Utilities Division, 2021; ESRI Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Proposed Sanitary Sewer Projects

South Loop District AUAR

FIGURE 12.6

As forecast development proceeds, local distribution pipes will need to be added to interconnect with, and strengthen, the existing pipe network. New water main segments will be generally located to follow the alignment of new streets as they are constructed and/or located in areas on development sites (typically where vehicle access is provided) to supply water to hydrants located around the perimeter of the new buildings. The property owner/developer is generally required to cover the cost of installing these local water mains. Some additional distribution piping and some larger trunk water main may also need to be constructed for system reliability and to insure adequate pressures and fire flow to hydrants during high demand days.

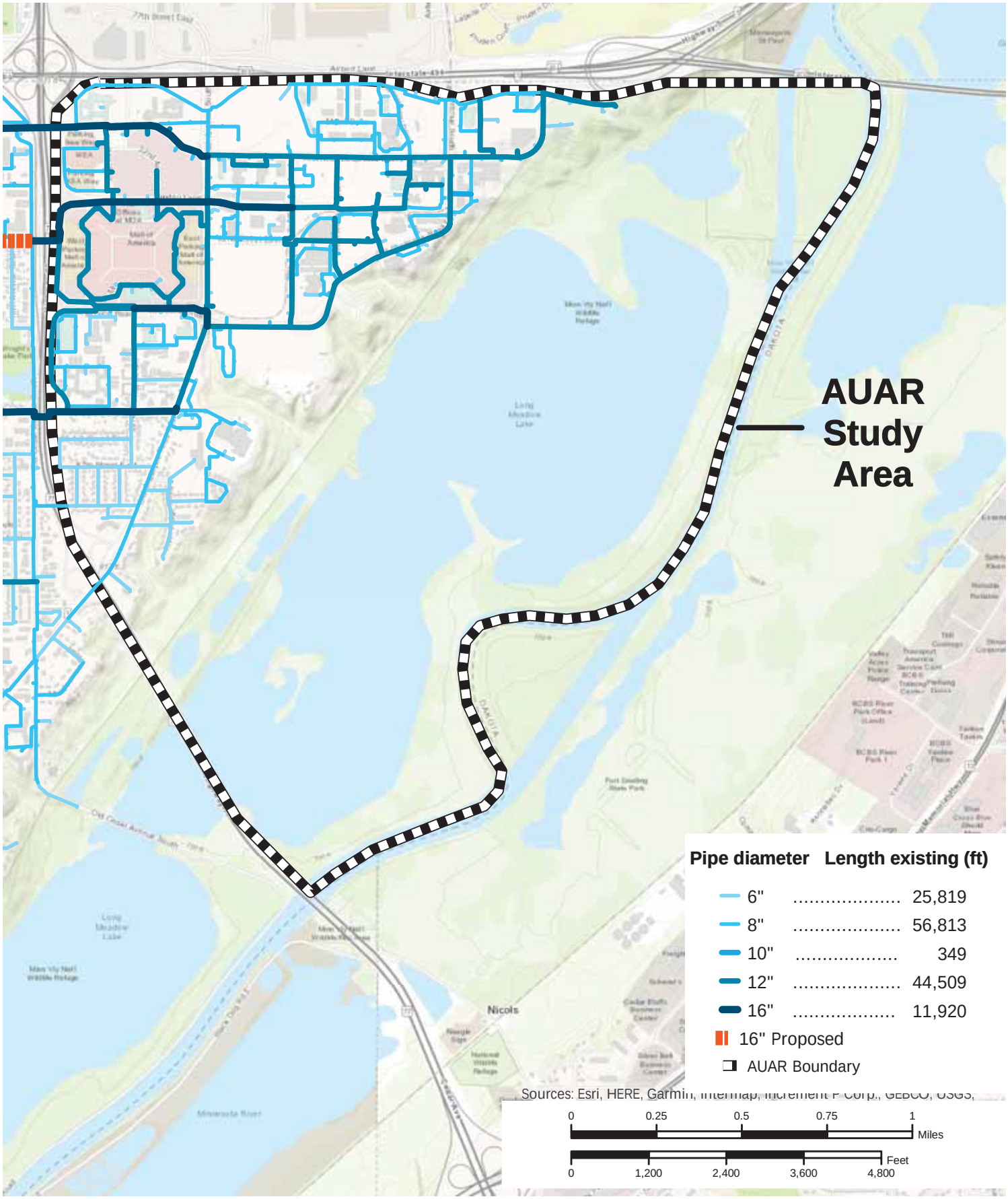
Preliminary street and utility plans exist for some redevelopment sites in the South Loop District (i.e., MOA Phase 2 and Bloomington Central Station) that illustrate where pipes located internal to the development site may need to be installed. These plans were used in the hydraulic modeling. Other areas, where preliminary development plans have not yet been approved, are less well defined (i.e., Kelley Farm and Adjoining Lands) but additional water main loop construction will be required to accommodate projected future development.

Much of new and future water demand will be concentrated in the north half of the South Loop District. Based on current development forecasts, approximately 2,640 linear feet of new 16" diameter trunk water main should be constructed in or about 2025. This pipe segment would extend along W. 82nd Street from 12th Ave. S. to the west side of Cedar Avenue. While located entirely outside of the South Loop District, it supplies water to distribution pipes in the South Loop District. Figure 12.7 illustrates both existing and future water pipes serving the South Loop District.

The system improvements identified in the City's *Water System Master Plan* are programmed in the City's 10-year Capital Improvement Program (CIP). The CIP, which is updated annually, estimates costs and implementation timing for public infrastructure improvements in the upcoming ten years. The most significant system change will occur when the Kelley Farm property redevelops. At that time, an extension of the water system into the Kelley property will be required to support the proposed development. No additional improvements to the City's water system are required to support the updated AUAR development scenario.

Stormwater System:

Figure 12.8 illustrates the existing stormwater system. Stormwater facility needs will continue to be reviewed on a case-specific basis as actual redevelopment plans are realized. Projects must meet the City's current Comprehensive Surface Water Management Plan (CSWMP) requirements, which maintain surface water discharge rates at or below existing levels, retention of 1.1" of precipitation from new or fully reconstructed impervious surfaces, and water quality treatment to remove 90% TSS and 60% TP. These requirements improve on the water quality guidelines noted in the 2002 AUAR. It is also noted that the City's stormwater retention requirement exceeds the state requirement of 1-inch.



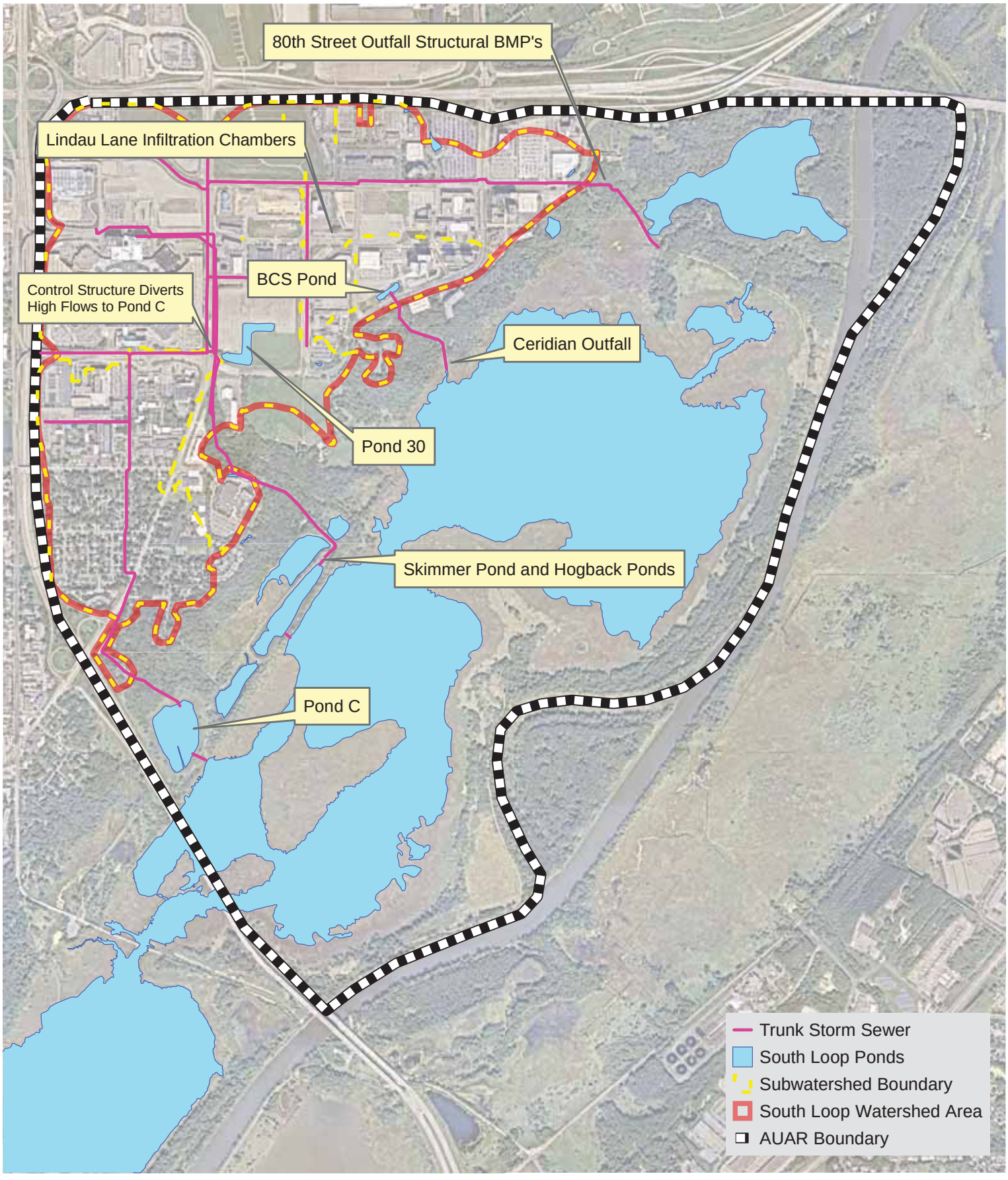
Source: City of Bloomington Utilities Division, 2021; ESRI World Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Water Distribution Facilities

South Loop District AUAR

FIGURE 12.7



Source: City of Bloomington, 2021; Nearmap, Fall 2021

CITY OF BLOOMINGTON MINNESOTA

Stormwater Facilities

South Loop District AUAR

FIGURE 12.8

The updated AUAR redevelopment scenario is not expected to increase the rate of stormwater discharge under normal conditions when compared to existing conditions. This is due in part to the existing high amount of impervious coverage in the South Loop District. Most redevelopment sites are, or have been, developed with urban/suburban development. Redevelopment can provide opportunities to increase the amount of pervious surface area and implement green infrastructure and other stormwater Best Management Practices (BMPs) to improve stormwater management. While not required, the City routinely encourages developers to use low-impact design practices and several recent projects have incorporated measures such as pervious pavement, rain gardens, underground pipe galleries, and the like.

However, redevelopment of the Kelley Farm and the Adjoining Lands sites have potential to significantly alter runoff in this localized area near the intersection of East Old Shakopee Road and 24th Avenue. Reconfiguration or removal of Pond 30 (see Figure 12.8), an existing "dry pond" located on the Adjoining Lands site (MOA Phase 3), is anticipated with future redevelopment. Modeling indicates Pond 30 currently retains stormwater from the local sub-watershed as well as backflow from the 24th Avenue trunk storm sewer system. Alternative infrastructure modifications evaluated in the model indicated they could successfully mitigate flood elevation increases resulting from reconfiguration of Pond 30. Redevelopment plans for sites that currently drain to this area will need to include significant rate control best management practices to mitigate the effects of Pond 30 reconfiguration or removal. In addition, volume control will be required consistent with the CSWMP to mitigate the effects of additional flow volumes on the system.

Development forecast in the AUAR redevelopment scenario is not anticipated to require unusual amounts of earthmoving. Actual development proposals must follow the City's development permitting requirements (e.g., excavation, filling or grading), which stipulate erosion control and slope stabilization. Erosion and sedimentation of soils exposed during redevelopment will be minimized by using the appropriate BMPs during and after construction. Specific BMPs used will be tailored to the individual circumstances of the project and site. Erosion practices will be identified in the final site grading and construction plans as required by NPDES permitting for construction sites and in accordance with the City's and the watershed regulator's erosion/sediment control standards. Erosion control measures must be in place and maintained throughout the entire construction period. These requirements are described in more detail in the Mitigation Plan (Appendix H).

Stormwater Management Plans and Requirements: Since 2002, as part of Bloomington's MS4 stormwater permit coverage, the City developed its current Storm Water Pollution Prevention Program (SWPPP). The SWPPP includes mechanisms to address storm water runoff from development and re-development and includes consideration of waters that are listed as impaired or have approved TMDLs. The City's SWPPP was updated in 2014-2015 to be compliant with the re-issued Municipal Separate Storm Sewer (MS4) Permit.

The Bloomington *Comprehensive Surface Water Management Plan* (CSWMP) was initially

approved by the City Council on October 8, 2007 and updated in 2016. Portions of the plan will be updated in 2022 to align with the re-issued MS4 permit. Section 4 of the CSWMP was updated in March 2015 to reflect updates related to the City's SWPPP. The CSWMP requires all new development/redevelopment to maintain surface water discharge rates at or below existing levels.

It is noted that City stormwater standards are more restrictive than the State's and our SWPPP is consistent with the MPCA's current Phase II MS4 General Permit requirements. City standards apply to development projects disturbing 5,000 square feet or 50 cubic yards (versus one acre per State), which must obtain coverage under the NPDES Construction Site Permit and provide the site SWPPP as a condition of local approval. Sites disturbing less than that are reviewed for surface water discharge and erosion control compliance. The goal of these requirements is to ensure no net reduction in water quality and work toward a net improvement overall. A more detailed description of the current CSWMP requirements is included in the Mitigation Plan (Appendix H).

To reduce release of chloride into lakes and streams, the City participates with local watershed districts as part of the Hennepin County Chloride Initiative (HCCI) to educate property owners and managers on the impacts of salt use and provide resources to decrease use. The City has an adopted policy to reduce salt/chloride use on public streets and city property as part of its snow and ice removal protocols. The City's MS4 permit also requires public education on the impacts of salt use. The City partners with local watershed districts to conduct and host "smart salting" classes. We also publish information in our community newsletter and via social media.

An overview of stormwater modelling and water quality analysis conducted since the original South Loop AUAR was prepared in 2002, is provided below.

South Loop Drainage and Water Quality Modeling: The 2002 AUAR provided a comparison of surface water quantity and quality for existing and post-AUAR development conditions related to the 2002 redevelopment scenario. The XP-SWMM model (a modified version of the EPA SWMM model) was utilized for a storm water quantity assessment and the P-8 Urban Catchment Model (W. Walker, Jr. 1998) was used to evaluate the effectiveness of the stormwater treatment systems in place during the year 2000 (existing conditions), as well as 2020 (future) development conditions.

In 2008, an update to the South Loop stormwater quantity and water quality models was completed. At that time the consultant used P8, Version 3.4, to model quality and XP-SWMM, Version 6.0, to model quantity. Results of the 2008 modeling indicate the following:

- Through on-site and regional BMPs and naturally occurring wetlands, approximately 52% of the annual total phosphorus was removed from the Smith Pond and South Loop Drainage Districts; and

- Approximately 80% of the total suspended solids (TSS) loads generated are removed from the Smith Pond and South Loop Drainage Districts prior to discharge to downstream Long Meadow Lake.

The 2008 South Loop District Drainage modeling results are provided in Appendix E. It is noted that an update to the South Loop model is planned for the near future to incorporate development that has occurred since 2012 and to re-evaluate flood risks.

In 2012 the 2008 XP-SWMM model was updated to evaluate proposed storm sewer modifications for the Lindau lowering project. The Consultant used XP-SWMM, Version 10.6 to model quantity, the P8 Model was not updated at this time. Modeling results indicate the following:

- The 24th Avenue Storm Sewer Project was successful in reducing all of the future conditions flood elevation increases to the elevations observed in the 2012 Existing Conditions model. However, the resulting increase in peak flow rates in the system requires extensive upgrades to the existing outfall infrastructure to avoid significant increases in surcharging within the Minnesota River Bluff area.

- The Long Meadow Lake Outfall Project was successful in reducing all of the future conditions flood elevation increases to the elevations observed in the 2012 Existing Conditions model but did not result in significant decreases in flood elevations except along 82nd Street, where flooding was eliminated at almost all locations.

A citywide stormwater model update was completed in 2017 to align the City's hydrologic and hydraulic stormwater models to reflect the National Oceanic and Atmospheric Administration's (NOAA) revised precipitation frequency estimates ("Atlas 14"). The results show significant increases in rainfall amounts in the Twin Cities area where the 100-year, 24-hour rainfall depth increased by approximately 25% when compared to U.S. Weather Service data from 1961, used previously.

Surface Water Pollutant Load Assessment: The City completed a non-degradation pollutant load assessment in 2007. The assessment measures changes in stormwater volume, total suspended solids, and phosphorus from 1988 to 2007 and 2007 to 2020. The results of this load assessment were incorporated into a non-degradation report that includes best management practices (BMPs) to be implemented to reduce pollutant loadings back to 1988 levels or lower. Recommendations of the report included:

- Infiltration requirements for new development/redevelopment (Nine Mile Creek Watershed only);
- Completion of a natural resources inventory;
- Water quantity/quality modeling updates;
- Gully inventory (Minnesota River Bluff); and
- Regional infiltration.

The Minnesota Pollution Control Agency replaced the non-degradation water quality rules with new anti-degradation rules in 2015. The City meets the anti-degradation rules through post-construction stormwater management requirements detailed in Section 4 of the CSWMP.

Water Appropriation:

The DNR's Water Appropriation Permit Program exists to balance competing management objectives that include both development and protection of Minnesota's water resources. A water use permit from the DNR is required for all users withdrawing more than 10,000 gallons of water per day or 1 million gallons per year. Proposals to appropriate water from shallow wells will continue to be reviewed by permitting agencies in accordance with existing regulations. Other proposed high-capacity users from deeper groundwater sources will need to be evaluated on a case-by-case basis in cooperation with other permitting agencies.

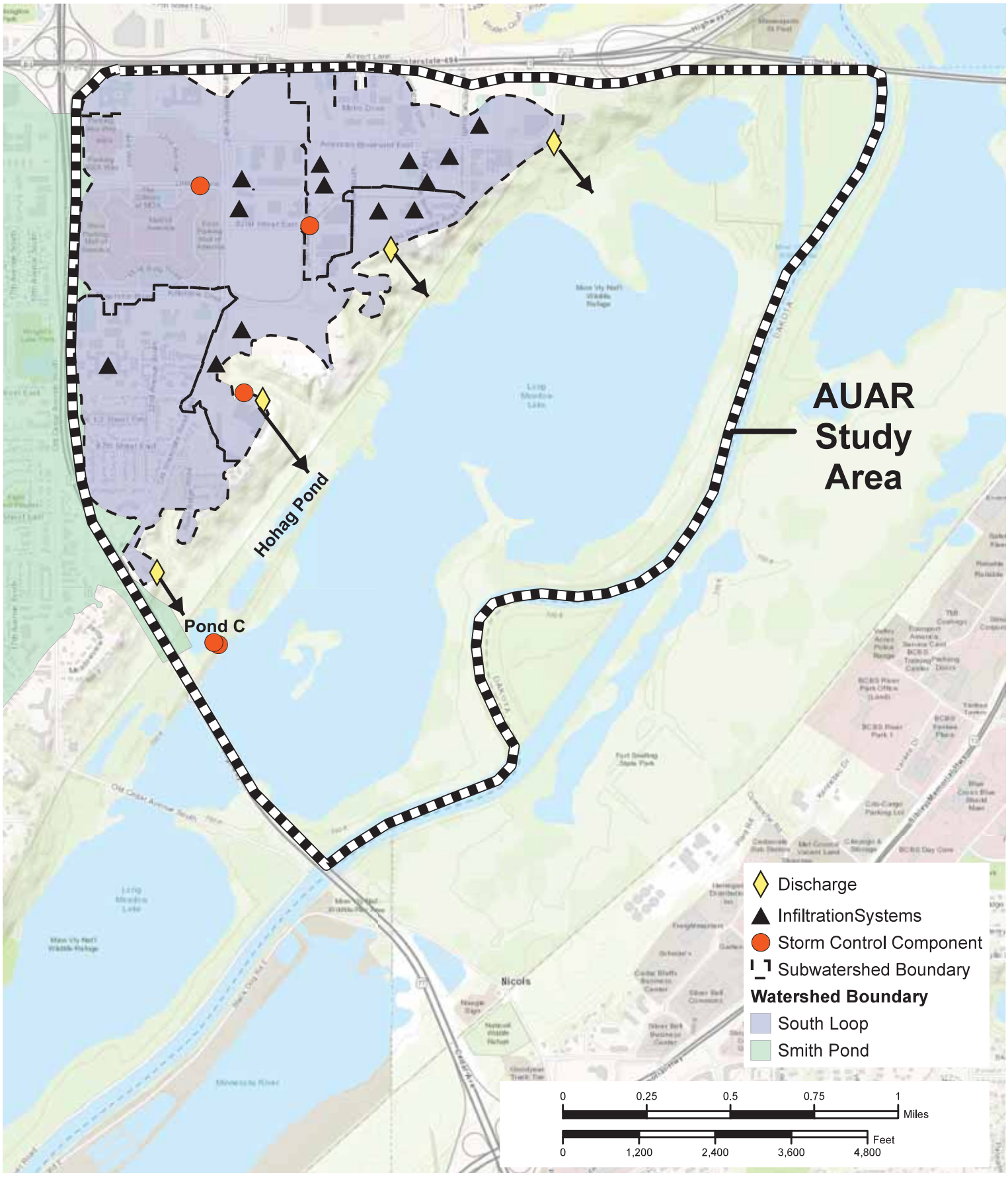
The primary source aquifer for the unnamed stream, known by some locally as "Ike's Creek", is assumed to be the shallow water table. As a result, proposals for dewatering activities near the stream have the potential to affect stream flow. If a water appropriation is determined by the DNR to significantly reduce the stream level, the DNR may impose limitations on the appropriation in order to protect the stream level. Such provisions may include: reducing pumping rate, reduced pumping time, and winter withdrawal.

Surface Waters:

Development and/or infrastructure proposed in the updated AUAR development scenario is not anticipated to result in physical or hydrologic alteration of wetlands or other surface waters. Figure 12.9 illustrates the drainage flow and discharge locations in the South Loop District.

a) Wetlands – The only wetlands in the study area are in the floodplain wetland complex located in the bottomlands of the Minnesota River valley. As noted previously, this area is zoned "Conservation" and is subject to the requirements in the Flood Hazard Overlay zoning district and the City's shore area regulations. Development in these areas is restricted to conservation and recreational uses.

b) Other Surface Waters - The Minnesota River is used by both commercial and recreational watercraft. However, none of the redevelopment sites in the AUAR study area physically abuts the river and there is no public watercraft access to the Minnesota River in the South Loop District. The only official boat launch on the Minnesota River in Bloomington is located off Lyndale Avenue, just east of I-35W, and a few miles west of the study area. Any watercraft access in the study area is limited to that needed by the U.S. Fish & Wildlife Service for management of the MVNWR.



Source: City of Bloomington, 2021; ESRI Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Drainage Flow

South Loop District AUAR

FIGURE 12.9

SECTION 13: CONTAMINATION/HAZARDOUS MATERIALS & WASTES

EAW:

A. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

B. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

C. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size and age of existing tanks on the property that the project will use. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

D. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

AUAR: For A, generally only the estimated total quantity of municipal solid waste generated and information about any recycling or source separate programs of the RGU need be included. No response is necessary for B. For C, potential locations of storage tanks associated with commercial uses in the AUAR should be identified (e.g., gasoline tanks at service stations).

A. PRE-EXISTING CONDITIONS:

The 2002 AUAR reported underground storage tank leaks based on a file search of Minnesota Pollution Control Agency (MPCA) and Hennepin County Environmental

Services records for the South Loop District. At that time, one former underground storage tank leak site was identified at the northwest perimeter of the MOA Phase II site (f/k/a Met Center site). Following review of information regarding contamination levels remaining at the site, this site was "closed" by the MPCA on November 1, 1995. This site is also discussed in the *Mall of America Expansion/Met Center Site EIS*.

A second potential low-level contamination site was identified on a vacant parcel within the Runway Protection Zone (RPZ). Since development is prohibited on this site, there is a low likelihood of disturbing this parcel. A third contaminated site was identified in the AUAR study area, but it is not located within an area proposed for development/redevelopment.

The 2002 AUAR noted that MPCA files list eleven facilities in the AUAR study area with underground storage tanks. Four of these include former leak sites that are now closed. No active leak sites were listed. Thirty-six licensed hazardous waste generators are present within the study area, of which 24 are active. Three of these are large quantity generators, one is a small quantity generator, and about 20 are very small quantity generators. None of the large quantity generation sites are proposed for redevelopment.

Between 2010 and 2012 the City of Bloomington purchased most of the properties shown on Figure 6.2 as "Alpha/Interstate" with the intent to sell for redevelopment. Environmental investigations (Phase I and/or Phase II) were completed prior to purchase of individual sites. These studies analyzed the presence of storage tanks and various hazardous materials. The studies are listed below:

- *Phase 1 Environmental Survey Report - Alpha Business Center, 8140 26th Ave. South, Bloomington, MN*, February 3, 2010; prepared by Angstrom Analytical & Environmental Services
- *Phase II Environmental Site Assessment – 2501, 2601, and 2701 American Boulevard East, Bloomington, MN 55425*, January 2012; prepared by Liesch Companies.

In 2016, the Bloomington Port Authority purchased the Ramada/Thunderbird Hotel property with the intent to sell for redevelopment. Environmental investigations were completed prior to purchase. These studies analyzed the presence of storage tanks and various hazardous materials. The studies are listed below:

- Phase I Environmental Site Assessment – Ramada Hotel – Mall of America, 2300 American Boulevard East, Bloomington, Minnesota, March 15, 2016; prepared by Braun Intertec Corporation
- Phase II Environmental Site Assessment – Ramada Hotel, 2300 American Boulevard East, Bloomington, Minnesota, March 16, 2016; prepared by Braun Intertec Corporation
- Pre-Demolition Asbestos and Hazardous Material Survey – Ramada – Mall of America, 2115 and 2201 78th Street East, Bloomington, Minnesota, September 10, 2014; prepared by American Engineering Testing

B. SOLID WASTE

The existing and proposed land uses in the AUAR study area — residential, office, hotel, and retail - produce typical municipal solid waste. In 2016, the City of Bloomington began an organized garbage and recycling service for all residential properties. Also in 2016, MN115A.151 required public entities, commercial properties, and sports facilities to participate in a recycling program.

One of the largest commercial properties in the City – the Mall of America – is located in the South Loop District and demonstrates a high level of solid waste recycling. The 2002 AUAR reported that the MOA recycles over 50 percent of the solid waste produced onsite. The existing MOA (Phase 1) currently generates about 20 tons of waste per day. It is expected that proposed development on the MOA Phase 2 site will generate around 15 tons/day.

Given the amounts of future development proposed in the AUAR redevelopment scenario are speculative, it is not possible to accurately estimate the additional solid waste that would be generated within South Loop. However, the City will continue to support a high level of commitment to recycling in all future development.

C. HAZARDOUS MATERIALS OR WASTE

There are two large industrial operations located in the South Loop District that utilize and store a variety of hazardous materials on-site (Polar Semiconductor at 2800 East Old Shakopee Road and SkyWater Technology at 2401 E. 86th Street). Both companies have fire alarms, fire suppression and hazardous material detection systems. Both have a Tier II Emergency & Hazardous Chemical Inventory in place as required by the EPA and MN SARA Act. The City also required them to obtain a Fire Marshal Operation Permit and provide the Bloomington Fire Department the following information on an annual basis:

- List of hazardous materials
- Site map with locations of hazardous materials
- Integrated Contingency Plan

Both companies use a variety of hazardous materials for production, including: flammables (solids, liquids, gases); oxidizers; toxic materials (acute and chronic); corrosives; reactives; and other miscellaneous materials. Both utilize a variety of containers, including: tanks, cylinders, bottles, boxes and drums. Above and below ground tanks at Polar Semiconductor are located on the west side of the property. Above ground tanks at SkyWater Technology are located on the north and east sides of the property.

Site specific environmental investigations on other, privately-owned redevelopment sites in the South Loop, will likely be done prior to sale and redevelopment. Information regarding storage tanks and hazardous wastes from any such studies will be incorporated, if pertinent, in future updates to this AUAR. Until specific development proposal materialize for the future redevelopment sites, it is not possible to determine if permanent above or underground storage tanks (e.g., for emergency generator fuel storage) would be installed

in conjunction with any future development. If storage tanks are utilized, they would be required to be installed, maintained, and monitored in accordance with applicable MPCA regulations. In addition, certain uses are required by City ordinances to obtain a Fire Marshal operation permit, provide a list of hazardous materials and site plan with locations of materials depicted, prepare an Integrated Contingency Plan, and a Tier II Emergency & Hazardous Chemical Inventory as described above.

SECTION 14: FISH, WILDLIFE & ECOLOGICALLY SENSITIVE RESOURCES

EAW:

A. Describe fish and wildlife resources on or near the site.

B. Describe rare features such as State-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey sites of biodiversity significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (ERDB_: **#ERDB 20090697-0004**) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

C. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

D. Identify measures that will be taken to avoid, minimize or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

AUAR:

A. Description of wildlife and fish resources should be related to the habitat types depicted on the cover type maps in Section 8. Any differences in impacts between development scenarios should be highlighted in the discussion.

Most future development will occur in areas of the South Loop that are described on the existing and future Cover Types maps (Figures 8.1 and 8.2) as “current development”, “future development”, “cropland”, and “grassland”. All proposed future urban development will be located in the relatively flat upland area (approximately 890 acres) that lies above the river bluff (760-foot elevation). Over 60 percent of the study area will remain as open space/conservation uses, which includes a portion of the Minnesota Valley National Wildlife Refuge (MVNWR).

The majority of the developable area is currently, or was formerly, developed with urban/suburban uses, including housing, retail, office, and industrial development (see Section 8, Cover Types). The AUAR redevelopment scenario identifies eleven sites expected to redevelop by 2040 or 2045 (see Figure 6.2). Four of the redevelopment sites are adjacent to the Minnesota River bluff, although one (Forest Glen Apartments) was recently redeveloped. As shown on Figure 10.3, portions of all these sites are located within the City's Bluff Protection (BP) Overlay district and are subject to additional development standards to minimize physical and visual impacts to the bluff environment. All of these sites have been previously developed for urban/suburban uses or cleared for farming and grazing. The Kelley property has been actively farmed for many decades and much of its natural condition and pre-settlement cultural resources have been altered.

The Minnesota River bluff serves as a transition zone between the upland developed area and the river bottomlands. The *Bluff Report District Plan*, adopted in 1982, notes that the bluff woodlands, the bottomlands of the Minnesota River and the urban development on the upland provide a range of habitat opportunities, which may increase the number of species that utilize the bluff transition area. This transition area also adds variety to the habitat of the bottomland area and serves as a refuge for some species during periods of flooding.

Land at the bottom of the bluff includes wetlands and bottomlands – as well as the Minnesota River - located in the Minnesota Valley National Wildlife Refuge (MVNWR), which together are home to a number of fish and wildlife species. At the base of the bluff are lowland woods and the floodplain wetland complex habitat that make up the Long Meadow Lake management unit of the MVNWR.

The bluff and bottomlands along the Minnesota River are currently and have been guided and zoned for Conservation for many years (see Figures 10.1 and 10.2). Development in this area is limited to conservation and recreational uses. Only buildings and structures accessory to those primary uses are allowed (e.g., nature centers, parking lots, utilities) through approval of conditional use permits.

The DNR notes that karst features have been identified in the vicinity of Forest Glen Park, through which passes a spring-fed stream located south and east of East Old Shakopee Road and 24th Ave, known by some locally as "Ike's Creek". This stream is located on land owned by the City of Bloomington, Kelley Farm property, and the U.S. Fish & Wildlife Service (USFWS). The USFWS and the Minnesota Department of Natural Resources (DNR) stocked the stream with heritage-strain brook trout in 2007. The DNR has been evaluating the fish routinely and have found that the stream is supporting a healthy population of brook trout that have been reproducing naturally. To date, the DNR has not added this unnamed stream and an adjacent tributary to the designated trout stream list (see Figure 10.3). It is shown in the LMRWD Watershed Management Plan as a "trout water" and the City will continue to enforce current regulations to minimize development impacts on the stream and bluff habitat. The LMRWD also designates the area encompassing this stream as a "high value resource area" subject to more stringent

development standards. It is noted that the City's stormwater regulations meet or exceed those of the watershed district.

The quantity and quality of runoff discharged to the Long Meadow Lake wetland complex can influence the quality of floodplain habitat. As described in Section 12, the proposed development within the South Loop District will not result in substantial changes in water quantity or quality of discharges to the Long Meadow Lake complex. In fact, planned onsite and regional storm water treatment facilities may result in an overall improvement in the quality of storm water discharges to Long Meadow Lake.

The DNR's Water Appropriation Permit Program exists to balance competing management objectives that include both development and protection of Minnesota's water resources. A water use permit from the DNR is required for all users withdrawing more than 10,000 gallons of water per day or 1 million gallons per year. Proposals to appropriate water from shallow wells or for dewatering purposes within proximity to the stream will continue to be reviewed by permitting agencies in accordance with existing regulations. Other proposed high-capacity users from deeper groundwater sources will need to be evaluated on a case-by-case basis in cooperation with other permitting agencies.

The primary source aquifer for "Ike's Creek" is assumed to be the shallow water table. As a result, dewatering activities near the stream have the potential to affect stream flow. If a water appropriation is determined by the DNR to significantly reduce the stream level, the DNR may impose limitations on the appropriation in order to protect the stream level. Such provisions may include: reducing pumping rate, reduced pumping time, and winter withdrawal.

B. For an AUAR, prior consultation with the DNR Division of Ecological Resources for information about reports of rare plant and animal specific in the vicinity is required. Include the reference numbers called for on the EAW form in the AUAR and include the DNR's response letter. If such consultation indicates the need, an on-site habitat survey for rare species in the appropriate portions of the AUAR area is required. Areas of on-site surveys should be depicted on a map, as should any "protection zones" established as a result.

Database records were provided in the original 2002 AUAR and all subsequent updates as follows:

- 2002 AUAR via correspondence reference number ES #990014 and included in Appendix B.
- 2009 AUAR update via correspondence reference number #ERDB 20090697 and included in Appendix D.
- 2017 AUAR update via correspondence reference number #ERDB 20090697-0002 and are included in Appendix D.

As required with this update, Bloomington staff contacted the DNR Division of Ecological and Water Resources to request a query of the Minnesota Natural Heritage Information System (NHIS) database to determine if any rare plant and animal species and other

significant natural features are known occurrences within, and near, the study area. Results of the query were provided by the DNR on March 31, 2022. Results are summarized below and provided in full in Appendix D.

According to the DNR, the following rare features have been documented within the search area (AUAR study area):

Ecologically Significant Areas – the AUAR study area overlaps with Red Oak-White Oak-(Sugar Maple) Forest communities, which are identified as ecologically significant areas with a Minnesota Biological Survey (MBS) Site of Biodiversity Significance ranked Moderate. The Red Oak-White Oak-(Sugar Maple) forest communities have a Conservation Status Rand of S4: apparently secure; uncommon but not rare. Several rare wetland native plant communities (Conservation Status Ranks of S1-S3) were also identified, but it is noted that the areas proposed for development in the South Loop District do not include the rare wetlands.

Site ranked "moderate" contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery. Recommended actions to minimize disturbance of this ecologically significant area include:

- Minimize disturbance of the Red Oak-White Oak-(Sugar Maple) forests;
- Use stringent sediment and pollution containment measures;
- Inspect and clean all equipment prior to bringing it to the site to prevent the introduction and spread of invasive species; and
- Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible.

State-listed Species – the northern long-eared bat (*Myotis septentrionalis*), the little brown bat (*Myotis lucifugus*), and the big brown bat (*Eptesicus fuscus*) have been documented roosting on bridges in the vicinity of the AUAR study area. All three are state-listed species of special concern. Recommended actions to minimize impacts on roosting habitat include:

- Avoid tree removal during the months of June and July

Federally Protected Species – the following federally protected species are likely present in the vicinity of the AUAR study area:

- Rusty Patched Bumble Bee (*Bombus affinis*) – the AUAR study area overlaps with a "High Potential Zone" for this species, which is federally listed as endangered. The USFWS maintains a map of current locations for High Potential Zones.

- Northern Long-eared Bat (*Myotis septentrionalis*) – this species is federally listed as threatened and can be found throughout Minnesota. There are no known hibernacula within ¼ mile of the AUAR study area and no known maternity roosts within 150 feet of the AUAR study area.

It is noted that the NHIS is not an exhaustive inventory and does not represent all of the occurrences of rate features within the state, and further review may be necessary. Results of the Natural Heritage Review are valid for one year and such review does not constitute project approval by the DNR.

While the AUAR study area encompasses the entire South Loop District, many of the natural areas and sites where rare species have been recorded are located within the Minnesota Valley National Wildlife Refuge. This area is not proposed for development and several existing regulatory protections are in place to minimize impacts from development on adjacent or nearby properties. Additional mitigation strategies recommended by the DNR are described in the Mitigation Plan (Appendix H) and will be considered at the time a formal development proposal is submitted to the City for review.

SECTION 15: HISTORIC PROPERTIES

EAW: Describe any historic structures, archeological sites, and/or traditional cultural properties on or close to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

AUAR: For an AUAR, contact the State Historic Preservation Office (SHPO) and State Archeologist is required to determine whether there are areas of potential impacts to these resources. If any exist, an appropriate site survey of high probability areas is needed to address this in more detail. The mitigation plan must include mitigation for any impacts identified.

As required, City staff contacted the SHPO inquiring about potential impacts to archeological, historical, or architectural resources in the AUAR study area that may be different from those originally reported in the 2002 AUAR and subsequent updates (2009, 2012, and 2017). The SHPO indicated that the information regarding historic and archaeological resources provided in previous AUARs appears sufficient, and there was no need for additional review beyond the normal agency review during the official AUAR review period. Information regarding historic and archeological resources from previous AUARs is provide below.

SHPO records contain documentation of seven recorded archaeological sites in the South Loop District. Five of the recorded sites document American Indian earthworks, four of which were reported destroyed by subsequent land disturbances (21HE7, 21HE8, 21HE10 and 21HE11). Approximate locations of these earthworks are depicted on Figure 15.1. The prehistoric site identified as the Van Ness Mounds (site 21HE8) on the Kelley Farm property, consists of a mound group of 24 conical mounds as originally mapped by T.H. Lewis in 1882. The fifth earthworks site (21HE9) is reported as no longer apparent. The remaining two sites (2lHE158 and 21HE190) are historic-period isolated finds and of

limited historical significance and do not appear eligible for the National Register of Historic Places.

Only one of these sites, the Van Ness Mounds (21HE8), is located on property proposed for future development in the AUAR development scenario (see Figure 6.2– Kelley Farm). In 2009, the State Archeologist indicated that the mounds and burial pits on the Kelley Farm were probably destroyed by farm construction and agricultural activities and the site could not be authenticated as a burial ground under Minnesota Statutes 307.08 ("Private Cemeteries Act"). However, identification of below ground remains of the Lincoln Mound group (21HE7) during development of the nearby Ceridian campus in 1998 suggests the possibility that remnants of the other reportedly destroyed earthworks may survive.

The 2002 AUAR described potential impacts to cultural resources resulting from preliminary plans for development of the Kelley property. These previously proposed development plans never obtained required approvals and are no longer relevant. However, the property owner recently listed the property for sale, and it is likely the future owner will pursue approval of development plans, though timing is uncertain. Should that occur, the City will follow the review process required for all development proposals in Bloomington. The Mitigation Plan describes the steps to be taken if significant archeological resources are found.

In addition to the seven recorded archaeological sites discussed above, some relatively undisturbed portions of the South Loop District, particularly within intermediate terraces of the bluff and in the floodplain at the base of the bluff, have potential for containing previously unreported sites. As noted below, the DNR recently conducted a cultural resources assessment in conjunction with required environmental documentation related to development of the Minnesota Valley State Trail. The State Trail will be located in the area below the bluff.

In previous AUAR reviews, the SHPO has recommended that prior to development or other construction in these areas, an archaeological profile and preliminary archaeological testing (e.g. field walks and shovel tests) be conducted to determine the probability of additional archaeological sites in the area. Any evidence indicating the presence of an archaeological site will be discussed with the Office of the State Archaeologist per the Minnesota Private Cemeteries Act (Minn. Statutes 307.08), the Minnesota Indian Affairs Council, and appropriate Native American tribes. This approach will continue to be taken as proposed future development commences.

Archaeological Resources: Cultural resource assessments completed for property in the AUAR study area include:

- *"The Aborigines of Minnesota"*, 1911, edited by N.H. Winchell from the collection of Jacob Brower and the field studies and notes of A.J. Hill and T.H. Lewis includes a description and map from a survey of the Van Ness Mounds made on September 7, 1882.

- *"Bloomington: A Community Survey of Historic Sites"* prepared by Miller-Dunwiddie Architects, Inc. in 1977 described two mound groups located in the portion of the South Loop District north of 86th Street, including: Lincoln Mounds and Van Ness Mounds.

- *"Archaeological Investigations of the New Ceridian Corporate Headquarters, and the Lincoln Mounds Site (21 HE 7)"* authored by David Mather, July 1998 summarizes the archeological investigation completed in conjunction with development of Ceridian corporate headquarters. Records of this mound group date from the late nineteenth century and indicate a collection of mounds ranging in height from one to five feet. This site is not anticipated to undergo further development or redevelopment and is not included in the 2016 AUAR redevelopment scenario. In addition, a management plan (*"Mound Management Plan for the Lincoln Mounds Site (21 HE 7) at the Ceridian Corporate Headquarters"*) was prepared in September 1998.

- *"Work Plan for Providing Assistance in Authentication and Additional Cultural Resources Work at the Lincoln Mound Group (21HE7) for the Bloomington Central Station Project, Hennepin County, Minnesota"* - This investigation was completed during construction of the first phase (Reflections condominiums) of the multi-phased Bloomington Central Station development anticipated to build out over the next 20 years.

- During Spring/Summer 2016, the DNR, Parks and Trails Cultural Resources program completed a cultural resource field investigation relative to the proposed Minnesota Valley State Trail-Bloomington Segment. The trail will be located primarily in the Minnesota River bottomlands on the north side of the river, between the Bloomington Ferry Bridge and the Minnesota Valley National Wildlife Refuge Visitor's Center, located at the end of American Boulevard in the northeast corner of the South Loop District (AUAR study area). The field review included visual examination of the ground surface and subsurface testing in the form of 40 cm diameter shovel test pits and 1" soil core probes placed alternately at 50-foot intervals. Project investigators recovered several fragments of prehistoric ceramics in one location and a number of historic period artifacts, including a late 19th century tobacco pipe stem in another location. Because all the recovered artifacts have been re-deposited from their original locations by flood waters, neither site is eligible for listing on the National Register of Historic Places and therefore will not affect the trail development process. As noted throughout this AUAR update, all of the sites proposed for redevelopment are located above the bluff and will not impact the bottomlands.

Historical or Architectural Resources: The Minnesota's "Private Cemeteries Act" (307.08) affords all human remains and burials older than 50 years, located outside of platted, recorded, or identified cemeteries, protection from unauthorized disturbance. This statute applies to burials on either public or private lands or waters. The Minnesota Office of the

State Archaeologist works in concert with the Minnesota Indian Affairs Intertribal Council (MIAIC) on sites that are under the jurisdiction of the Minnesota Private Cemeteries Act.

There are no properties or structures in South Loop District with formal historic designation. However, there are two remaining structures in the district over 50 years old. These include:

- *Spruce Shadows Farm* (aka: "Kelley Farm") located at 2701 and 2901 East Old Shakopee Road. Structures built on the farm property date to 1933.
- *Former Fire Station #3* located at 2050 E. 86th Street was constructed in 1966. This is a one story, 6,471 SF brick building owned by the City of Bloomington. In late 2021, the City applied for a grant through the Federal Economic Development Agency (EDA) to rehabilitate this building as a Small Business Development Center. As required, notification was sent to the Minnesota State Historic Preservation Office (SHPO). The SHPO response, dated January 10, 2022, indicated that review under Section 106 of the National Historic Preservation Act would likely be required, but an intensive level of survey would not likely be needed.

Of these structures/properties, only one has been determined eligible for the National Register of Historic Places by the Minnesota State Historic Preservation Office (SHPO): the Kelley Farm a/k/a Spruce Shadows Farm (HE-BLC-071 and HE-BLC-079), 2901 Old Shakopee Road, located near the bluff overlooking the Minnesota River in the SW-SE 1/4 of Section 1, T27N, R24W (see Figure 15.1). Spruce Shadows Farm includes a 2 ½ story stone residence constructed in 1933 and attributed to St. Paul architect Magnus Jemne. The farm also includes a complex of farms and outbuildings that may be architecturally significant.

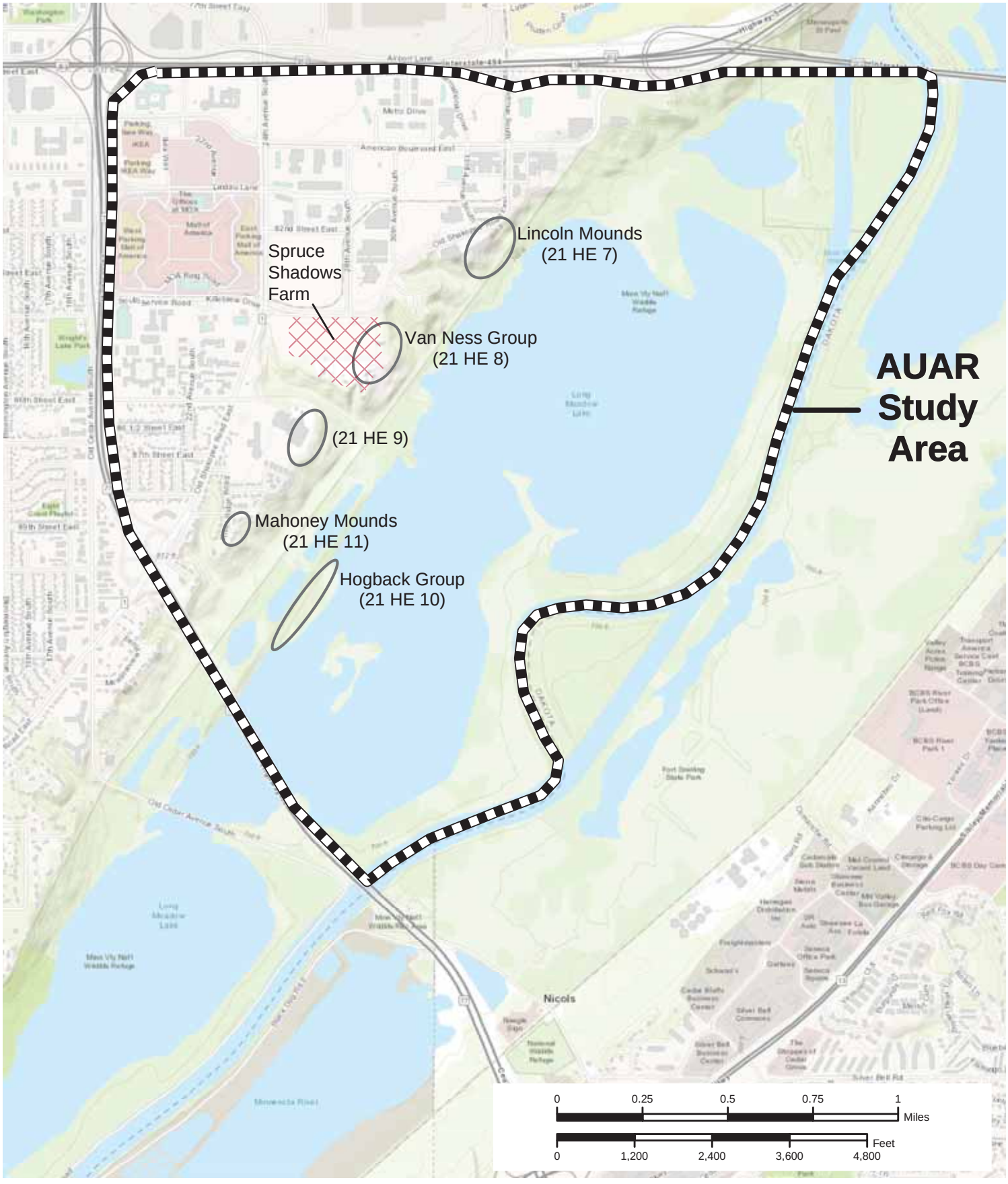
Spruce Shadows Farm was built by James E. Kelley, a prominent St. Paul lawyer, and his wife, Margaret (Hamm) Kelley, heir to the Hamm brewing family. The farmstead is eligible for the National Register of Historic Places. Spruce Shadows Farm would appear to meet criterion A and C, representing the trend of country estate development in the early twentieth century, and as a good example of Magnus Jemne's work.

SECTION 16: VISUAL

EAW: Describe any scenic views or vistas on or near the project site. Describe an project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

AUAR: If any non-routine visual impacts would occur from the anticipated development this should be discussed here along with appropriate mitigation.

The Minnesota River valley forms the entire south and east border of the South Loop District. Visual impacts to the valley are regulated through the City's Bluff Overlay District,



Source: "Archaeological Investigations of the New Ceridian Corporate Headquarters and the Lincoln Mounds Site (21 HE 7) Hennepin County, MN" David Mather Principal Investigator (July 1998)

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Historic and Archaeological Resources

South Loop District AUAR

FIGURE 15.1

which applies to all development adjacent to the bluff. As shown on Figure 10.3, three sites identified for redevelopment are located along the bluff. Portions of all these sites are within the City's Bluff Protection Overlay zoning district. Restriction on tree removal and requirements for larger building setbacks from the bluff are specifically intended to minimize visual impacts on the river valley from development on sites abutting the bluff.

Creation of bluff overlay zoning was an outcome of the *Bluff Report District Plan* the City adopted into its Comprehensive Plan in 1982. The Bluff Report inventoried the Minnesota River bluff lands in Bloomington and established the foundation for the overlay districts, including design guidelines to ensure development complements the landscape character of the bluff, including protection of scenic vistas.

SECTION 17: AIR

EAW:

A. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

B. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g., traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

C. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 17a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

AUAR: Items a and c are not applicable to an AUAR. Although the Pollution Control Agency no longer issues Indirect Source Permits, traffic-related air quality may still be an issue if the analysis in item 20 indicates that development would cause or worsen traffic congestion. Questions about details of air quality analysis should be directed to the MPCA staff.

A. STATIONARY SOURCE EMISSION: No response required for an AUAR.

B. VEHICLE EMISSIONS:

The 2002 AUAR cited a detailed air quality analysis performed as part of the Mall of America Expansion EIS studies. The air quality analysis concluded that projected traffic did not approach the State standard thresholds for carbon monoxide. Because assumptions in the EIS regarding background development were consistent with the 2002 AUAR development scenario and traffic operations, the EIS air quality analysis was utilized as the basis to describe air quality impacts in the 2002 AUAR.

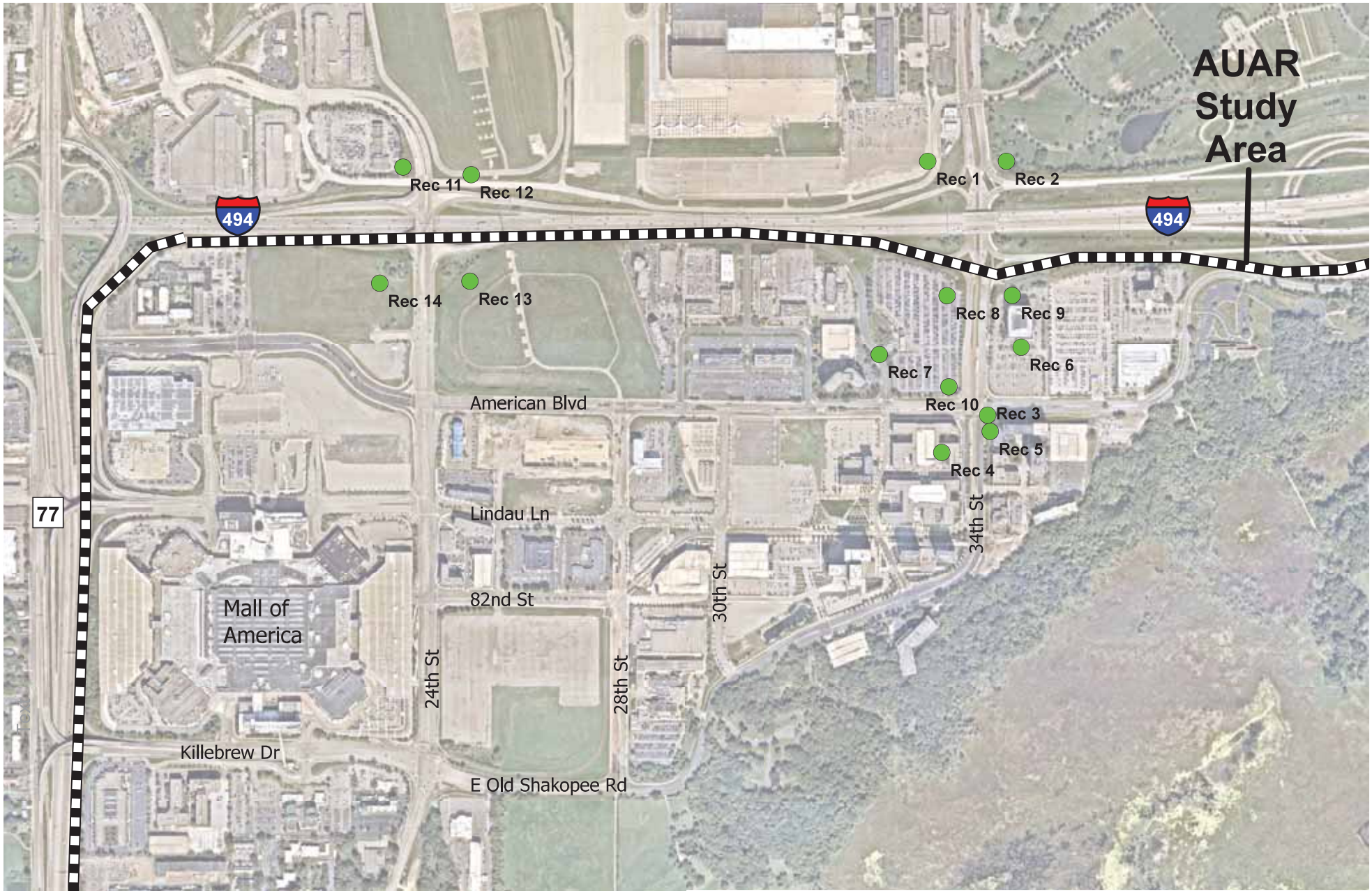
While background carbon monoxide (CO) emissions from the airport affect the South Loop District, the 2002 AUAR concluded that background CO emissions produced by vehicular traffic provides a more conservative estimate of future CO levels. The 2002 AUAR included a carbon monoxide concentration analysis based on forecast traffic volumes and optimized signal timing at three intersections: I-494 & 34th Ave; American Boulevard (f/k/a 80th St) and 34th Ave; and I-494 & 24th Ave. Fourteen receptors were positioned within 1,000-foot radius of these intersections, shown Figure 17.1. Results concluded that the increase in development proposed in the redevelopment scenario would not result in exceeding State air quality standards. At that time, the State standard for 8-hour average carbon monoxide concentration was 9.0 ppm. The concentration closest to the State standard occurred at Receptor 3, which predicted an 8-hour concentration of 7.5 ppm.

Section 22 of the 2002 AUAR (provided via link in Appendix B) concluded that the proposed development scenario would not result in exceeding State air quality standards and thus did not propose specific air quality mitigation measures. Total daily vehicle trips generated by the revised AUAR Development Scenario described in Section 6 are estimated to be substantially less than those predicted in the original 2002 AUAR Development Scenario (see Table 20.5). In addition, air emissions standards for vehicles have become more stringent over time. Therefore, vehicle-related air emissions resulting from forecast development in the updated AUAR Development Scenario are expected to be lower than those estimated in the 2002 AUAR. As such, the conclusion in the 2002 AUAR that State air quality standards will not be exceeded remains unchanged.

However, the City recognizes that climate change is a growing environmental threat and greenhouse gas emissions from transportation remain Bloomington's second largest contributor to climate change. Some initial City strategies to mitigate climate change impacts are described in Section 7, which along with Section 18 (below) are currently being piloted by the EQB to include in an updated EAW form. It is noted that climate data was not required in previous AUARs.

C. DUST AND ODOR:

Dust normal to construction would occur in conjunction with proposed future development. Dust generated during construction would be minimized through standard dust control measures, such as watering. After construction is complete, dust levels are anticipated to be minimum because all soil surfaces would be in permanent cover (i.e., structures, pavement, or lawn/landscaped areas).



Source: City of Bloomington, 2021

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Carbon Monoxide Receptor Locations

South Loop District AUAR

FIGURE 17.1

SECTION 18: GREENHOUSE GAS EMISSIONS/CARBON FOOTPRINT

EAW (2022 Pilot):

A. GHG Quantification: For all proposed projects, provide quantification and discussion of project GHG emissions. Include additional rows in the tables as necessary to provide project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to come to that conclusion and any GHG emission sources not included in the total calculation.

B. GHG Assessment:
    i. Describe any mitigation considered to reduce the project's GHG emissions.
    ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the project's GHG emissions. Explain why the selected mitigation was preferred.
    iii. Quantify the proposed projects predicted net lifetime GHG emissions (total tons/# of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

AUAR: No clear guidance has been presented as to how to address GHG emissions and carbon footprint impacts.

Because the AUAR development scenario is based on forecast future development, no specific project plans are available to analyze. Quantifying GHG emissions cannot be done with reference to specific development plans.

However, the City of Bloomington is taking steps to identify strategies to reduce GHG emissions and foster climate resilience. In general, we know that energy efficiency, electrification, and renewable energy are key to reducing greenhouse gas emissions from buildings. Furthermore, we know increasing trips from gasoline-fueled vehicles will increase greenhouse gas emissions and therefore low-carbon transportation options are essential to mitigating climate change. These are described in more detail in Section 7.

SECTION 19: NOISE

EAW: Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

AUAR: No changes from EAW form.

Construction-related Noise: Noise normal to construction would occur in conjunction with proposed AUAR development. Construction noise is mostly limited to daytime hours in accordance with City ordinances, except in situations where a temporary noise exception is approved by the Community Development Director per City Code Section 10.31. Construction equipment would be fitted with mufflers that would be property maintained during the construction process.

Traffic-Related Noise: The AUAR development scenario assumes a significant amount of additional development will occur in the South Loop District over the next 20 years. This will increase the amount of traffic in the area and result in increased traffic-related noise. In the 2002 AUAR, traffic noise impacts were modeled at sites in the South Loop area expected to be most affected by increases in traffic associated with future development. The traffic noise locations used in 2002 continue to represent locations anticipated to experience the highest amounts of traffic under future development conditions. Locations of the traffic noise receptors from the 2002 AUAR are shown on Figure 19.1, along with the updated airport noise contours, discussed below.

The 2002 AUAR provides a detailed description of the traffic-related noise analysis conducted at that time. As described in Section 20, the total daily vehicle trips assumed in the original 2002 AUAR were greater than total trips projected for the updated AUAR development scenario (through 2040). In addition, new vehicles are expected to be quieter, particularly as demand for electric vehicles grows. Therefore, it is anticipated that the traffic-related noise relative to the revised development scenario will be less than the noise impacts described in the 2002 AUAR.

Airport Noise: In addition to traffic-generated noise, the South Loop District is significantly impacted by aircraft noise given the proximity of the study area to the Minneapolis-St. Paul International Airport (MSP). Future development projects have no direct effect on noise originating from aircraft traffic; that is dependent on aircraft design and fluctuations in the amount of air travel. When the new Runway 17/35 at Minneapolis-St Paul International Airport opened, changes in flight patterns resulted in significant air traffic at lower altitudes over the South Loop District. Federal and State regulations are in place to ensure the compatibility of land uses with anticipated noise exposure in flight path areas. Federal Aviation Administration (FAA) requirements to ensure land use compatibility are known as Part 150 (FAA 14 C.F.R Part 150) and define compatible land uses based on yearly day-night average sound levels measured in decibels (DNL).

Current regulations regarding land uses compatible around airports are described in the *Minneapolis-St. Paul International Airport (MSP) 2030 Long Term Comprehensive Plan Update (July 26, 2010)* and the Metropolitan Council's *2040 Transportation Policy Plan*. It is noted that the MAC is currently working on the MSP Airport 2040 Long Term Plan, which is anticipated to be completed in late 2022. In addition, the Joint Airport Zoning Board (JAZB) updated the MSP Airport Zoning Ordinance, which was approved by the Minnesota Department of Transportation in 2004. Also in 2004, the City of Bloomington adopted Airport Runway Overlay Districts to provide consistency with the 2004 MSP Zoning Ordinance and ensure appropriate regulation of noise sensitive land uses.

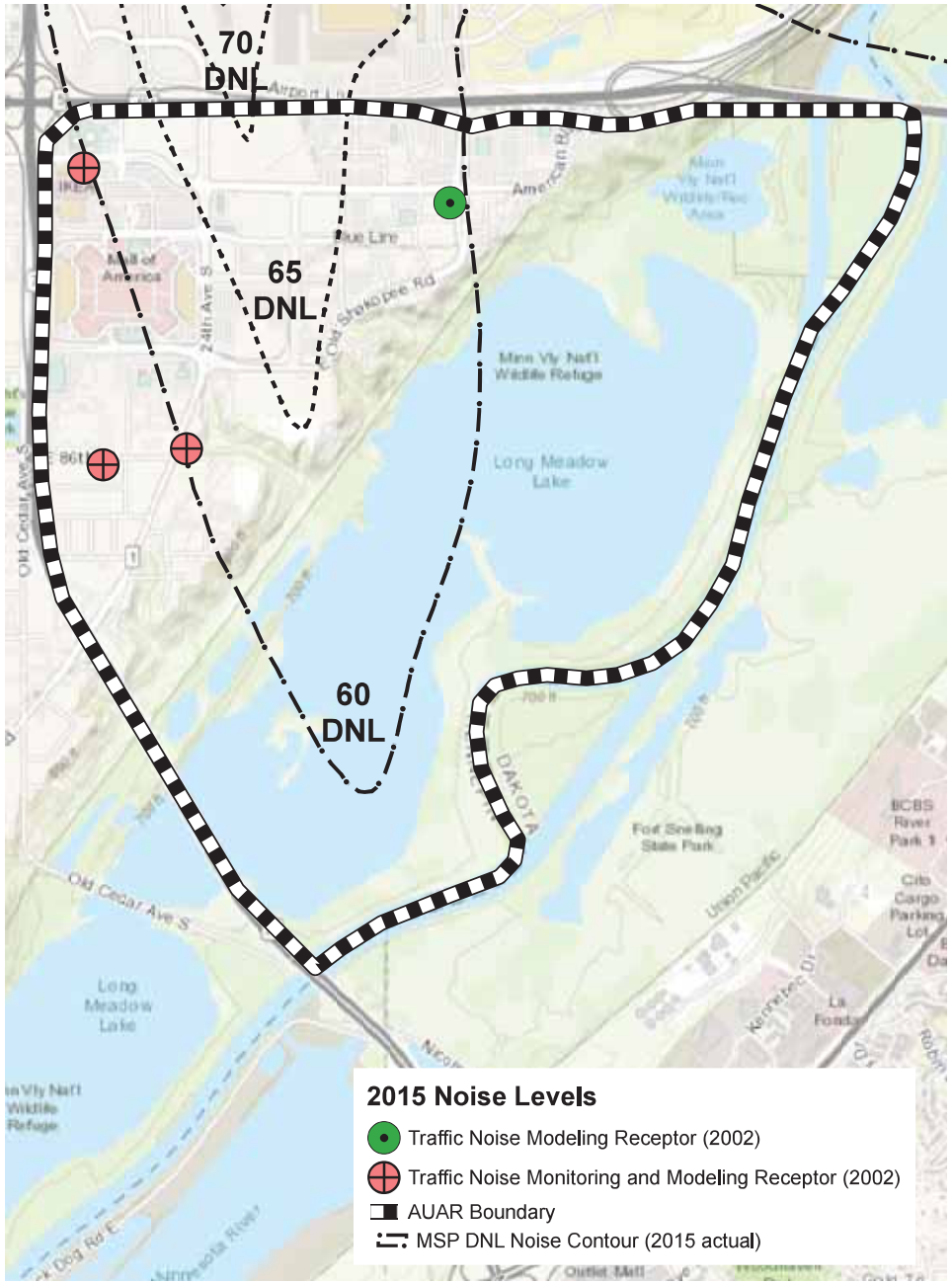
Under Part 150 Noise/Land Use Compatibility Guidelines, land uses are determined to be compatible or incompatible within areas experiencing specified day-night noise levels (DNL). In areas experiencing noise levels in the 65-70 DNL range, residential, transient lodging uses, hospitals, nursing homes, churches, auditoriums and concert halls are considered incompatible, unless the community determines they may be allowed and outside-to-inside noise level reductions of at least 30 decibels are achieved. Most other uses, including office and retail uses, are considered to be compatible within this noise-level zone.

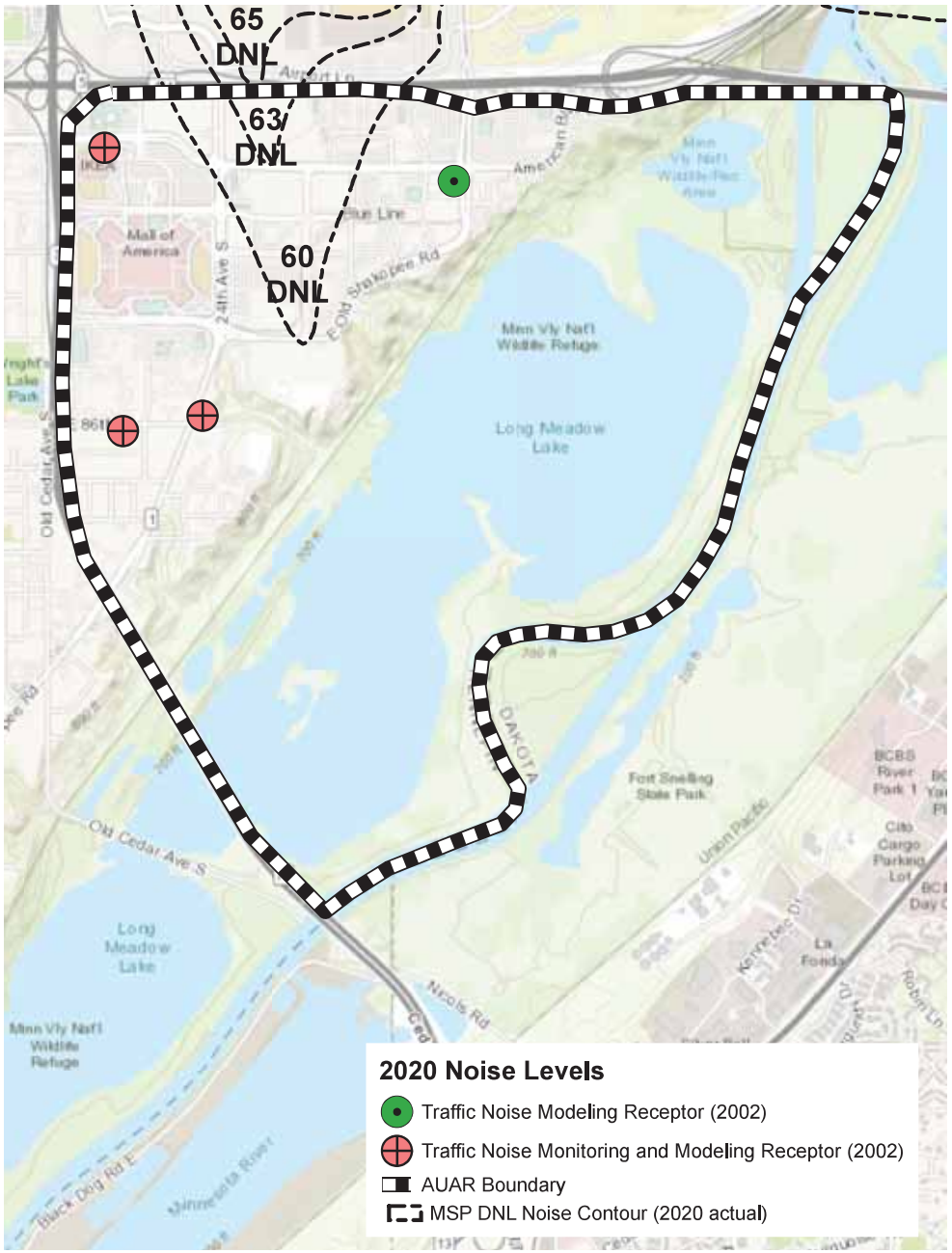
Since 2002, the portion of the South Loop District located within high noise contours (65-70 decibel DNL and 70-75 decibel DNL) has been greatly reduced. In 2002, much of the central portion of the South Loop District was within the 70 and 75 DNL contours. By 2015, none of the South Loop district was within the 75 DNL contour and only a very small portion – located in the Runway Protection Zone where development is prohibited - was in the 70 DNL contour. At that time, most the Study Area was in the 60 and 65 DNL contours. The most recent (2020) noise modeling indicates the area covered by the higher noise contours continues to shrink. Figure 19.1 compares aircraft noise levels in the South Loop District for 2015 and 2020.

In the South Loop, no residential development is allowed or proposed in areas subject to noise levels in the current 65-70 DNL contour. However, several hotels exist and/or are proposed in this area. The City has code requirements related to noise mitigation (Section 10.29.04) and may attach conditions to project approval, on a case-specific basis and/or require noise studies. It is also noted that private developers of new hotels and residential developed in recent years have all conducted noise studies and designed their buildings to mitigate noise.

Most of the central area of the South Loop District lies between the 60 and 63 DNL contours. Under Part 150 Noise/Land Use Compatibility Guidelines, no land uses have been determined to be incompatible in this area. However, the Metropolitan Council's 2040 Transportation Policy Plan (TPP) defines areas with noise levels in the 60-64 DNL range as Noise Policy Area 4. In these areas noise exposure might be considered moderate. This area is also considered transitional, since potential changes in airport and aircraft operating procedures could lower or raise noise levels. The 2040 TPP mentions that development in this area can benefit from insulation levels above typical new construction standards. It is also important to note that noise modeling can fluctuate greatly. The lower noise levels recorded in 2020 may be due to unique factors, such as reduced air travel during the pandemic, which took hold in March 2020, but may not endure.

Multi-family residential developments in the South Loop located in the 60-65 DNL range have been required – via City Council approved conditions - to meet noise mitigation standards. The Minnesota Pollution Control Agency (MPCA) also enforces noise mitigation requirements in Minnesota Rules Chapter 7030. The other areas of the South Loop where future residential development is projected are located east of 30th Avenue.





Source: City of Bloomington; MAC, MSP Annual Noise Contour Analysis, 2015 & 2020; ESRI Topographic Map, 2021

CITY OF BLOOMINGTON MINNESOTA

Change in Aircraft Noise Levels 2015 to 2020

South Loop District AUAR

FIGURE 19.1

Areas east of 34th Avenue and south of Killebrew Drive/west of East Old Shakopee Road lie outside of the 60 DNL contour.

Given noise reductions associated with newer aircraft and vehicles, and reduced peak traffic levels associated with the revised development scenario, an overall decrease in noise impacts is anticipated compared to the 2002 AUAR assessment. As such, the 2002 AUAR assessment reflects a "worst case" scenario relative to noise pollution.

SECTION 20: TRANSPORTATION

EAW:

A. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

B. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 *available at: http://www.dot.state.mn.us/accessmanagement/resources.html)* or a similar local guidance.

C. Identify measures that will be taken to minimize or mitigate project related transportation effects.

AUAR: For most AUAR reviews a detailed traffic analysis will be needed, conforming to the MnDOT guidance as listed on the EAW form. The results of the traffic analysis must be used in the response to item 22 (now 17) and in the noise aspect of item 24 (now 19).

Since the 2002 AUAR was completed, there have been numerous traffic studies completed for individual development projects and infrastructure improvements within the South Loop District. A complete South Loop (formerly Airport South) Traffic Study was completed for the original AUAR in 2002. Another district-wide traffic study – the *South Loop District Roadway Infrastructure Improvement Study* was completed in 2018. Most studies completed in the interim have been minor traffic updates, typically in conjunction with specific development proposals such as the MOA Phase II expansion in 2006. More recent studies are listed in Section 6 and a detailed list of past studies is provided in Appendix C.

2018 South Loop District Roadway Infrastructure Study

The updated AUAR Development Scenario described in Section 6 reflects a continued shift from office and retail to more hotel and residential uses. While these shifts can alter traffic patterns, they are generally expected to result in more evenly dispersed traffic flows and reduced peak hour traffic volumes. As a result, the findings of the *South Loop District Roadway Infrastructure Improvement Study* (roadway study) continue to offer useful analysis for use in this this AUAR update.

The 2018 roadway study analyzed existing conditions, traffic impacts under forecast development conditions for Years 2025 and 2040, and described transportation improvements, with a focus on projects through the year 2025. The PTV VISSIM traffic operations model was used for all intersection analyses for existing, 2025, and 2040 conditions. Traffic operations were analyzed at 36 key intersections in the South Loop District (see Figure 20.1). A full copy of the *South Loop District Roadway Infrastructure Improvement Study* is included in Appendix F.

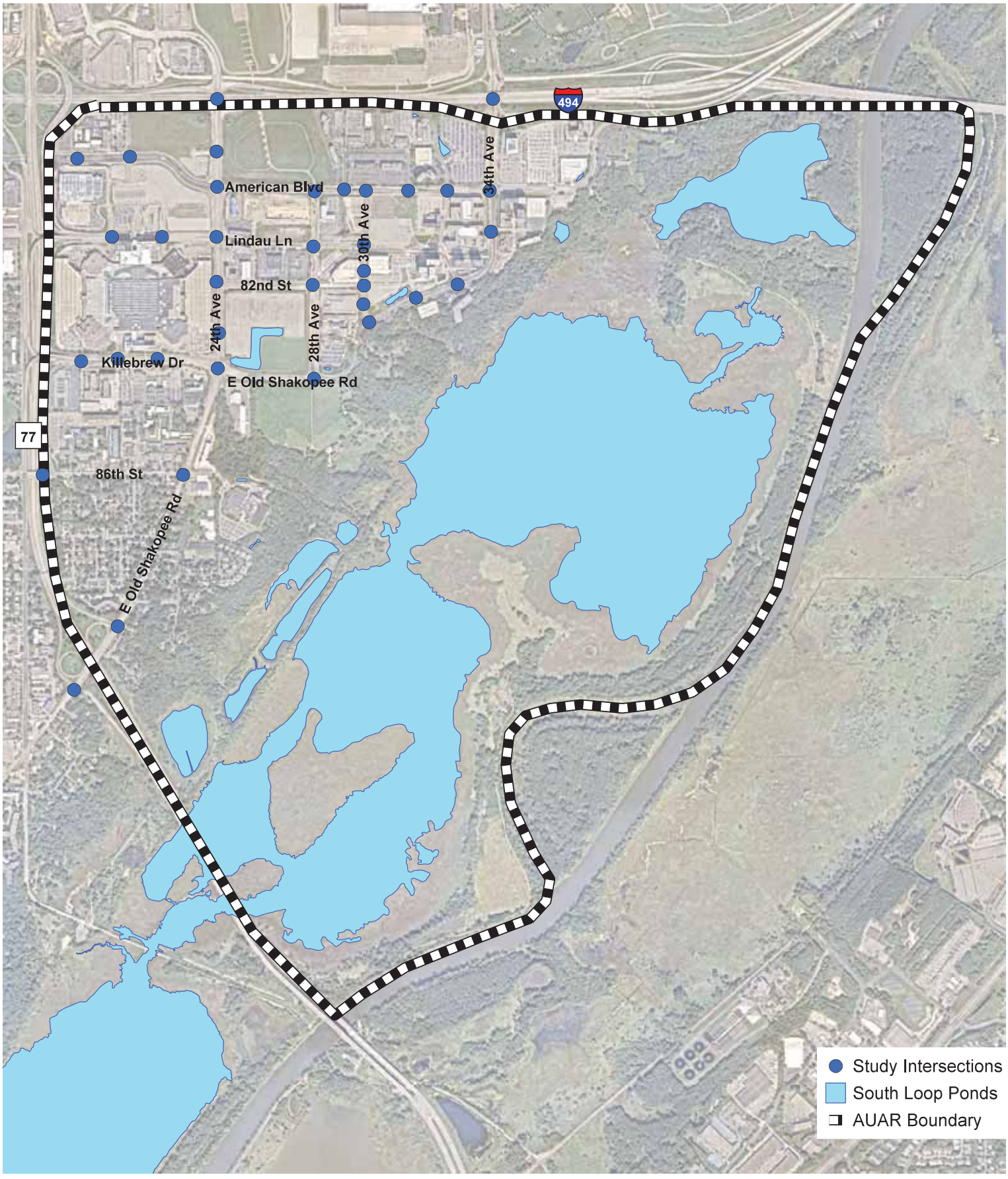
Existing Conditions

Traffic count data for existing vehicular, heavy vehicle, pedestrian, and bicyclist was collected at the 36 key intersections during the weekday a.m., weekday p.m., and Saturday midday peak periods. The peak hour volumes were adjusted to represent an 85th percentile day based on a review of loop detector data, MOA gate counts, and historical count data. Transit information, including LRT, was incorporated into the existing and future analysis. The weekday p.m. and Saturday midday peak hours represent the highest volume sets.

Results of the existing conditions analysis indicate that all study intersections currently operate at an acceptable LOS D or better during the weekday p.m. and Saturday peak hours with the existing traffic controls and geometric layout. The majority of intersections operate at LOS A for both weekday p.m. and Saturday peak hours. Only two intersections – both around MOA - operate at LOS D and only during Saturday peak hours.

In addition to the level of service results, the model provided information about existing conditions and operations worth noting:

- **American Blvd & 24th Ave**: Eastbound left-turn queues extend approximately 400 feet along American Boulevard during the weekday p.m. peak hour. There is an unbalanced lane utilization for the American Boulevard eastbound left-turn lanes and northbound thru lanes on 24th Avenue due to the high percentage of vehicles destined for the I-494 eastbound on-ramp.
- **American Blvd & 34th Ave**: Eastbound left-turn queues extend approximately 450 feet along American Boulevard during the weekday p.m. peak hour. There is an unbalanced lane utilization for the eastbound left-turn lanes due to the high percentage of vehicles destined for the I-494 eastbound on-ramp.



Source: SRF Consulting Group Inc., 2018; Nearmap, 2021

CITY OF BLOOMINGTON MINNESOTA

Location of Intersections Modelled in Traffic Study

South Loop District AUAR

FIGURE 20.1

- **Lindau Lane & Ikea Way**: Queues on Lindau Lane for northbound left-turns onto Idea Way extend approximately 500 feet during the Saturday peak hour. There is an unbalanced lane utilization for the northbound left-turns and southbound right-turns.

Year 2025 (Interim) Conditions

An interim condition was evaluated to identify if road improvements would be needed to accommodate traffic volumes in the near-term. New trips generated by development projected to occur in the South Loop District by 2025 are estimated to total approximately 6,730 weekday p.m. peak hour and 6,860 Saturday peak hour net trips. Year 2025 traffic volumes include general background growth to the area, trips generated by forecast development in the South Loop District, and traffic growth forecast for the airport expansion estimated from the MSP Area Roadway Improvements project.

A traffic operations analysis was conducted for the year 2025 using PTV VISSIM traffic operations model software for the aforementioned key signalized intersections. The model analyzed how well the existing roadway network – with the interim improvements described above in place – will accommodate the proposed 2025 development scenario.

Results of the year 2025 conditions analysis, summarized in Table 20.1 and illustrated in Figures 20.2 and 20.3, indicate that a few intersections are expected to operate at LOS E or worse during the weekday p.m. and/or Saturday peak hours with the existing traffic controls and geometric layout.

Table 20.1 Year 2025 Peak Hour Capacity Analysis

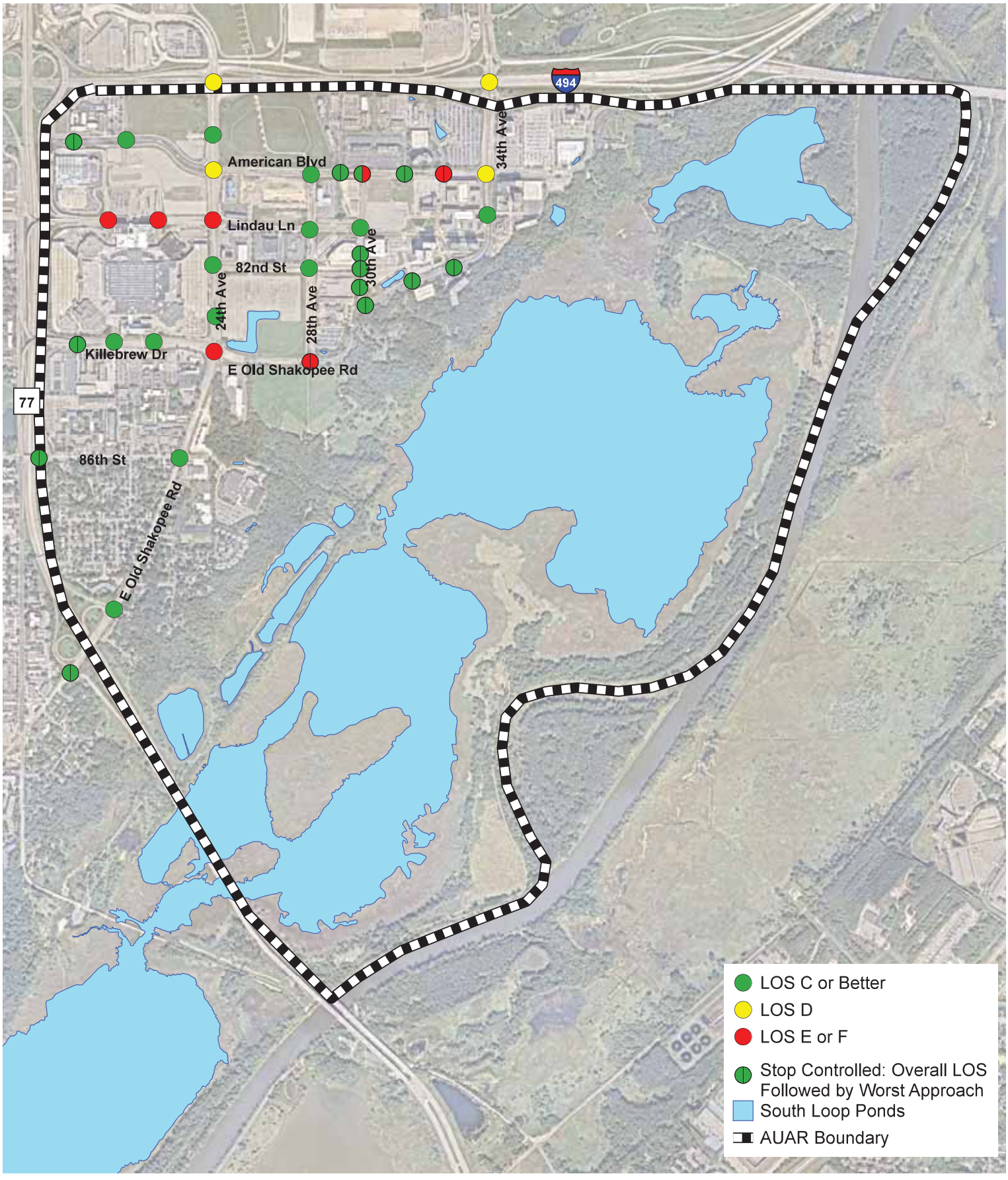
Intersection	Level of Service (LOS)	
	P.M. Peak	Saturday Peak
American Blvd & IKEA Access	A/C	A/B
SB 77 & NB 77 Merge at Lindau Ln	A	A
E 86th St & E Service Rd	A	A
E Old Shakopee Rd & TH 77 S Ramps	A	A
American Blvd & Thunderbird Rd	C	D
Lindau Ln & IKEA Way	**F**	**F**
Killebrew Dr & 20th Ave	B	C
E Old Shakopee Rd & TH 77 N Ramps	B	B
Lindau Ln & 22nd Ave	**F**	F
Killebrew Dr & 22nd Ave	B	C
24th Ave & I-494 Ramps	D	**E**
24th Ave & 77th Ave	B	C
American Blvd & 24th Ave	D	E
24th Ave & Lindau Ln	E	D
24th Ave & 82nd St	B	C
24th Ave & Transit Station	A	A

Intersection	Level of Service (LOS)	
	P.M. Peak	Saturday Peak
24th Ave & Killebrew Dr/E Old Shakopee Rd	A	A
E Old Shakopee Rd & 86th St	A	A
American Blvd & 28th Ave/Airport Access	A	A
Lindau Ln & 28th Ave	A	A
82nd St & 28th Ave	C	B
E Old Shakopee Rd & 28th Ave	F	A/C
American Blvd & Metro Drive W	A/C	A
American Blvd & 30th Ave	C/E	A
Lindau Ln & 30th Ave	A	A
30th Ave & North HP Driveway/METRO Park-n-Ride	A/B	A
30th Ave & Central HP Driveway	A	A
30th Ave & South HP Driveway	A	A
30th Ave & E Old Shakopee Rd	A/C	A
American Blvd & Metro Drive E	A/C	A
E Old Shakopee Rd & 31st Ave	A/C	A
American Blvd & International Dr	B	A
E Old Shakopee Rd & 33rd Ave/Ceridian Access	A	A
34th Ave & I-494	D	C
34th Ave & American Blvd	D	C
34th Ave & Appletree Square	A	A

Source: South Loop Roadway Infrastructure Improvements Study, SRF Consulting (2018)

The following road improvements were identified to accommodate forecast Year 2025 traffic levels, although timing may be later, as noted to reflect actual development activity:

- **I-494 & 24th Ave Interchange**: Construct dual northbound right turn lanes onto eastbound I-494 ramps; signal timing improvements and possible ramp signalization. *[2026]*
- **I-494 & 34th Ave Interchange**: Construct dual northbound right turn lanes onto eastbound I-494 ramps; eliminate the eastbound free right at American Boulevard/34th Avenue by either adding a yield or bringing the turn lane into the intersection at 90 degrees; signal timing improvements and ramp signalization. *[2026]*
- **Lindau Ln at IKEA Way and 22nd Ave**: Modify southbound right “cat-tracking” at Lindau Lane/IKEA Way into the two south lanes; add southbound right “cat-tracking” into the two south lanes at Lindau Lane/22nd Avenue; update signal cycle lengths/splits; modify wayfinding signage.
- **American Blvd at International Dr and Metro Dr East**: Modify American Boulevard/International Drive intersection to three-quarter access; construct a roundabout at American Boulevard/Metro Drive East intersection. *[2031]*



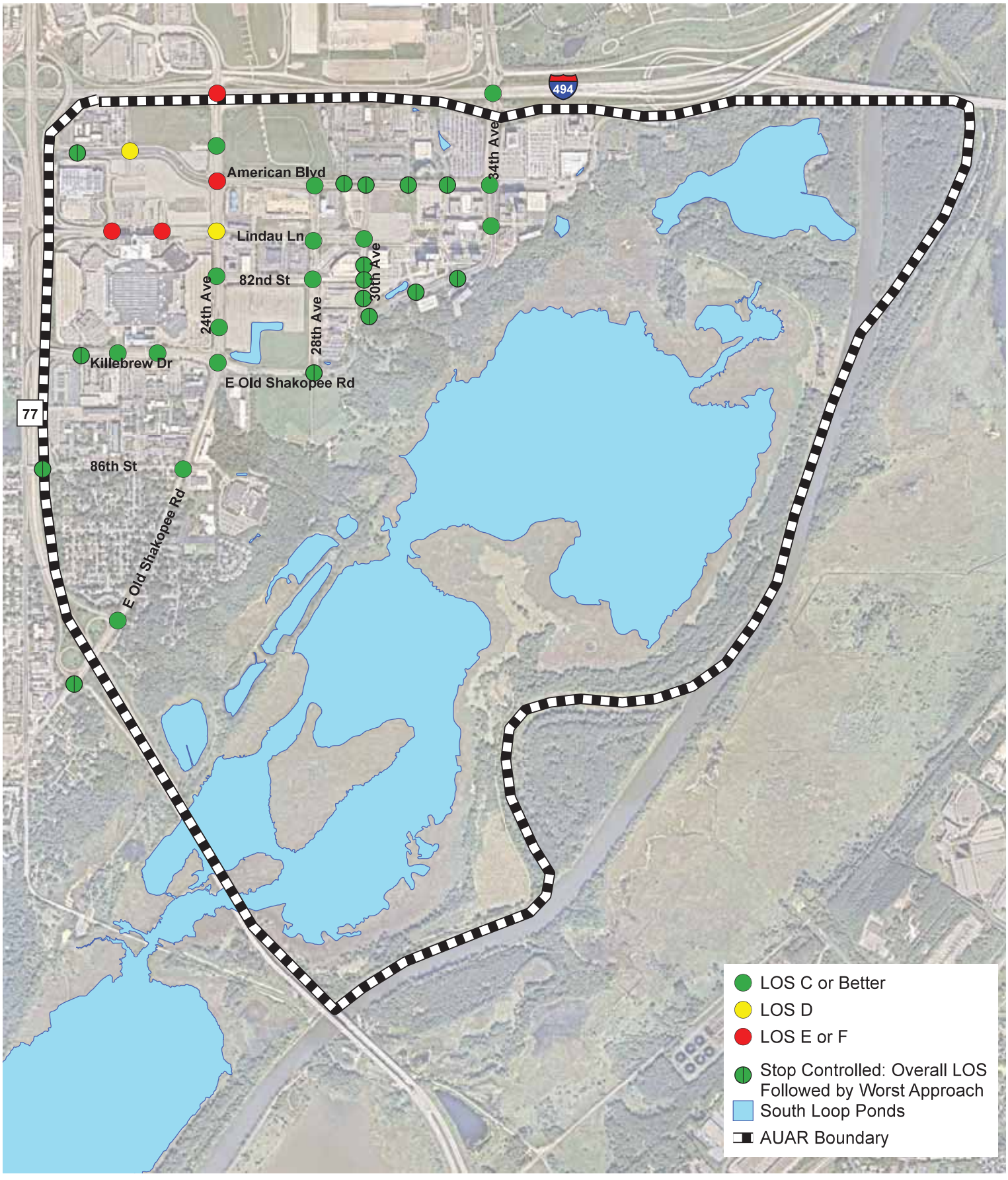
Source: SRF Consulting Group Inc., 2018; Nearmap, 2021

CITY OF BLOOMINGTON MINNESOTA

Year 2025 Level of Service without Road Improvements (Weekday PM Peak Hour)

South Loop District AUAR

FIGURE 20.2



Source: SRF Consulting Group Inc., 2018; Nearmap, 2021

CITY OF BLOOMINGTON MINNESOTA

Year 2025 Level of Service without Road Improvements (Saturday Peak Hour)

South Loop District AUAR

FIGURE 20.3

- **24th Ave Corridor (Between I-494 and 82nd St):** Develop a concept layout to better utilize the existing roadway width; includes restriping/median work, removal of channelized right turns, removal of add-in lanes, access control, and pedestrian improvements. *[2028]*
- **E Old Shakopee Rd & 28th Ave:** Construct a multi-lane roundabout.
- **E Old Shakopee Rd & 33rd Ave**: Pedestrian crossing improvements.
- **American Blvd E & 30th Ave**: Install a signal. *[2031]*
- **American Blvd & 28th Ave**: Repurpose lanes on south approach to better utilize existing roadway width.

Modelling results indicate that all the intersections studied are expected to operate at an acceptable LOS D or better during the weekday p.m. and Saturday peak hours with the proposed traffic controls and geometric layout improvements described above. These improvements are based on traffic generated by forecast development. Given future development may occur at different times or amounts than assumed, the need for individual improvements should be reevaluated as the AUAR is routinely updated every five years to adjust to the actual timing of future development. The City will work with MnDOT, Hennepin County, and other partners to determine project feasibility and design of any roadway modifications.

Year 2040 (Full-Build) Conditions

The 2018 roadway study analyzed traffic based on the Year 2040 development assumed in the 2017 AUAR Development Scenario. While the updated development scenario described in Section 6 reflects land use shifts that may alter traffic patterns, they are generally expected to result in more evenly dispersed traffic flows and reduced peak hour traffic volumes.

The roadway study concluded that trips generated by development growth in the South Loop District between 2025 and 2040 are estimated to total approximately 5,040 weekday p.m. peak hour and 3,680 Saturday peak hour net trips. Year 2040 traffic volumes include general background growth to the area, trips generated by forecast development in the South Loop District, and traffic growth forecast for the airport expansion as estimated in the MSP Area Roadway Improvements project, prepared by SRF Consulting for the MAC.

It should be noted that a number of uncertainties were considered in developing the Year 2040 forecasts, including:

- Airport forecast (prepared by SRF Consulting for MAC)
- The magnitude of impact driverless vehicles will have on traffic volumes/patterns
- South Loop development timeline
- Average ITE rate used for all developments (year 2025 and 2040)
- Developments assumed to have same peak hour
- Potential for peak spreading

- Behavioral changes
- Number of employees working remotely

A traffic operations analysis was conducted using PTV VISSIM traffic operations model software for the aforementioned key signalized intersections. The model analyzed how well the existing roadway network – with the Year 2025 interim improvements described above in place – will accommodate the proposed 2040 development scenario. It should be noted that no additional signal timing improvements were assumed.

Results of the year 2040 conditions analysis, summarized in Table 20.2, indicate that a number of intersections are expected to operate at LOS E or worse during the weekday p.m. and Saturday peak hours with the existing traffic controls and geometric layout.

Table 20.2 Year 2040 Peak Hour Capacity Analysis

Intersection	Level of Service (LOS)	
	P.M. Peak	Saturday Peak
American Blvd & IKEA Access	**E**	A
SB 77 & NB 77 Merge at Lindau Ln	A	A
E 86th St & E Service Rd	A	A
E Old Shakopee Rd & TH 77 S Ramps	A	A
American Blvd & Thunderbird Rd	**F**	**F**
Lindau Ln & IKEA Way	**F**	**F**
Killebrew Dr & 20th Ave	B	C
E Old Shakopee Rd & TH 77 N Ramps	C	B
Lindau Ln & 22nd Ave	**F**	D
Killebrew Dr & 22nd Ave	B	C
24th Ave & I-494 Ramps	D	**F**
24th Ave & 77th Ave	B	C
American Blvd & 24th Ave	**E**	C
24th Ave & Lindau Ln	D	C
24th Ave & 82nd St	B	C
24th Ave & Transit Station	A	A
24th Ave & Killebrew Dr/E Old Shakopee Rd	D	C
E Old Shakopee Rd & 86th St	B	A
American Blvd & 28th Ave/Airport Access	A	A
Lindau Ln & 28th Ave	A	A
82nd St & 28th Ave	C	B
E Old Shakopee Rd & 28th Ave	D	B
American Blvd & Metro Drive W	A	A
American Blvd & 30th Ave	A	A
Lindau Ln & 30th Ave	B	A
30th Ave & North HP Driveway/METRO Park-n-Ride	**F**	A
30th Ave & Central HP Driveway	**F**	A

Intersection	Level of Service (LOS)	
	P.M. Peak	Saturday Peak
30th Ave & South HP Driveway	**F**	A
30th Ave & E Old Shakopee Rd	C	A
American Blvd & Metro Drive E	B	A
E Old Shakopee Rd & 31st Ave	B	A
American Blvd & International Dr	B	A
E Old Shakopee Rd & 33rd Ave/Ceridian Access	A	A
34th Ave & I-494	**E**	C
34th Ave & American Blvd	**F**	D
34th Ave & Appletree Square	B	A

Source: South Loop Roadway Infrastructure Improvements Study, SRF Consulting (2018)

To address the traffic operational issues identified under year 2040 conditions, the following improvements have been identified:

- **I-494 & 34th Ave Interchange**: Improvements identified in the MSP Area Roadway Improvements project will be needed. Additional regional improvements to the westbound off-ramp may be needed to accommodate future forecasts.
- **American Blvd & 34th Ave:** Additional geometric improvements will be needed. Add triple eastbound left-turns, a fourth northbound through lane, and dual westbound right-turn lanes.
- **E Old Shakopee Rd & 31st Ave**: Install a signal.
- **E Old Shakopee Rd & 30th Ave**: Install a signal.
- **E Old Shakopee Rd & 28th Ave**: Option 1: install a signal. and construct dual southbound left-turn lanes and dual westbound left-turn lanes; Option 2: construct a multi-lane roundabout.
- **American Blvd & Thunderbird Rd:** Increase the capacity for the southbound approach
- **I-494/Thunderbird Road Eastbound Ramp**: Improves traffic operations on Lindau Ln at IKEA Way and 22nd Ave and at the American Blvd and 24th Avenue intersection.
- **E Old Shakopee Rd & TH 77 N Ramps:** Additional geometric improvements will be needed. Potentially could eliminate westbound approach and convert to a continuous flow intersection.
- **If LRT transit frequency increases from current conditions**:
  - **American Blvd & 34th Ave:** Grade separation options should be considered.
  - **E Old Shakopee Rd/24th Ave:** Grade separation options should be considered.

Modelling results indicate that all the intersections studied are expected to operate at an acceptable LOS D or better during the weekday p.m. and Saturday peak hours with implementation of the proposed traffic controls and geometric layout improvements. As noted relative to Year 2025 results, future development may occur at different times or amounts than assumed. Accordingly, the need for individual improvements should be reevaluated as the AUAR is routinely updated every five years to adjust to the actual

timing of future development. The City will work with MnDOT, Hennepin County, and other partners to determine project feasibility and design of any roadway modifications.

The traffic study also explored the impacts of autonomous vehicles. Given uncertainties about timing and actual impacts on mobility, the study concluded that it is too soon to adjust the model assumptions. However, the implications of this technology should be reviewed during future AUAR updates as more information is available.

Likewise, the impacts of increased mode share by non-single occupancy vehicles will continue to be studied. The South Loop District is well served by transit and the City encourages both transit and bicycle modes by providing flexibility to parking requirements. The City adopted a Transportation Demand Management ordinance in 2009 and allows shared parking and other flexibility in several zoning districts. The City will also continue to explore opportunities to install grade-separated pedestrian/bicycle crossings to enhance traffic flow and mobility throughout the district.

Comparison to 2002 AUAR

As described in Section 6, the development scenario used in the original 2002 AUAR was substantially revised for the 2017 AUAR update and further revised for this AUAR update to reflect the continued shift in land uses away from office and retail to more hotel and residential uses.

Table 20.3 below, compares the total number of daily vehicle trips expected to result from the 2002 and 2017 South Loop AUAR Development Scenarios. The difference is a reduction of about 68,900 trips on weekdays and 72,700 on Saturdays for current (2040) forecast compared to the 2002 forecast. There are several factors that may have contributed to the trip reduction. The 2017 AUAR development scenario forecasts a reduction in the overall amount of development through "full build-out". In addition, actual traffic counts indicated that existing development generally generated trips at a lower rate than the ITE average trip rates. Some of this is likely due to increases in travel mode share by non-single occupancy vehicles, the significant enhancement of transit service available in the area since 2002, and the high potential for multi-use trips given the mix of uses in the area.

Table 20.3: Daily Trip Generation Comparison – AUAR Development Scenarios

	2002 AUAR Development Scenario	2017 AUAR (2040 Forecast)	
		Weekday	Saturday
Total Daily Trips	274,355	205,450	201,650

The tables below provide details of the differences in traffic generation relative to specific redevelopment sites identified in the 2002 and 2017 development scenarios.

Table 20.4: Daily Trip Generation – 2002 AUAR Development Scenario

Site	2002 Daily Trips		
	Existing (1998)	MOA Expansion EIS 2020 Alt 1	AUAR Development Scenario
Met Center	-	59,825	59,825
Adjoining Lands	-	20,975	20,975
MOA Phase 1	82,000	82,000	82,000
Health Partners Campus	6,950	14,425	14,425
Metro Office Park	8,125	16,300	8,125
Kelley Property	25	25	12,730
RPZ Block	6,450	-	-
Robert Muir	800	6,225	6,225
Remainder of Airport South District	67,650	70,050	70,050
Subtotal	**172,000**	**269,825**	**274,335**

Source: Table 9, Airport South District AUAR (2002)

Table 20.5: Daily Trip Generation – Revised AUAR Development Scenario

Site (subTAZ)	2040 Daily Trips	
	Weekday	Saturday
Kelley Farm/Forest Glen Apt (471C)	6,100	5,700
Long Meadow Circle (471D)	3,650	600
Apple Tree (471E)	6,250	3,050
Embassy/Park N Fly (471F)	8,900	6,200
Park N Go (472C)	10,350	9,200
Bloomington Central Station (472D)	26,950	11,100
Hotels (472E)	7,250	3,450
Alpha/Interstate (472G)	9,250	5,250
Adjoining Lands (472F)	15,000	16,300
Gateway (473A)	9,100	12,550
MOA Phase 1 & 2 (473B)	102,650	128,250
Subtotal	**205,450**	**201,650**

Source: South Loop District Roadway Infrastructure Improvement Study, SRF Consulting (2018)

Proposed Future Transportation Improvements

The *South Loop District Roadway Infrastructure Improvement Study* identified the transportation improvements needed to accommodate forecast future development. Table 20.6 below lists the transportation improvements that will be needed to accommodate projected development in the South Loop District for the foreseeable future. The lead agency(s) responsible for project implementation and approximate timing of the projects is also described.

Many of these projects will be implemented when demand warrants based on timing of future development. Because timing of future development described in the AUAR development scenario is speculative, this list of projects will be routinely reviewed and updated during the required AUAR updates, which occur every five years.

TABLE 20.6: PROPOSED FUTURE ROADWAY IMPROVEMENTS

Location		Timing	Lead Agency
East Old Shakopee Road/33rd Avenue (SL-07-004)	Construct a traffic signal at 33rd Avenue and East Old Shakopee Road	2024	Bloomington
I-494 / 24th Avenue (SL-16-006)	Construct dual northbound right turn lanes onto eastbound I-494 ramps; signal timing improvements and possible ramp signalization	2026	Bloomington/ Hennepin Co/MnDOT
I-494 / 34th Avenue (SL-16-007)	Construct dual northbound right turn lanes onto eastbound I-494 ramps; eliminate the eastbound free right at American Boulevard/34th Avenue by either adding a yield or brining the turn lane into the intersection at 90 degrees; signal timing improvements and ramp signalization	2026	Bloomington/ MnDOT
Signal Timing, as needed (SL-16-009)	Signal timing improvements on a three-year cycle are expected to be needed at 15 South Loop intersections to accommodate traffic forecast	2023, 2026, 2029	Bloomington/ Hennepin Co/MnDOT/ Metro Transit
Lindau Lane at IKEA Way and 22nd Avenue (SL-16-010)	Modify “cat-tracking” northbound left and southbound right at Lindau Lane/IKEA Way into the two south lanes; add “cat-tracking” southbound right at Lindau Lane/22nd Avenue; update signal cycle lengths/splits; modify wayfinding signage	2024	Bloomington
American Boulevard at International Drive and Metro Drive East (SL-16-011)	Modify American Boulevard/International Drive intersection to three-quarter access; construct a roundabout or traffic signal at American Boulevard/Metro Drive East intersection	2031	Bloomington
24th Avenue Corridor (SL-16-005)	Develop a concept layout to better utilize the existing roadway width; may include restriping/median work, removal of channelized right turns, removal of add-in lanes, access control, pedestrian improvements	2028	Bloomington/ Hennepin Co/MnDOT
East Old Shakopee Road/28th Avenue (SL-16-012)	Construct a multi-lane roundabout or traffic signal at intersection	2025	Bloomington
American Boulevard E/30th Avenue (SL-16-013)	Install a signal	2031	Bloomington

Location		Timing	Lead Agency
American Boulevard/ 28th Avenue (SL-21-001)	Repurpose lanes on south approach to better utilize existing roadway width.	2022	Bloomington
30th Ave at EOSR Signal (SL-16-003)	Construct a signal at 30th Avenue and East Old Shakopee Road for the next Bloomington Central Station phase	2027	Bloomington
TH 77/494 CD Access at Thunderbird Rd (SL-06-012)	Interim connection at Thunderbird Road from/to TH77/494 CD	2027	Bloomington/ MnDOT

SECTION 21: CUMULATIVE POTENTIAL EFFECTS

EAW: Minnesota Rule Park 4410.1700, Subpart 7, Item B requires that the RGU consider the "cumulative potential effects of related or anticipated future projects" when determining the need for an Environmental Impact Statement. Identify any past, present, or reasonably foreseeable future projects that may interact with the project described in this EAW in such a way as to cause cumulative impacts. Describe the nature of the cumulative impacts and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to cumulative impacts (or discuss each cumulative impacts under appropriate items elsewhere on this form).

AUAR: This item is not required for an AUAR since the entire AUAR process deals with cumulative impacts from related developments within the AUAR area.

No response required for AUAR.

SECTION 22: OTHER POTENTIAL ENVIRONMENTAL IMPACTS

EAW: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

AUAR: If applicable, this item should be answered as requested by the EAW form.

No additional potential environmental impacts, beyond those described in items 1-20, would result from the proposed AUAR development.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The AUAR describes the complete projects; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9b and 60, respectively.
- Copies of this AUAR are being sent to the entire EQB distribution list.

Signature _____ Date _____

Title _____

Alternative Urban Areawide Review was prepared by the staff of the Environmental Quality Board at the Minnesota Department of Administration, Office of Geographic and Demographic Analysis. For additional information, worksheets or for *AUAR Guidelines*, contact: Environmental Quality Board, 658 Cedar St., St. Paul, MN 55155, 651-201-2492, or http://www.eqb.state.mn.us.