South Loop District
City of Bloomington

Alternative Urban Areawide Review (AUAR)

Update Report

May 22, 2017

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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 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. A subsequent update was adopted by the Bloomington City Council in December 2009, through Resolution 2009-171, and a second AUAR update was adopted by the Bloomington City Council in August 2012, through Resolution 2012-86. These updates reviewed and incorporated infrastructure projects that were not anticipated in 2002.

This AUAR update replaces previous versions, which the City of Bloomington 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 2009 and 2012 updates, which are available on the City of Bloomington 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. As a result, the current EAW requirements fall into twenty sections, whereas previous EAW requirements cover 31 sections. Since the most current requirements for AUAR content date to 2008 and refer to the 31 sections in the previous EAW requirements, this AUAR document retains that format.

For reference, the EAW and AUAR requirements are provided at the beginning of each of the sections in this report. They describe both the updated (2013 EAW) requirements and the previous EAW/AUAR requirements used in the original 2002 AUAR. The responses in this AUAR update generally follow the EAW requirements used in the 2002 AUAR. When an EAW item is not applicable to this AUAR, it is so stated.

Given the number of physical and regulatory changes that have occurred over the past 15 years, this AUAR update will be more comprehensive in nature than the two previous updates. The intent is to comprehensively "clean up" the narrative to be more current, relevant, and usable as a planning and development review tool. As a result, most of the sections are being rewritten, although information from the 2002 AUAR that is still accurate and relevant will be carried over. Likewise, most of the maps are being revised using more

current base map information. The final product of this update will be a complete new document, rather than an addendum highlighting only the portions of text being updated. As an update, the focus will continue to be on identifying impacts that are new or greater than those assessed in the original 2002 AUAR.

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 2002 AUAR.

SECTION 1: Project title South Loop District AUAR – *2017 Update Report*

SECTION 2: Proposer

City of Bloomington	
Contact person	Julie Farnham
Title	Senior Planner
Address	1800 West Old Shakopee Rd.
City, State, ZIP	Bloomington, MN 55431
Phone	(952) 563-4739
E-mail	jfarnham@BloomingtonMN.gov

SECTION 3: RGU

City of Bloomington	
Contact person	Julie Farnham
Title	Senior Planner
Address	1800 West Old Shakopee Rd.
City, State, ZIP	Bloomington, MN 55431
Phone	(952) 563-4739
E-mail	jfarnham@BloomingtonMN.gov

SECTION 4: REASON FOR EAW PREPARATION

Not applicable to AUAR.

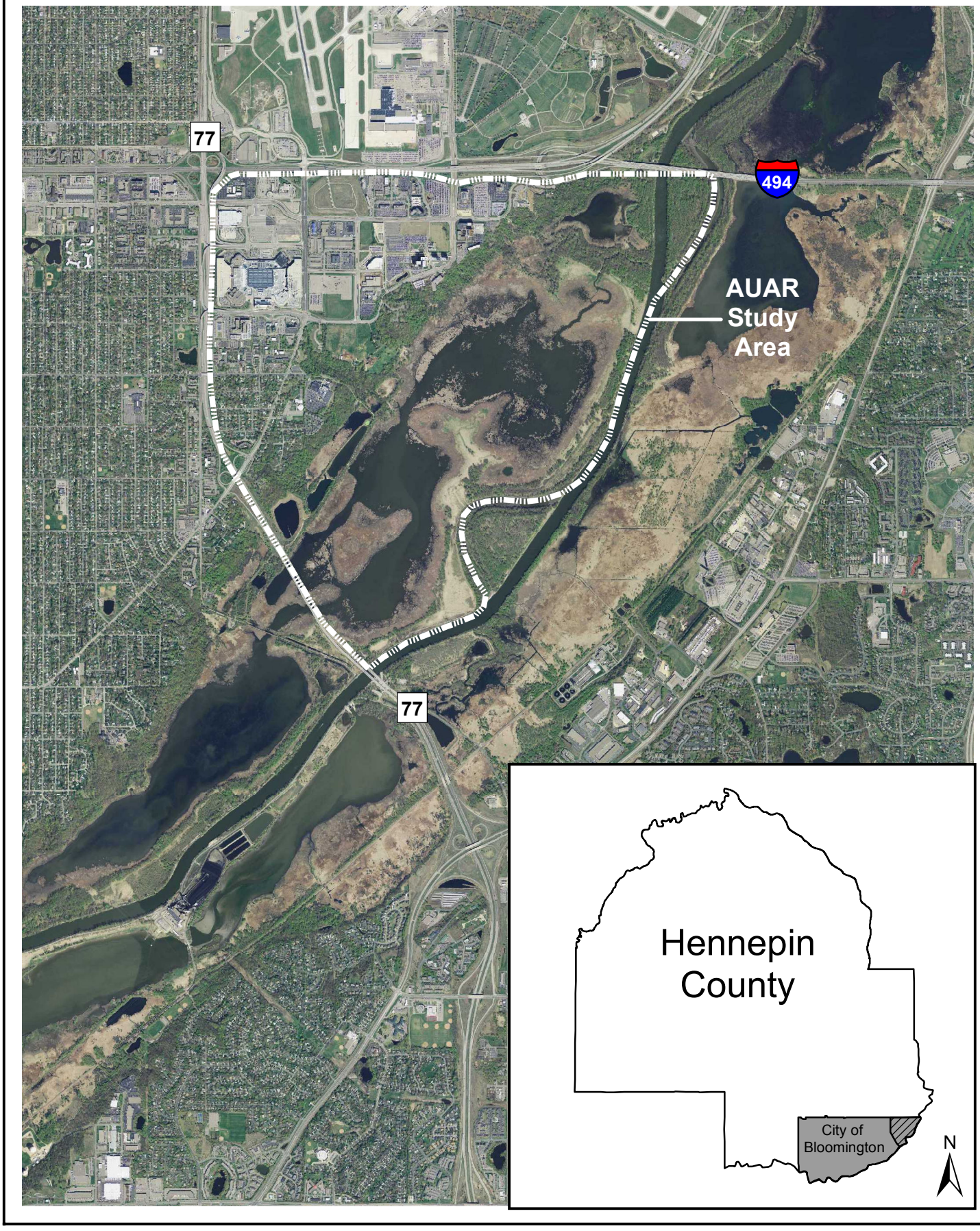
SECTION 5: LOCATION

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);*



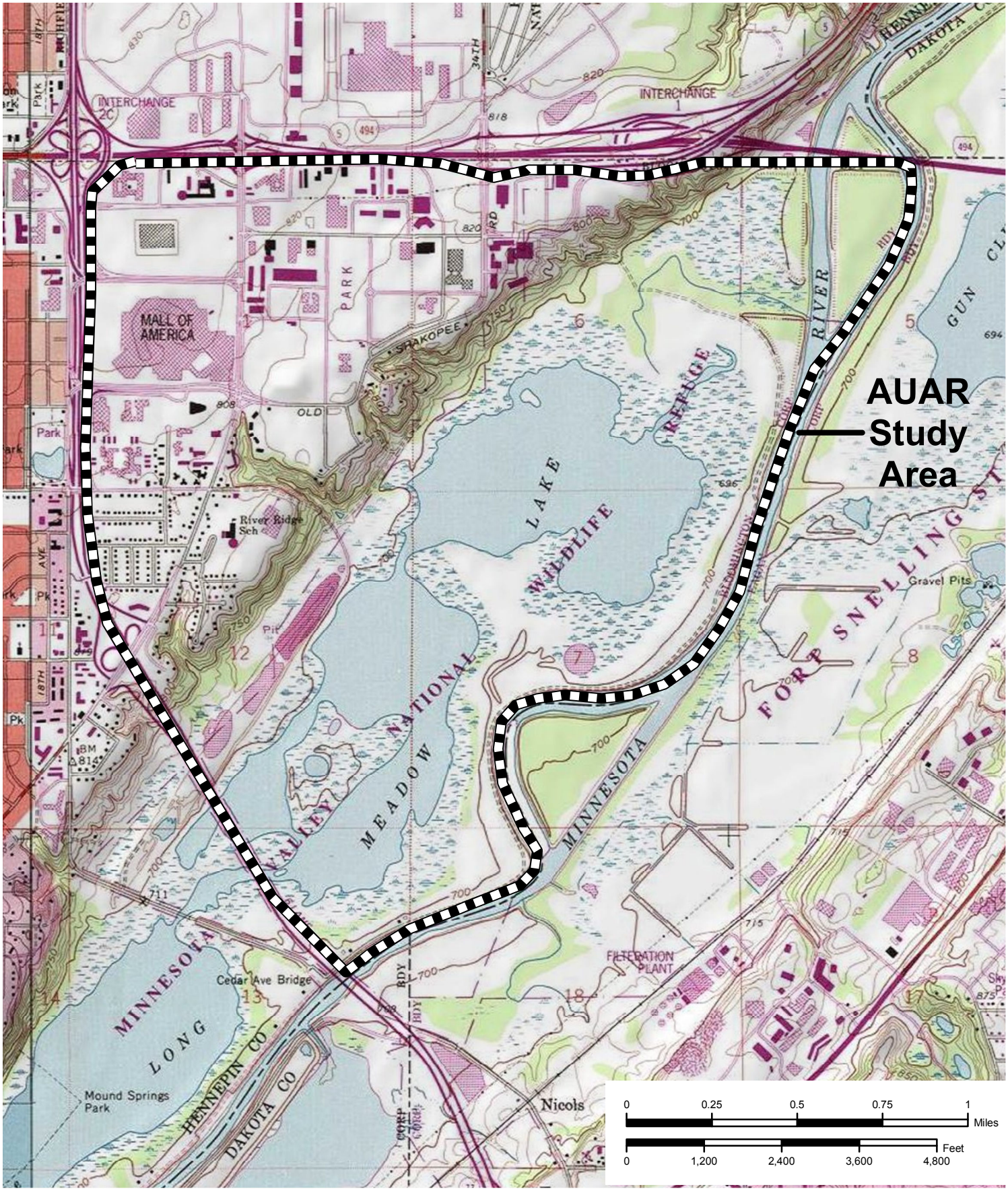
Source: City of Bloomington, Minn

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

- *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)*

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

SECTION 6: PROJECT DESCRIPTION / EXECUTIVE SUMMARY

EAW: *[Note: the following reflects the updated (2013) EAW requirements]:*

A. PROVIDE THE BRIEF PROJECT 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) SIGNIFICANT DEMOLITION, REMOVAL OR REMODELING OF EXISTING STRUCTURES; AND 4) TIMING AND DURATION OF CONSTRUCTION ACTIVITIES.

C. PROJECT MAGNITUDE *[provided in Section 7]*

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 *[NA – this AUAR describes multiple developments anticipated over 20+ years throughout the District]*

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.*

SUMMARY

An Alternative Urban Areawide Review (AUAR) for the South Loop District was 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 and 2012 to incorporate and review infrastructure improvements not anticipated in the original AUAR. This update is more comprehensive and analyzes anticipated development over a 20 year period (through 2040) rather than the five year period analyzed in the 2002 AUAR. The area covered by the AUAR – the South Loop District in Bloomington – remains the same as in the original AUAR.

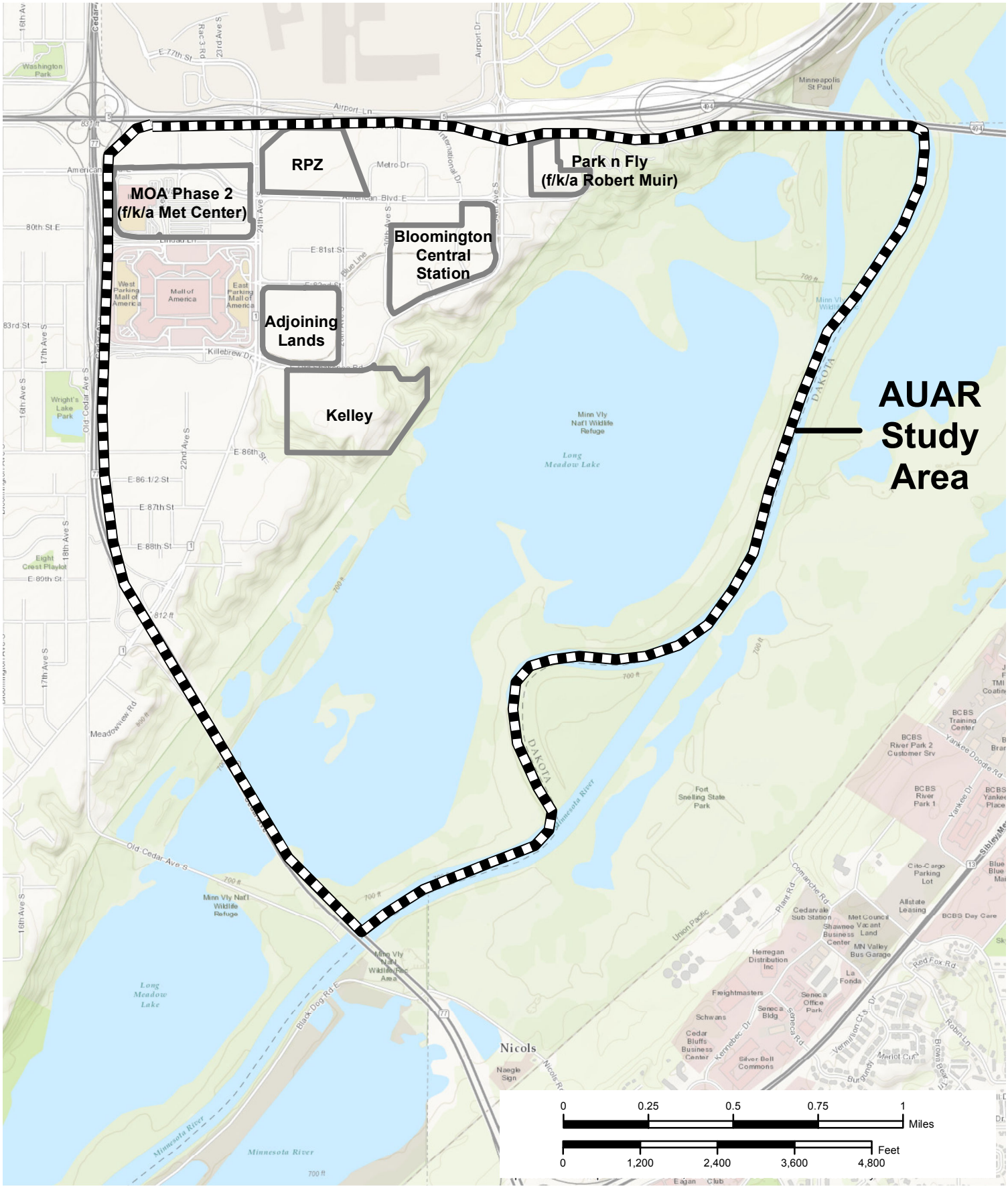
STUDY AREA LOCATION AND DESCRIPTION

The AUAR study area encompasses the 2,350-acre South Loop District. 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. The boundaries of the AUAR study area have not changed from the original 2002 AUAR.

AUAR DEVELOPMENT SCENARIO

With this update, several modifications have been made to the AUAR future development scenario, including changes in the location, type, and amount of future development anticipated. The original 2002 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.

For this AUAR update, several modifications have been made to the South Loop future development scenario (see Figure 6.2), including the addition of seven new sites and removal of two sites as described below. The revised development scenario identifies twelve parcels for redevelopment through 2040. Seven sites have been added that were not expected to redevelop in the 5-year timeframe of the original 2002 AUAR, although



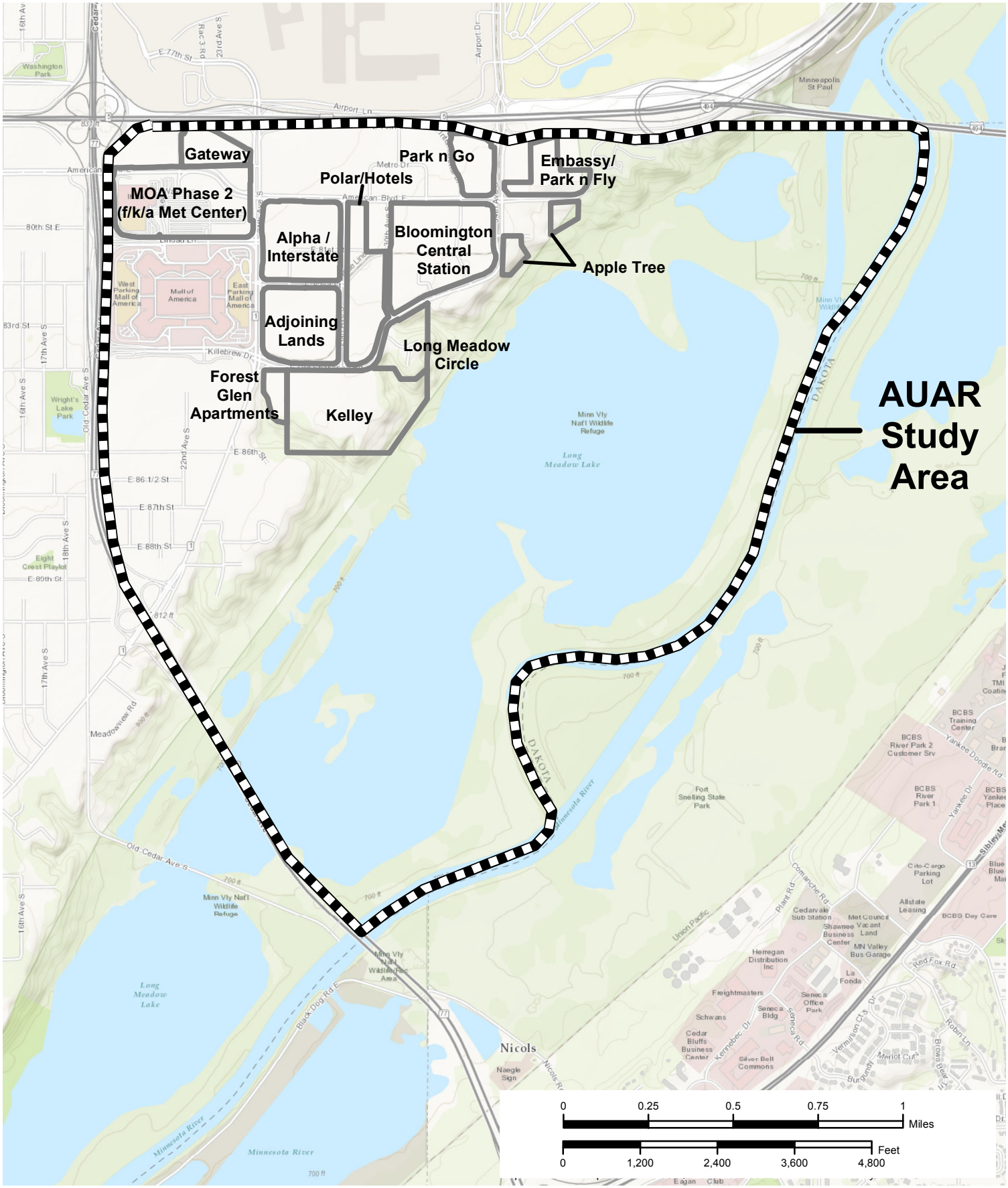
Source: ESRI World Street Map and Topographic Map, 2016

CITY OF BLOOMINGTON MINNESOTA

2002 AUAR Redevelopment Scenario

South Loop District AUAR

FIGURE 6.1



Source: ESRI World Street Map and Topographic Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Revised AUAR Redevelopment Scenario

South Loop District AUAR

FIGURE 6.2

existing development on these sites was factored into the original traffic and utility studies and other impact assessments.

Some sites included in 2002 have been removed, including: the RPZ (Runway Protection Zone) site, as development is prohibited on this site, and the Metro Office Park site. Metro Office Park was not included in the 2002 AUAR (except as "background" development), but was added in the 2009 and 2012 AUAR updates. Since it is not expected to redevelop until after 2040, this update does not identify it as a redevelopment site, but assumes the existing development will remain. If redevelopment occurs sooner, it will be reviewed as part of a future AUAR update.

2002 AUAR Development Scenario

The amounts of development proposed on specific redevelopment sites in the 2002 AUAR 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.

In 2015, MOAC Mall Holdings LLC requested – and the City approved - a revision to the MOA Preliminary Development Plan (PDP) for the MOA Phase 2 site (f/k/a Met Center site). The revised PDP also included the MOA Phase 3 site (a/k/a Adjoining Lands, east of MOA), which was acquired in 2014 by Delta Metro Investments, LLC, an affiliate of MOAC Mall Holdings LLC. The approved PDP revision 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. This in turn results in a reduction of development proposed in the revised (2016) development scenario for the South Loop District overall, as discussed below. However, while this AUAR update reflects the MOA PDP approved in 2015 for Phase 2, MOAC Land Holdings LLC retains the ability to request greater densities on the Phase 2 site.

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, pas 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)

Updated (2016) AUAR Development Scenario

Table 6.2 below describes the revised AUAR development scenario for each site. This reflects what the City believes will be the maximum amount of development by 2040 based on approved plans, current demographic forecasts, land use designations and zoning. The types of land use and intensities described are consistent with the vision in the *South Loop District Plan* (adopted into the comprehensive plan in 2012).

TABLE 6.2: UPDATED DEVELOPMENT SCENARIO AND EXISTING LAND USES (2016)

Site (subTAZ)	Existing LU / Development	2016 AUAR Future Development Scenario
	2016	**2040**
Kelley Farm/Forest Glen Apt (471c)	Farm/residential (4 du) Forest Glen 92-unit apartment removed 2006	Hotel (300 rooms) Ind/Office (200,000 SF) Retail (75,000 SF)
Long Meadow Circle (471d)	17 homes (2002) Vacant (2016)	Office (250,000 SF)
Apple Tree (471e)	Office (435,000 SF) Hotel (429 rooms) Residential (45 du)	Office (435,000 SF) Hotel (429 rooms) Residential (195 du) Retail (10,000 SF)
Embassy/Park n Fly (471f)	Hotel (610 rooms) Car park	Residential (450 du) Office (220,000 SF) Retail (30,000 SF) Hotel (610 rooms)
Park n Go (472c)	Office (298,000 SF) Hotel (113 rooms)	Office (298,000 SF) Hotel (813 rooms) Retail (30,000 SF) Residential (500 du)
Bloomington Central Station *(Health Partners)* **(472d)**	Office (616,000 SF) Hotel (302 rooms) Residential (657 du)	*BCS approved plan:* Office (2,500,000 SF) Hotel (302 rooms) Residential (1,100 du) Retail (75,000 SF)
Hotels (472e)	Industrial (220,000 SF)	Hotel (264 rooms) Industrial (220,000 SF)
Alpha/Interstate (472g)	Hotel (252 rooms) Office (129,000 SF) Ind/Warehouse (348,000 SF)	Office (529,000 SF) Hotel (400 rooms) Retail (26,000 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 (735 rooms) *[263 room Thunderbird Hotel demolished in 2016]*	Hotel (797 rooms) Retail (130,000 SF)
MOA Phase 2 *(f/k/a Met Center site)* **(473b)**	Retail/IKEA (332,000 SF)	2015 approved prel. plan: Office (368,100 SF) Retail (1,430,330 SF) Hotel (1,200 rooms) Residential (120 du)

Changes in AUAR Development Scenario since 2002

To help clarify the differences between the 2002 and 2016 AUAR development scenarios, a comparison of overall development (amounts and type) assumed in both scenarios is provided in Table 6.3. The development forecasts assigned to individual redevelopment sites reflect what the City believes will be the maximum amount of development by 2040 based on approved plans, current forecasts, and land use regulations. Relative to the 2002 development scenario, the 2016 forecasts indicate reductions in amount of office (-312,400 SF), retail (-2,153,670 SF), and warehouse (-210,000 SF) development. Much of the area

previously assumed for future office and retail development is now forecast to be developed for hotel and residential uses. Relative to 2002, the updated forecasts (2016) indicate significant increases in the number of hotel rooms (+2,112) and residential units (+1,089) by 2040.

Overall, the 2016 development scenario projects a reduction in the maximum amount of development in South Loop compared with what was proposed in the 2002 AUAR development scenario. However, increases in the amount of residential and hotel development over what was assumed in 2002 will affect demand on the road and utility systems resulting in the need for infrastructure improvements. Generally, the projected land use changes result in more evenly dispersed traffic flows and reduced peak hour traffic volumes. On the other hand, more residential and hotel development will increase demand on water and sanitary sewer systems resulting in the need for increased capacity. These impacts and specific infrastructure needed to accommodate future development are summarized below and described in detail elsewhere in this report.

TABLE 6.3: AUAR DEVELOPMENT SCENARIO COMPARISON: 2002 AND 2016

Site (subTAZ)	Total assumed 2002 AUAR development*	Total assumed 2016 AUAR development	Difference in total AUAR development: 2002 vs 2016
Kelley Farm/Forest Glen Apt (471c)	Office (650,000 SF) Residential (931 du)	Hotel (300 rooms) Ind/Office (200,000 SF) Retail (75,000 SF)	Office (-450,000 SF) Hotel (+300 rooms) Residential (-931 du) Retail (+75,000 SF)
Long Meadow Circle (471d)	Vacant	Office (250,000 SF)	Office (+250,000 SF)
Apple Tree (471e)	Office (435,000 SF) Hotel (429 rooms) Residential (45 du)	Office (435,000 SF) Hotel (429 rooms) Residential (195 du) Retail (10,000 SF)	Residential (+150 du) Retail (+10,000 SF)
Embassy/Park n Fly (471f)	Office (750,000 SF) Hotel (610 rooms)	Residential (450 du) Office (220,000 SF) Retail (30,000 SF) Hotel (610 rooms)	Office (-530,000 SF) Residential (+450 du) Retail (+30,000 SF)
Park n Go (472c)	Office (298,000 SF) Hotel (113 rooms)	Office (298,000 SF) Hotel (813 rooms) Retail (30,000 SF) Residential (500 du)	Hotel (+700 rooms) Residential (+500 du) Retail (+30,000 SF)
Bloomington Central Station *(Health Partners)* **(472d)**	Two concepts: • Office (2,189,500 SF) • Office/Hotel (2,250,500 SF)	Office (2,500,000 SF) Hotel (302 rooms) Residential (1,100 du) Retail (75,000 SF)	Office (+249,500 SF) Hotel (+302 rooms) Residential (+1,100 du) Retail (+75,000 SF)
Hotels (472e)	Industrial (121,000 SF)	Industrial (220,000 SF) Hotel (264 rooms)	Industrial (+99,000 SF) Hotel (+264 rooms)
Alpha/Interstate (472g)	Office (129,000 SF) Hotel (252 rooms) Ind/Warehouse (219,000 SF)	Office (529,000 SF) Hotel (400 rooms) Retail (26,000 SF)	Office (+400,000 SF) Hotel (+148 rooms) Retail (+26,000 SF) Warehouse/Tech (-219,000 SF)

Adjoining Lands *(MOA Phase 3)* **(472f)**	Retail (1,000,000 SF) Parking (7,500 spaces)	Retail/Ent (465,000 SF) Hotel (1,000 rooms) Parking (2,500 spaces)	Retail (-535,000 SF) Hotel (+1,000 rooms) Parking (-5000 spaces)
Gateway (473a)	Hotel (735 rooms)	Hotel (797 rooms) Retail (130,000 SF)	Retail (+130,000 SF) Hotel (+62 rooms)
MOA Phase 2 *(f/k/a Met Center)* **(473b)**	Office (600,000 SF) Retail (3,425,000 SF) Hotel (1,600 rooms) Residential (300 du)	Office (368,100 SF) Retail (1,430,330 SF) Hotel (1,200 rooms) Residential (120 du)	Office (-231,900 SF) Retail (-1,994,670 SF) Hotel (-400 rooms) Residential (-180 du)

**Note: Total 2002 assumed development includes existing "background" development on sites not identified for redevelopment in Table 6.1.*

Development Activity Since 2002

Table 6.4 below provides a summary of the major development activity that has occurred in the South Loop District since the original AUAR was approved in 2002.

TABLE 6.4: MAJOR DEVELOPMENT ACTIVITY SINCE 2002

Site	Development Activity and Timing
Federal Runway Protection Zone (RPZ)	Previous development removed in 2005.
Bloomington Central Station *(Health Partners Campus)*	Preliminary Development Plan approved for Bloomington Central Station mixed use/TOD (2005). Construction completed on 263-unit Reflections condominium towers (2006), BCS park (2007), 302 room Hyatt Regency Hotel (2015), 394 unit IndiGO apartments (2016).
LRT Corridor	Hiawatha Light Rail Transit line opened in Dec 2004. Includes four stations serving South Loop.
Kelley Farm Property *(subTAZ 471c)*	City denied proposed development plan for 650,000 SF office and 931 residential units (July 2004) due to conflict with the MSP 2004 Airport Zoning Code. However, the proposed development plan was used for traffic analysis in 2002 AUAR. Property is currently listed for sale by private property owner (2017).
Forest Glen Apartments *(sub TAZ 471c)*	MAC purchased due to airport noise impacts. Apartments and 3 single family homes removed in 2006. MAC currently marketing the property (2017)
Long Meadow Circle *(subTAZ 471d)*	MAC purchased 21 single family parcels due to noise impacts. Houses removed in 2006. MAC currently marketing the properties (2017)
East Old Shakopee Road *(subTAZ 471b)*	MAC purchased 10 single family parcels due to the noise impacts. Houses removed in 2006. MAC currently marketing the properties (2017).
Metro Office Park *(subTAZ 472B*)	113 room Springhill Hotel and 146 room Hampton Inn Hotel (2006)
Alpha/Interstate Diesel sites *(sub TAZ 472g)*	City/Port Authority purchased these 5 properties in 2010. A 118 room hotel opened in 2015. Construction underway on a 148 room hotel and parking ramp (2017). City/Port plan to clear and sell remaining sites for development in 2017-2018 timeframe.
Polar Semiconductor *(subTAZ 472e)*	A 99,000 SF "clean room" expansion was completed in 2012.

Metro Transit Park n Ride Ramp *(subTAZ 472e)*	Metro Transit constructed a 1,450-space park and ride ramp adjacent to the 28th Avenue LRT station. The park and ride opened in 2008.
Mall of America Phase 1 *(subTAZ 473B)*	A 501-room Radisson Blu hotel opened on the "south pad" (2013); a 342 room JW Marriott hotel, 180,000 SF office and 270,000 SF retail opened on the north "phase 1C" pad (2015).
Mall of America Phase 2 *(sub TAZ 473B)*	In 2015, the City approved a revised preliminary development plan for MOA Phase 2. Proposed development included in 2016 AUAR update development scenario and shown on Table 6.2.
Mall of America Phase 3 *(sub TAZ 473B)*	MAC sold the "adjoining lands" site to Triple 5 (owners of MOA) in 2014. Phase 3 site included in revised preliminary development plan for MOA City approved in 2015. Updated development forecasts are shown on Table 6.2.
Gateway *(subTAZ 473a)*	City/Port Authority acquired the former Thunderbird hotel site and demolished the building (2016/2017). City/Port Authority will sell the site for development in the 2017-2021 timeframe.

STAGING AND SCHEDULE

The updated (2016) AUAR development scenario reflects the maximum amount of development anticipated to occur through the year 2040. All of the infrastructure modeling and analysis in this AUAR update takes into account the updated development forecasts as well as existing "background" development.

The timing of individual developments is difficult to accurately predict. The development forecasts were divided into two timeframes for use in the updated traffic study and sewer models. The first phase covers the period 2016 through 2025. This includes all parcels with approved development plans and parcels that developers have expressed interest in, although have not yet become formal development applications. The second phase covers the period 2026 through 2040. Assumed development amounts are based on development forecasts and current development regulations.

Future updates to this AUAR will adjust the development forecasts and timing based on actual development that occurs and/or plans that are approved subsequent to approval of this update. Future updates will also incorporate any updates made to traffic and utility models to reflect actual development proposals or any major unforeseen infrastructure projects.

INFRASTRUCTURE

Infrastructure improvements described in this AUAR update include transportation (roads, pedestrian/bicycle) and utility (sanitary watermain, and storm water) projects needed to facilitate and support current and anticipated future development as proposed in the updated AUAR development scenario described in Table 6.2 and Figure 6.2. Identified infrastructure improvements are based on findings from recently updated traffic and sewer models. 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 (f/k/a Hiawatha LRT - completed in 2004). Since the 2002 AUAR, 24 additional transportation studies have been conducted. Most of these were conducted to evaluate transportation system improvements needed to facilitate specific development proposals. These include:

- Bloomington Central Station Traffic Study (10/2004);
- Mall of America Traffic Study, Phase II (9/2006);
- South Loop Roadway Infrastructure Improvements Study (1/2007);
- Mall of America Way-Finding, Concept of Operations (2/2007);
- I-494 and TH-77 Corridor Forecasting and Concept Development Study (6/2008);
- South Loop District Plan – Traffic Analysis (7/2009);
- Mall of America Phase II Traffic Study – Renaissance Hotel (11/2007);
- Arterial Transitway Corridor Study (Metro Transit, 2009)
- METRO Red Line Implementation Plan Update (Dakota County, 2009 and 2016)
- Lindau Lane Grade Separation Project – Recommended Intersection Geometrics (6/2012);
- Lindau Lane Extension Traffic Analysis (8/2012);
- Lindau Lane Grade Separation Project – MOA Ring Road Analysis for Westbound through Movement (11/2012);
- Thunderbird Road Technical Report (6/2012);
- Mall of America Phase 1C Traffic Operations Analysis (3/2012);
- Bloomington Central Station Traffic Analysis Update – Hotel Development (3/2013);
- Mall of America Phase 1C North Ring Road Traffic Operations Analysis (7/2013);
- Intersection Control Evaluation (ICE) Report – Lindau Lane at 28th & 30th Avenues (8/2013)
- Bloomington Central Station Residential Development Traffic Study (11/2013);
- Bass Pro Shops Development Traffic Study (8/2014);
- 8100 – 26th Avenue South Multi-Use Development Traffic Study (4/2015);
- Blue Line Traffic and Transit Signal Operations Study – Existing Assessment (5/2015);
- Mall of America Phase 2B Traffic Study – Draft Detailed Review (11/2015);
- Blue Line Traffic and Transit Signal Operations Study – Proposed LRT and Traffic Signal Improvements (2/2016);
- South Loop Rail Analysis (3/2016);
- Metro Transit MOA Transit Station Renovations Traffic Study (5/2016);
- South Loop District Traffic Study (12/2016); and
- Riverview Corridor Study (anticipated winter 2017).

In addition, there have been a number of transportation projects completed in South Loop since 2002 that are shown in Table 6.5. The status of planned and programmed roadway

improvements identified in the 2002 AUAR and/or subsequent updates in 2009 and 2012 is presented in Table 6.6.

TABLE 6.5: TRANSPORTATION PROJECTS COMPLETED IN AREA SINCE 2002

Roadway	Result of Project	Year Completed
Lindau Lane from TH 77 to 24th Ave	○ Increased throughput, traffic handling capacity, and safety. This was accomplished by providing additional through lanes, adding auxiliary lanes, improving signal operation, and providing additional sidewalks/bikeways for the non-motorized traveling public. Improvements to the storm sewer were also completed along with the project.	2004
American Blvd (formally 79th St) from TH 77 to 24th Ave	○ Realignment and upgrade. ○ Align E 79th St to the west with E 80th St to the east, meeting at 24th Ave further south of the 494 corridor improving safety and operation at the 24th/494 interchange.	2004
Killebrew Drive from TH 77 to 24th Ave	○ Added left turn capacity thus improving safety and thru-lane operation of Killebrew Drive.	2008
East Old Shakopee Road at 28th Ave	○ Increased throughput traffic handling capacity, and safety by adding turn lane capacity for eastbound to northbound left turns and southbound to westbound right turns. Improvements to existing underground utilities were also completed along with the project.	2008
Hiawatha Light Rail Transit	○ Runs from downtown Minneapolis, through the Minneapolis/St. Paul International Airport, to the Mall of America. ○ Includes four stations in South Loop.	2004
Regional/Freeway Wayfinding	○ Installed hybrid static/dynamic wayfinding signs on freeways adjacent to the South Loop District. ○ Dynamic exit numbers/road names guide traffic in real-time to underutilized and less congested entrances to the District. ○ Increases traffic handling capacity of existing roadways by directing motorists to underutilized roadways during peak traffic periods.	2011
I-494/34th Ave Diverging Diamond Interchange	○ Simplifies traffic operations at the interchange by removing turning traffic from the signalized ramp intersections ○ Allows right and left turn movements to freeway entrance ramps to occur unopposed and without stopping. ○ Hiawatha Light Rail Transit (Blue Line) continues to run in the center median of 34th Avenue.	2013
Lindau Lane Grade Separation	○ Constructed a 140' long by 170' wide bridge and retaining walls to allow the Mall of America to continue mall expansion over/across Lindau Lane with direct first-level connections.	2014

TH 77 to Lindau Lane Safety Improvement	○ Raised the northbound TH77 ramp to better match Lindau Lane and to allow northbound to eastbound ramp traffic to merge with southbound to eastbound traffic prior to reaching the intersection of Ikea Way/20th Avenue. ○ Allowing these merging movements has decreased crashes at this location.	2014
Lindau Lane extension from 24th Avenue to 30th Avenue	○ Extended Lindau Lane from the Mall of America to Bloomington Central Station as proposed in the South Loop District Plan. ○ Included the construction of a roundabout at Lindau Lane and 28th Avenue.	2014/2015
30th Avenue from American Blvd E to E Old Shakopee Road	○ Created a north-south connection between American Boulevard East and East Old Shakopee Road.	2015
South Loop Local Roadway Wayfinding	○ Installed traffic monitoring cameras and electronic and static signs on local roads within the South Loop District	2015

TABLE 6.6: SUMMARY OF REGIONAL ROADWAY IMPROVEMENTS IMPACTING SOUTH LOOP DISTRICT

Location		Lead Agency	Status
Longfellow Ave	Reconstruct	MAC	Completed 2002
66th Street	Reconstruct interchange	MAC	Completed 2007
24th Ave	Modify westbound ramp to northbound free right	MAC/ Mn/DOT	Delayed
79th/80th Street (now American Blvd)	Construct bridge at I-35W	Bloomington	Completed 2005
Lyndale Ave	Reconstruct interchange	Richfield	Completed 2009
77th Street	Connection under TH-77 north of I-494	Richfield	TBD

TABLE 6.7: SUMMARY OF ADDITIONAL PLANNED/PROGRAMMED ROADWAY IMPROVEMENTS

Location		Scheduled to Complete by:	Lead Agency
I-494 / 24th Avenue	Construct dual northbound right turn lanes onto eastbound I-494 ramps; signal timing improvements and possible ramp signalization	2020	Bloomington/ Hennepin Co/MnDOT
I-494 / 34th Avenue	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	Beyond 2025	Bloomington/ MnDOT
Killebrew Drive / 20th Avenue	Reconstruct southbound approach to repurpose lanes and provide dual southbound right turn lanes (signalized).	2018	Bloomington

Signal Timing, as needed	American Boulevard/Thunderbird Road; 34th Avenue/Appletree Square	2019-2020	Bloomington/ Hennepin Co/MnDOT/ Metro Transit
Lindau Lane at IKEA Way and 22nd Avenue	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	Beyond 2025	Bloomington
American Boulevard at International Drive and Metro Drive East	Modify American Boulevard/International Drive intersection to three-quarter access; construct a roundabout at American Boulevard/Metro Drive East intersection	2021	Bloomington
24th Avenue Corridor	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	2020	Bloomington/ Hennepin Co/MnDOT
Killebrew Drive/22nd Avenue	Modify striping to single southbound and northbound left turn lane; modify signal timing to eliminate split phasing	2018	Bloomington
East Old Shakopee Road/28th Avenue	Construct a multi-lane roundabout at intersection	Beyond 2025	Bloomington
East Old Shakopee Road/24th Avenue	Restripe to remove westbound trap right-turn; three westbound through lanes east of intersection would align with three westbound through lanes at the intersection	2018	Bloomington/ Hennepin County/Metro Transit
East Old Shakopee Road/33rd Avenue	Pedestrian crossing improvements	2018	Bloomington
American Boulevard E/30th Avenue	Install a signal	Beyond 2025	Bloomington
American Bouleard/28 th Avenue	Repurpose lanes on south approach to better utilize existing roadway width.	Beyond 2025	Bloomington

Sanitary Sewer

A key element of the City's current *Wastewater and Comprehensive Sewer Plan (WWCSP)* is the Wastewater Capital Improvement Program (CIP). The WWCSP, which was updated in 2012 and 2015, identified ten CIP items that directly affect the South Loop District (AUAR study area). To date three of these items have been completed (See Table 6.8) and three additional items (located west of Cedar Ave.) are scheduled for construction in 2017. The remaining four items would be constructed in conjunction with future development (See Table 6.9 and Figure 18.4).

To relieve the flow capacity problems anticipated with projected 2025 development, the following improvements are required:

- Installing the rest of a bypass that would redirect flow away from the constrained pipes in 24th Ave by taking a new route in 28th Ave (from American Blvd to E Old Shakopee Rd) with about 2,800 feet of larger 24" and 27" pipes (CIP-20 and CIP-02C).

To relieve the flow capacity problems caused by the additional forecast development out to year 2040 and beyond, the following improvements are required:

- Replacing roughly 3,300 feet of existing 12 and 18 inch pipes in American Blvd from 28th Ave to 34th Ave and also in 34th Ave from American Blvd to the I-494 exit ramp with upsized 15" through 24" pipes (CIP-19A and CIP-19B).

Modeling indicates that once the three CIP items scheduled for 2017 (located west of Cedar Ave) are completed, the remainder of the City's sewer system will be adequate to serve the increased flows from future development proposed in the revised South Loop AUAR Redevelopment Scenario through 2040 and beyond. A rough cost estimate of the CIP items described above indicates about $4.1 M is needed for the 2016-2025 phase improvements and $5.3M is needed for the 2026- 2040+ phase improvements.

TABLE 6.8: SANITARY SEWER PROJECTS COMPLETED SINCE 2002

Improvement	Description	Year Completed
CIP-2A	○ Upsize from 21" to 27" on Killebrew from 22nd Avenue to East Old Shakopee Road	2008
CIP-2B	○ Upsize from 12"/15" to 21"/27" on East Old Shakopee Road from east of 24th Avenue through intersection at Killebrew Drive to just west of 24th Avenue	2013
CIP-3	○ Upsize from 8"/12" to 12"/15" on 28th Avenue from 82nd Street to East Old Shakopee Road	2008/2011

TABLE 6.9: PROPOSED SANITARY SEWER PROJECTS

Improvement	Description	Year Proposed
CIP-01A	○ 8" Replacement Sewer (17th Avenue from East 84th Street to East 86th Street)	2017
CIP-01B	○ 8" Replacement Sewer (East 86th Street from 17th Avenue to Bloomington Avenue)	2017
CIP-01C	○ Install new 24" trunk sewer in Bloomington Avenue (East 86th to East 90th Street) to reroute flow and free up capacity in South Loop sewer mains	2017
CIP-02C	○ Upsize 15" sewer to 27" sewer (East Old Shakopee Road from 28th Avenue to 26th Avenue)	2020
CIP-19A	○ Upsize 12" sewer to 15" (34th Avenue from I-494 to American Boulevard East)	2025
CIP-19B	○ Upsize 18" sewer to 21" and 24" (American Boulevard East from 34th Avenue to 28th Avenue)	2025
CIP-20	○ Install new 24" and 27" trunk sewer in 28th Avenue from American Boulevard East to East Old Shakopee Road to reroute flow and free up capacity in 24th Avenue sewer mains	2020

Water Facilities

As described in Section 13, modeling done to assess water facility capacity to accommodate the revised South Loop development scenario indicates a demand increase through 2040 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 insure 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. 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 located entirely outside of the South Loop District, it supplies water to distribution pipes in the South Loop District. Figure 13.2 in Section 13 illustrates both existing and future water piping serving the South Loop District.

In addition, extension of the water system into the Kelley property will be required when this site is redeveloped. No additional improvements to the City's water system are required to support the updated AUAR development scenario.

Surface Water Resources

The updated AUAR redevelopment scenario should not increase the rate of discharge under normal conditions when compared to existing conditions. There is a high amount of impervious coverage currently existing in the South Loop District. Most of the redevelopment sites in the AUAR Study Area 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 to improve stormwater management. All new development will be required to meet current standards for stormwater management, which have been updated since the 2002 AUAR.

Key items from the updated *Comprehensive Surface Water Management Plan* (CSWMP) that apply to all development in the City and South Loop include the following:

- For new development projects, Bloomington requires no net increase from pre-project conditions (on an annual average basis) of stormwater discharge volume, stormwater discharges of Total Suspended Solids (TSS), and stormwater discharges of Total Phosphorus (TP). For re-development projects, Bloomington requires a net reduction from pre-project conditions (on an annual average basis) of stormwater discharge volume, stormwater discharges of TSS, and stormwater discharges of TP.
- Surface water discharge rates from new development and redevelopment on sites disturbing less than one (1) acre of land must be reviewed by the City Engineer.
- In the design and construction of new, or modifications to existing storm water conveyance systems, treatment of all storm water runoff from the parcel shall be treated to at least sixty percent (60%) annual removal efficiency for phosphorus, and at least eighty percent (80%) annual removal efficiency for total suspended solids.
- Sites that create one or more acres of impervious surface shall capture and retain on-site 1.0 inch of runoff from new and/or fully reconstructed impervious surfaces.

In addition, 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.

Development within the City's Bluff Protection Overlay District must ensure that post-development over-the-bluff storm water discharge rates are no greater than pre-development discharge rates. Five sites proposed for future development must comply with these regulations, including: Forest Glen Apartments, Kelley, Long Meadow Circle, and Apple Tree sites.

Modeling indicated areas with potential for flooding under existing and future conditions. During redevelopment, modifications may be required to alleviate potential flooding, including:

- *MOA Transit Station* – Under existing conditions, a 100-year flood event could potentially result in flooding at the light rail transit (LRT) station, located in the southeast ground level of the MOA. One potential mitigation approach would involve installation of a new 42-inch storm sewer system to drain the LRT station low point.

This system would run southeast from the LRT station, under 24th Avenue and connect to the proposed Lindau Lane Low Point system just north of Old Shakopee Road.

- *Lindau Lane Low Point* – Other than substantial storm sewer infrastructure modifications, a reasonable and feasible alternative has not been identified.

- *Pond 30* – Modeling indicates this existing pond located on the Adjoining Lands site (MOA Phase 3) currently retains stormwater from the local subwatershed as well as backflow from the 24th Avenue trunk storm sewer system. Reconfiguration of Pond 30 is anticipated with redevelopment of the Adjoining Lands (MOA Phase 3). Alternative infrastructure modifications evaluated in the model indicated they could successfully mitigate the flood elevation increases resulting from reconfiguration of Pond 30. Development of the Kelley Farm and the Adjoining Lands sites have potential to significantly alter runoff in this area. Redevelopment plans for sites that currently drain to this area should include significant rate control best management practices to mitigate the effects of 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 Management Projects and Activities Since 2002

The South Loop stormwater quantity and quality model completed with the 2002 AUAR was updated in 2008 and again in 2012. Results of these models are described in greater detail in Section 17. Several stormwater management projects have been implemented that are consistent with the 2002 AUAR. These projects, described in Table 6.10 below, improve stormwater quantity and quality capacity and stormwater flow.

TABLE 6.10: SURFACE WATER PROJECTS COMPLETED SINCE 2002

Improvement	Description	Year Completed
Pond C	○ Expanded the existing water quality pond located in MnDOT right-of-way along TH 77, south of CSAH 1 ○ Increased treatment efficiency prior to discharging to Long Meadow Lake and the Minnesota River ○ Doubled the surface area of the pond and added significant volume to improve phosphorus and sediment removal.	2008
American Blvd Outfall *(f/k/a 80th St. Outfall)*	○ Repaired erosion and stabilized the outfall at the base of the bluff. ○ Constructed two water quality structures above the bluff in the right-of-way to capture floating debris and settle out solids and sediment prior to discharge	2005
Long Meadow Lake Outfall	○ Reconstructed an existing storm sewer outfall to Long Meadow Lake ○ Increased pipe size to 48" diameter ○ Reduced pipe grade to 0% for the last 40 feet ○ Constructed a two-cell energy dissipation basin	2013
24th Avenue Storm Sewer Project	○ Tunneled a new 36" storm sewer pipe along the east side of 24th Avenue to accommodate stormwater from the Lindau Lane grade separation project.	2013

SECTION 7: PROJECT MAGNITUDE DATA

EAW: *Note: In the updated (2013) EAW requirements, Section 7 is incorporated into Section 6 and includes:*

- TOTAL PROJECT ACREAGE
- LINEAR PROJECT LENGTH
- NUMBER AND TYPE OF RESIDENTIAL UNITS
- COMMERCIAL BUILDING AREA (IN SQUARE FEET)
- INDUSTRIAL BUILDING AREA (IN SQUARE FEET)
- INSTITUTIONAL BUILDING AREA (IN SQUARE FEET)
- OTHER USES – SPECIFY (IN SQUARE FEET)
- STRUCTURE HEIGHT(S)

AUAR: No changes from the EAW form, except that the information should be given for each major development scenario.

Total Project Area (Acres): 2,350 **or Length (Miles)** NA

Proposed Development Amounts and Types – Described below:

Table 7.1 summarizes the total amount of development by general land use type in the South Loop District. It includes development existing when both the 2002 and 2016 AUAR's were prepared. It also indicates total development proposed in the 2002 AUAR and in this

2016 AUAR update. Proposed development amounts include existing development.

TABLE 7.1: EXISTING AND PROPOSED LAND USES IN SOUTH LOOP DISTRICT

Land Use	Existing (2002)	Proposed (2002)	Existing (2016)	Proposed (2016)
Residential				
• Unattached	254 units	254 units	186 units	182 units
• Attached	624 units	1,276 units	947 units	3,003 units
Commercial				
Gross Floor Space (total)	8,977,449 SF	18,280,932 SF	10,183,245 SF	17,579,476 SF
• Office	2,100,000 SF	5,631,500 SF	2,725,936 SF	5,300,317 SF
• Retail/Service	4,575,000 SF	9,000,000 SF	4,212,021 SF	5,726,171 SF
• Hotel	2,214,617 SF	3,561,600 SF	3,183,401 SF	6,491,101 SF
• Other (institutional)	87,832 SF	87,832 SF	61,887 SF	61,887 SF
Industrial				
• Light industrial, Manufacturing, Warehouse	1,106,508 SF	879,000 SF	879,000 SF	660,000 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

SECTION 8: 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, TOVERNMENT REVIEW OF PLANS AND ALL DIRECT AND INDIRECT FORMS OF PUBLIC FINANCIAL ASSITANCE 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.*

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 8.1 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 8.1: 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; Water Connection Permits; Sewer Extension Permits; Building Permits; Airport Zoning 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
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)
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

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)
Federal	
Federal Aviation Administration	Air space review (Form 7460) No hazard to navigation determination
Federal Highway Administration	Interstate Modifications

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 8.2 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 8.2: 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
Killebrew Drive/20th Avenue			
Signal Timing: American Blvd/Thunderbird	Hennepin County	MnDOT	
Signal Timing: 34th Avenue/Appletree Square	Hennepin County Metro Transit		

Project	Regional	State	Federal
Lindau Lane at IKEA Way and 22nd Avenue			
American Boulevard at International Drive and Metro Drive East			
24th Avenue Corridor	Hennepin County Metro Transit	MnDOT	Federal Highway Administration
Killebrew Drive/22nd Avenue			
East Old Shakopee Road/28th Avenue	Metro Transit	MnDOT (ICE Report)	
East Old Shakopee Road/24th Avenue	Hennepin County Metro Transit		
East Old Shakopee Road/33rd Avenue Pedestrian Improvement			
American Boulevard/30th Avenue Signal		MnDOT (ICE Report)	
American Boulevard/28th Avenue			
Sanitary Sewer			
• CIP-01A	MCES		
• CIP-01B	MCES		
• CIP-01C	MCES		
• CIP-02C	MCES		
• CIP-19A	MCES		
• CIP-19B	MCES		
• CIP-20	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 9: LAND USE

EAW: *[Note: the following requirements reflect the updated (2013) EAW requirements]:*

A. DESCRIBE:
   i. EXISTING LAND USE AS WELL AS AREAS ADJACENT TO AND NEAR THE SITE,INCLUDING PARKS, TRAILS, PRIME OR UNIQUE FARMLANDS.
   ii. PLANS – DESCRIBE PLANNED LAND USE AS IDENTIFIED IN COMPREHENSIVE PLAN (IF AVAILABLE) AND ANY OTHER APPLICABLE PLAN FOR 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, AONING, AND PLANS LISTED IN ITEM 9A ABOVE, CONCENTRATING ON IMPLICATIONS FOR ENVIRONMENTAL EFFECTS.

C. IDENTIFY MEASURES INCORPORATED INTO THE PROPOSED PROJECT TO MITIGATE ANY POTENTIAL INCOMPATIBILITY AS DISCUSSED IN ITEM 9B ABOVE.

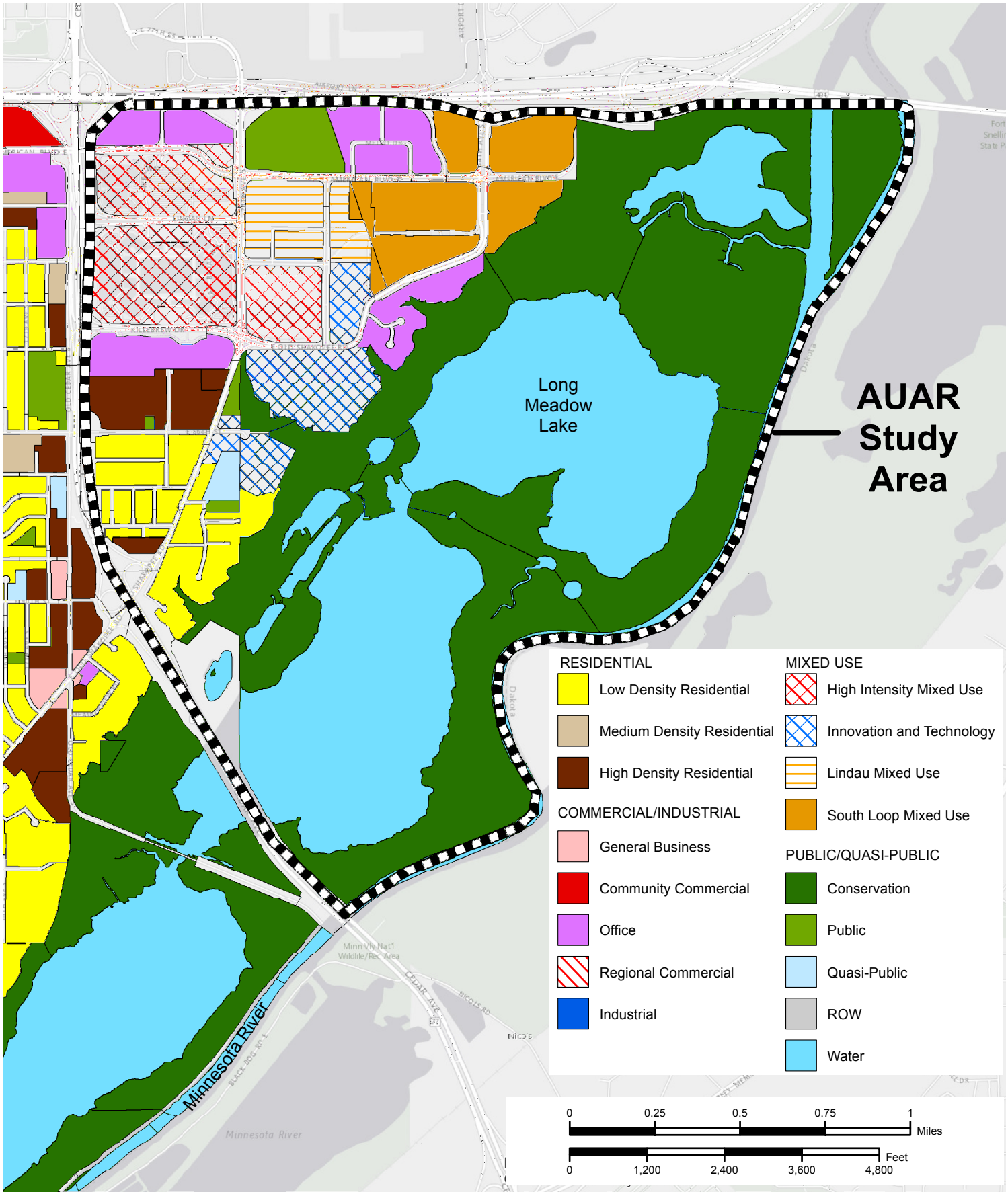
EAW REQUIREMENTS (2002 AUAR):

INDICATE WHETHER ANY POTENTIAL CONFLICTS INVOLVE ENVIRONMENTAL MATTERS. IDENTIFY ANY POTENTIAL ENVIRONMENTAL HAZARDS DUE TO PAST LAND USES, SUCH AS SOIL CONTAMINATION OR ABANDONED STORAGE TANKS, OR PROXIMITY TO NEARBY HAZARDOUS LIQUID OR GAS PIPELINES.

AUAR: *No changes from the EAW form.*

The South Loop District (and AUAR study area) is projected to accommodate two-thirds of the City's future 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 9.1 and 9.2 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 by 2040 based on approved plans, current demographic forecasts, land use designations and zoning. The current land use designations were adopted as recommended in the *South Loop District Plan* (adopted into



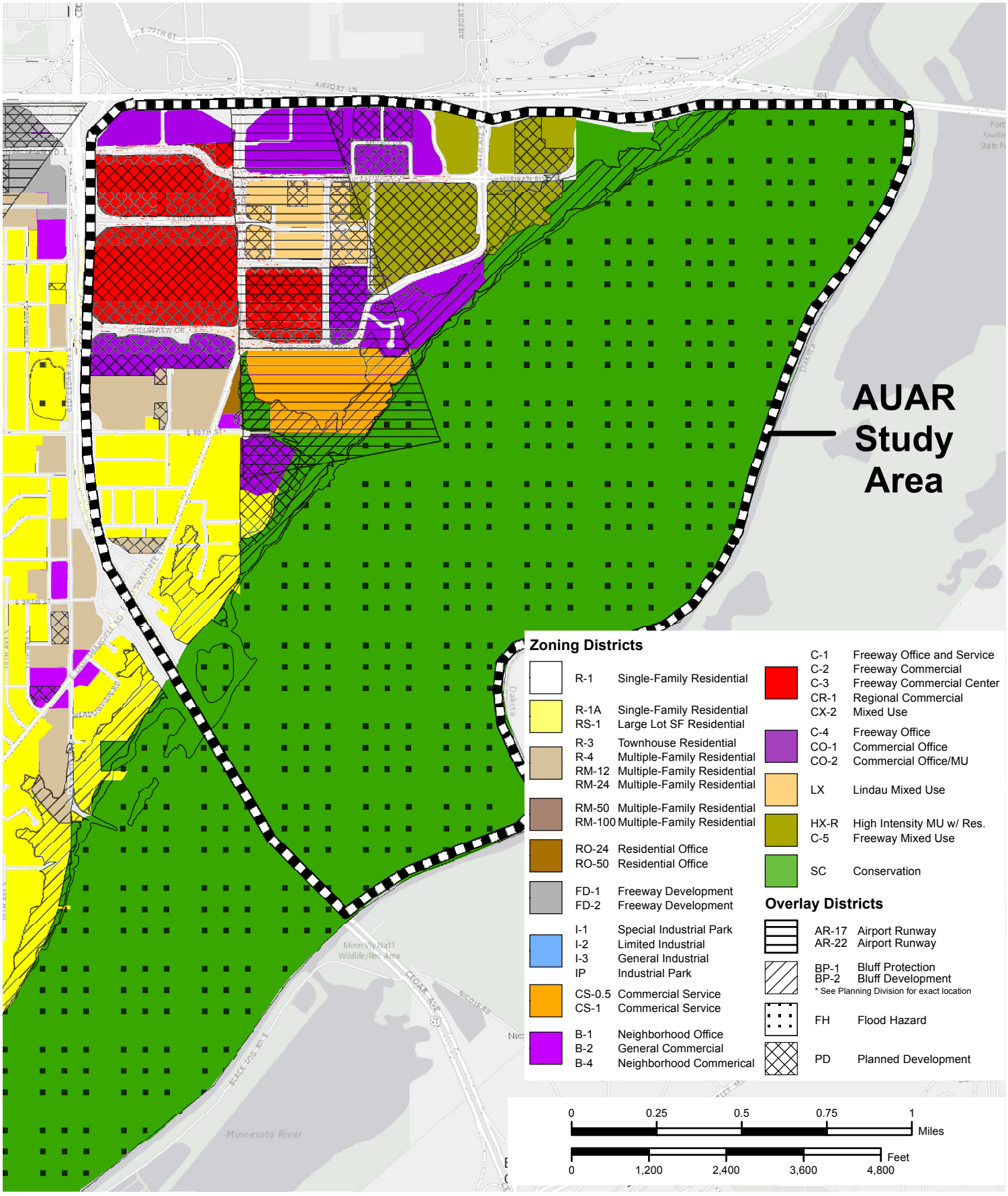
Source: City of Bloomington Land Use Guide Plan, May 2017, ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Planned Land Uses

South Loop District AUAR

FIGURE 9.1



Source: City of Bloomington Zoning Map, May 2017, ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Current Zoning

South Loop District AUAR

FIGURE 9.2

the Comprehensive Plan in 2012). However, not all of the property in the South Loop District has been rezoned to reflect the updated land use desginations. The properties guided for Innovation and Technology (IT) have not been rezoned as the City intended to create a new zoning district to align with the new IT land use category. Adoption of the new IT zoning district was delayed, given land ownership changes and clearer direction regarding potential future development.

The Adjoining Lands site was purchased by the Mall of America Company (MOAC) for future development of MOA Phase 3. MOAC submitted an application for land use and zoning amendments that will make the designations on the MOA Phase 3 site consistent with those on the MOA Phase 1 and 2 sites. Figures 9.1 and 9.2 reflect these changes, which are anticipated to be approved by the City Council in May or June 2017. Several other sites are currently being marketed for sale and redevelopment including: Forest Glen Apartments, Kelley Farm, and Long Meadow Circle. While the existing land use and zoning designations accommodate the uses in the revised AUAR development scennario, amendments may be needed to align land use and/or zoning to accommodate specific 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 10, Cover Types). The AUAR redevelopment scenario identifies twelve sites expected to redevelop by 2040. Most have been previously developed for urban/suburban uses. The largest – 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.

Five sites, including the Kelley property, Forest Glen apartment site, the Long Meadow Circle parcels, and the two Appletree sites, abut the Minnesota River bluff. Current development status of these bluff-adjacent properties is described below:

- The Kelley property is currently in farm/residential use and is surrounded by roadways and other development sites on three sides, with the fourth side located along the bluff. The property owner recently listed the property for sale. Redevelopment is expected subsequent to sale of the property.
- 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, eliminating residential uses. In 2006, the apartment building was removed. The MAC is currently marketing the properties for sale and redevelopment.
- The 21 Long Meadow Circle parcels were also purchased by MAC due to noise considerations in the mid-2000s. The 18 homes have all been removed. The MAC is currently marketing the properties for sale and redevelopment.
- Two parcels in the Appletree Square complex are identified for potential redevelopment. The northern site currently contains an asphalt parking lot used as overflow for the Appletree Square office/hotel complex. The southern site contains an office building and parking lot.

Portions of the sites listed above are located within the City's Bluff Protection Overlay district and are subject to additional development standards to minimize physical and visual impacts to the bluff environment. Many of these properties are also located within the Airport Runway Overlay district, which restricts sensitive uses, such as residential development. The Bluff Protection Overlay district encompasses areas between the 722-foot and 800-foot elevation contours. The Airport Runway Overlay covers the middle of the study area, roughly between 24th and 30th Avenues. Areas below the bluff are covered by the Flood Hazard Overlay district which generally prohibits uses requiring structures, fill or storage of materials or equipment. The location of these overlay districts is shown on Figure 9.2, while Figure 9.3 illustrates only the Airport Runway Overlay districts.

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. Key updates, in reverse chronological order, include:

- Adoption of the *South Loop District Plan* in August 2012 (Resolution 2012-97), which 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). To date, only the Lindau Mixed Use zoning district has been adopted (Ord. 2013-26). Figure 9.1 illustrates the current land use designations in the South Loop District and Figure 9.2 illustrates current zoning.

- The required 10-year update to the City's Comprehensive Plan was adopted in 2009 (Resolution 2009-52). This resulted in modifications to land use designations on several properties previously designated for residential uses.

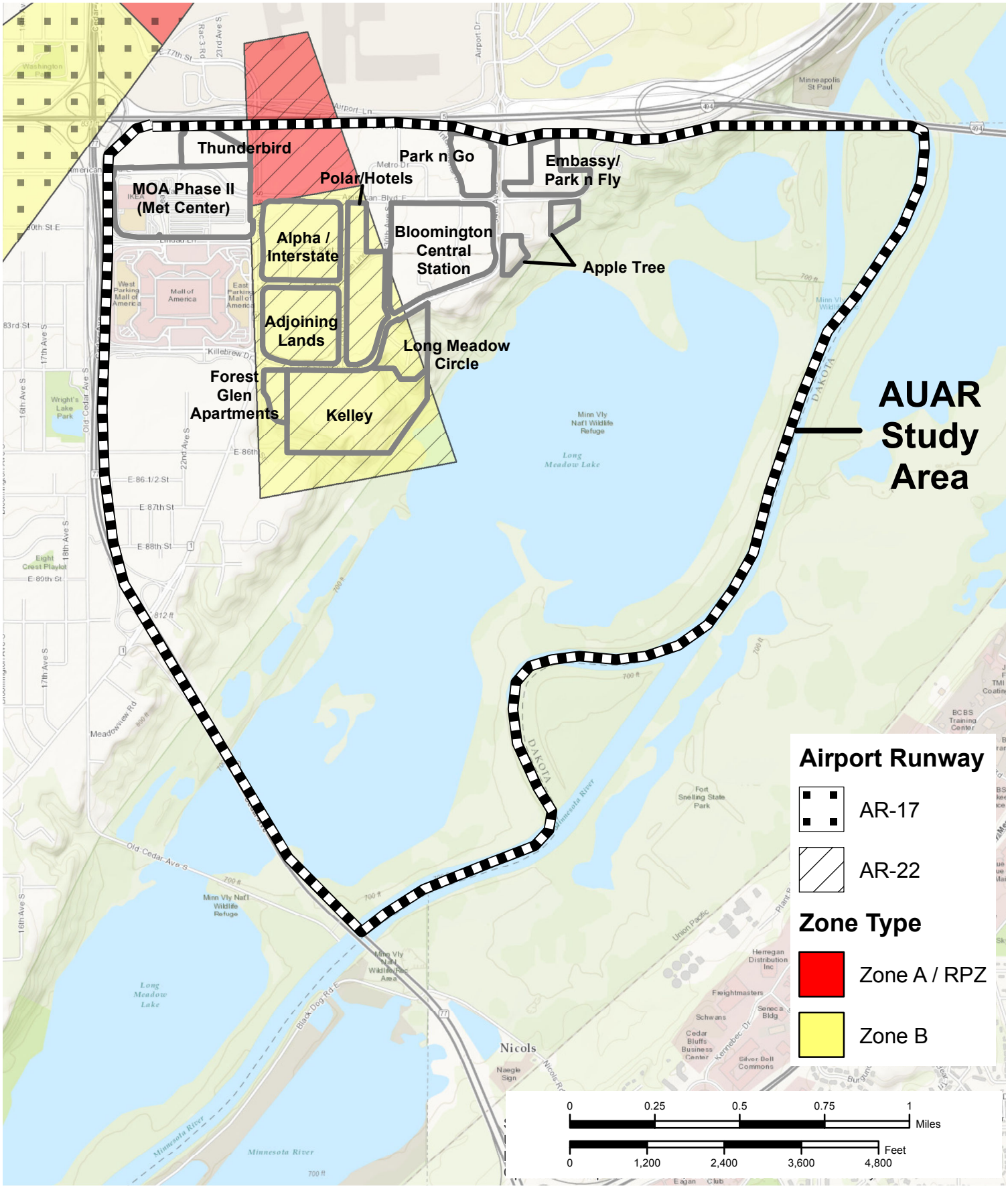
Adoption of amendments to the Comprehensive Plan and City Zoning Ordinance in 2004 to require high intensity mixed uses, including residential uses, in the eastern South Loop District near LRT Stations and along 34th Avenue. The amendments created a new land use category called "Airport South Mixed Use", 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 of Bloomington 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 9.3). 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).
  - Height regulations are based on the 2004 MSP Zoning Ordinance regulations for Airspace Zones.
  - 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 20 describes potential contamination issues based on past land uses.



Source: Metropolitan Airports Commission; ESRI World Street Map and Topographic Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Airport Runway Overlay Districts

South Loop District AUAR

FIGURE 9.3

SECTION 10: COVER TYPES

EAW: *[Note: In the updated (2013) EAW requirements, Cover Types are included in Section 7.]*
ESTIMATE THE ACREAGE OF THE SITE WITH EACH OF THE FOLLOWING COVER TYPES BEFORE AND AFTER DEVELOPMENT (BEFORE AND AFTER TOTALS SHOULD BE EQUAL).

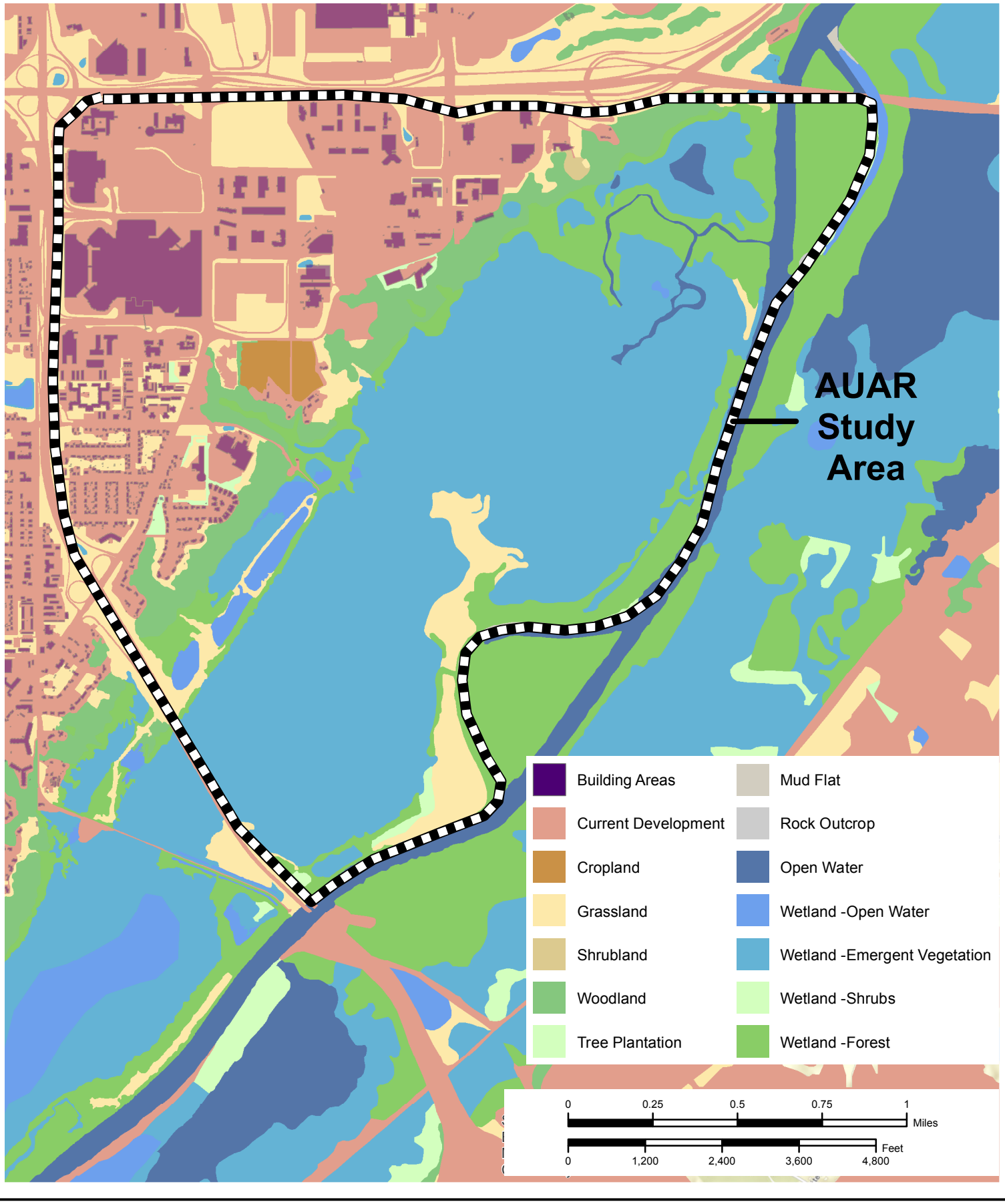
AUAR: The following information should be provided instead:

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 10.1 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 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 three sites in the study area as shown on Figure 10.2. These include: the Kelley property, which is currently farmed; a portion of the "adjoining lands" redevelopment site, which is planned for Mall of America Phase 3 expansion; and a vacant parcel south of American Boulevard where a hotel project has been proposed.



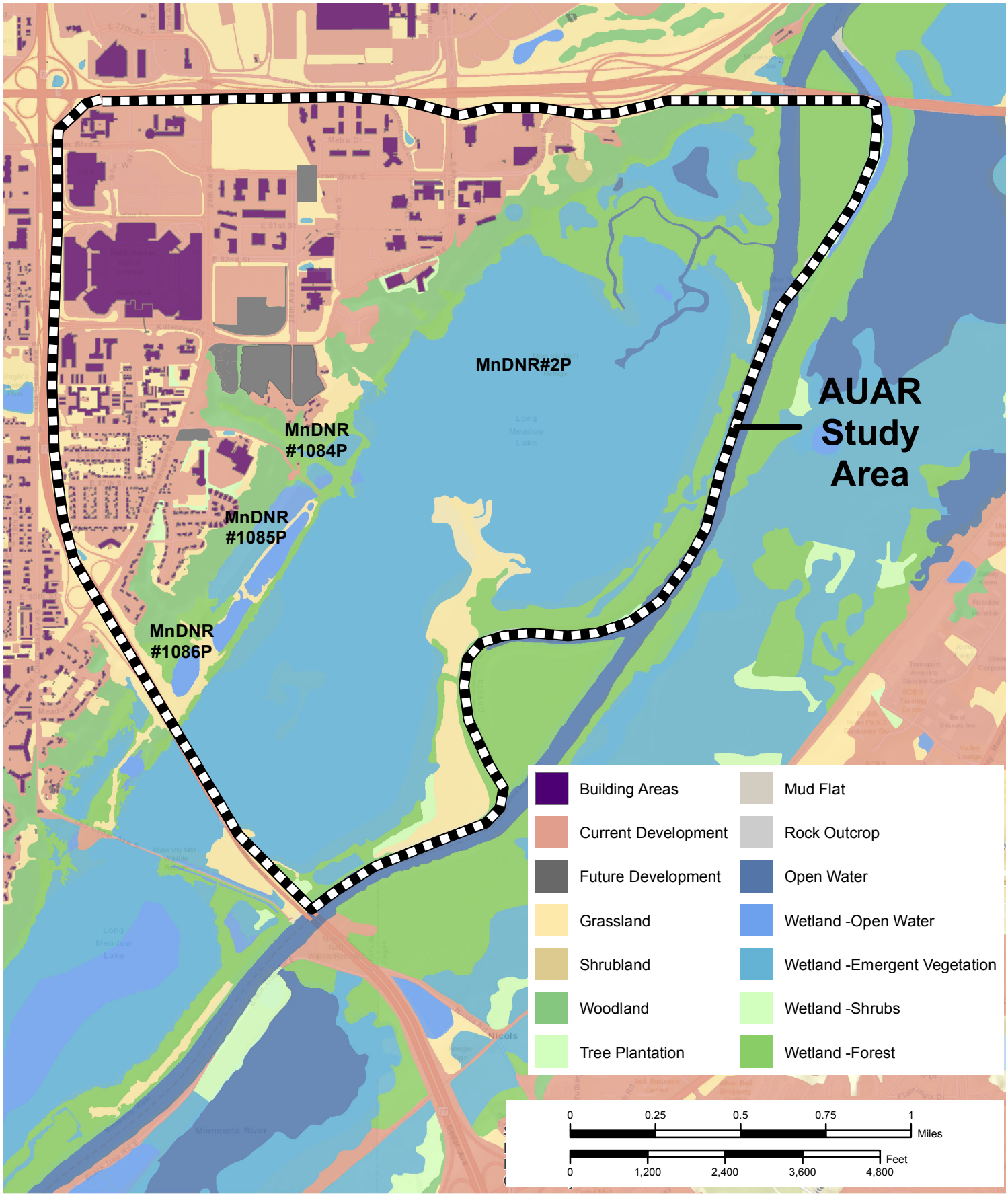
Source: City of Bloomington and MLCCS Land Cover, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Cover Types and Existing Development

South Loop District AUAR

FIGURE 10.1



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

CITY OF BLOOMINGTON MINNESOTA

Future Cover Types

South Loop District AUAR

FIGURE 10.2

SECTION 11: FISH, WILDLIFE & ECOLOGICALLY SENSITIVE RESOURCES

Note: In the updated (2013) EAW Requirements, Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources is covered in Section 13. The EAW requirements described below reflect the updated requirements, however the section numbering remains consistent with the AUAR section requirements, which related to the previous EAW requirement.

EAW: *Updated (2013) Requirements:*

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 RESOUCES ON OR WITHIN CLOSE PROXIMITY TO THE SITE. PROVIDE THE LICENSE AGREEMENT NUMBER (LA-___) AND/OR CORRESPONDENCE NUMBER (ERDB____) 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.

EAW: *2002 REQUIREMENTS:*

A. DESCRIBE FISH AND WILDLIFE RESOURCES ON OR NEAR THE SITE AND DISCUSS HOW THEY WOULD BE AFFECTED BY THE PROJECT. DESCRIBE ANY MEASURES TO BE TAKEN TO MINIMIZE OR AVOID ADVERSE IMPACTS.

B. ARE THERE ANY STATE-LISTED (ENGANGERED, THREATENED, OR SPECIAL-CONCERN SPECIES; RAREE PLANT COMMUNITIES OR OTHER SENSITIVE ECOLOGICAL RESOURCES SUCH AS COLONIAL WATERBIRD NESTING COLONIES; NATIVE PRAIRIES OR OTHER RARE

HABITAT ON OR NEAR THE SITE?
____ NO ___X_ YES

IF YES, DESCRIBE THE RESOURCE AND HOW IT WOULD BE AFFECTED BY THE PROJECT. INDICATE IF A SITE SURVEY OF THE RESOURCES HAS BEEN CONDUCTED AND DESCRIBE THE RESULTS. IF THE DNR NATURAL HERITAGE AND NONGAME RESEARCH PROGRAM HAS BEEN CONTACTED GIVE THE CORRESPONDENCE REFERENCE NUMBER: **#ERDB 20090697-0002**

AUAR:

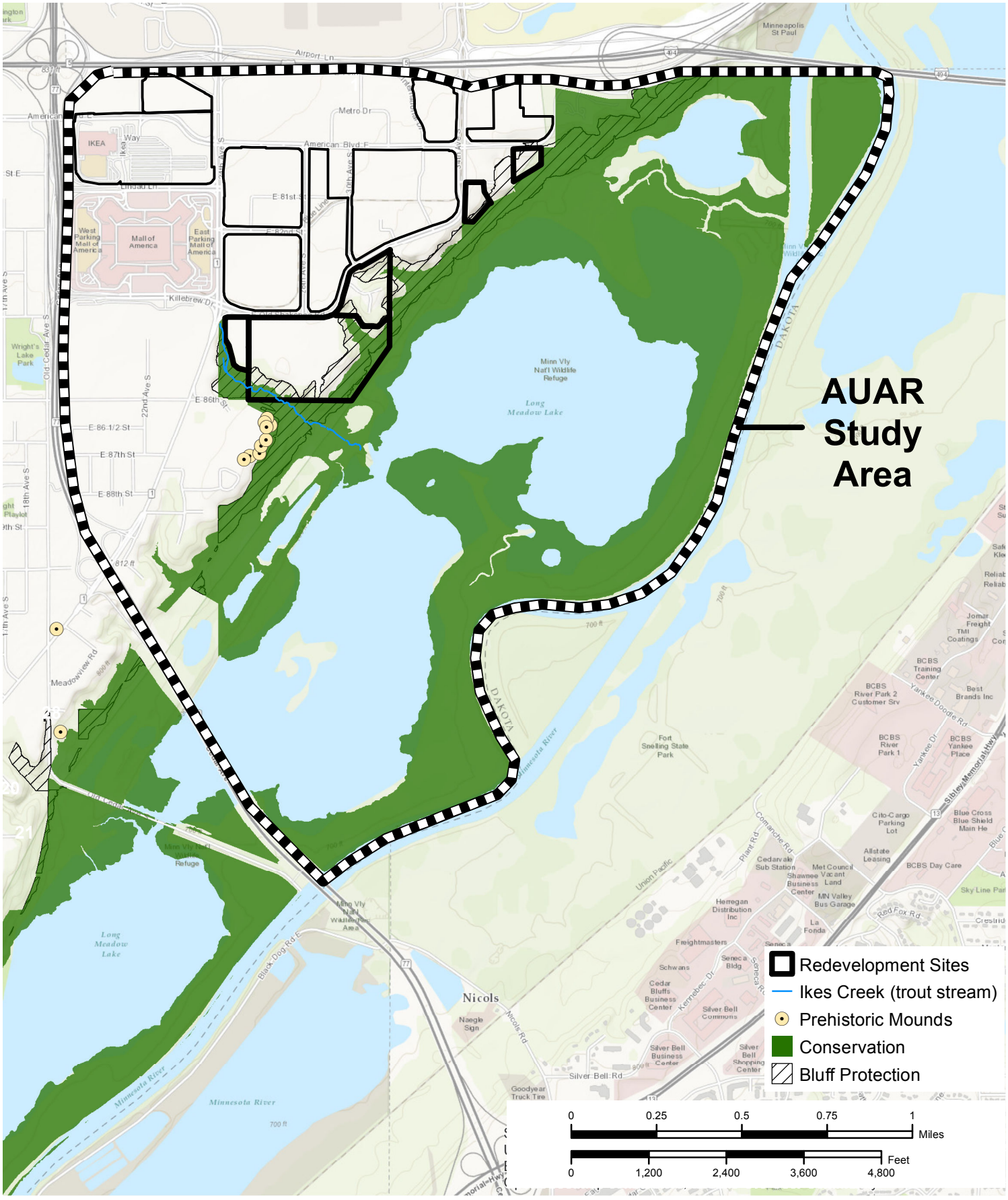
A. Description of wildlife and fish resources should be related to the habitat types depicted on the cover type maps in Section 10. Any differences in impacts between development scenarios should be highlighted in the discussion.

As stated in the 2002 AUAR, development proposed in both the 2002 and 2016 development scenarios will occur in areas of the South Loop that are described on the existing and future Cover Types maps (Figures 10.1 and 10.2) 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 10, Cover Types). The AUAR redevelopment scenario identifies twelve sites expected to redevelop by 2040 (see Figure 6.2). Five of the redevelopment sites abut the Minnesota River bluff. As shown on Figure 11.1, portions of all these sites are located within the City's Bluff Protection 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 by the City 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



Source: City of Bloomington Planning Division, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Sensitive Resource Areas

South Loop District AUAR

FIGURE 11.1

and the floodplain wetland complex habitat that make up the Long Meadow Lake management unit of the MVNWR.

As noted in 2002, the bluff and bottomlands along the Minnesota River are guided and zoned for Conservation (see Figures 9.1 and 9.2). 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.

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" which 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 repoducing naturally. The DNR has proposed to add this unnamed stream and an adjacent tributary to the designated trout stream list (see Figure 11.1). However, at this time, the stream is not a formally-designated trout stream.

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 17, 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 ponds will likely result in an overall improvement in the quality of storm water discharges to Long Meadow Lake. Even if "Ike's Creek" is not designated as a trout stream, the City will continue to enforce current regulatons to minimize development impacts on the stream and bluff habitat. 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 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. The primary source aquifer for "Ike's Creek" is assumed to be the shallow water table. As a result, the potential 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.

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.

As required, Bloomington staff contacted the Minnesota Department of Natural Resources (DNR) Natural Heritage and Nongame Research Program to complete a review of their database of rare plant and animal species and other significant natural features for records of known occurrences within, and near, the study area.

In the original 2002 AUAR the database records were provided via correspondence reference number ES #990014 and included in Appendix B of that AUAR. In the 2009 AUAR update the updated database of rare plant and animal species and other significant natural features was obtained from the DNR and provided via correspondence reference number #ERDB 20090697 and included in Appendix C of that AUAR. For the current update, records were provided via correspondence reference number #ERDB 20090697-0002 and are included in Appendix C and summarized below.

A review of records from the Rare Features Database indicates the presence of several species of animals, and plants listed as: on the watchlist; special concern; threatened; and/or endangered. The number of species identified in each of these categories is summarized in Table 11.1.

Table 11.1: Status of Rare Plant and Animal Species

Status	**Species Category**		
	Vertebrate Animal	***Invertebrate Animal***	***Vascular Plant***
Watchlist	8		5
Special Concern	2	2	4
Threatened	1	4	8
Endangered		8	

In addition, five native plant communities were identified within the AUAR study area, including:

- Black Ash (Red Maple) Seepage Swamp
- Calcareous Fen (Southeastern Type)
- Seepage Meadow
- Southern Wet Ash Swamp
- Spikerush – Bur Reed Marsh (Prairie)

Other sources were reviewed for additional information on significant natural resources. The Minnesota Biological Survey program of the DNR has completed surveys of plant and animal distribution and ecology of native planc communities for most counties in Minnesota. The MBS for Carver, Hennepin, and Scott Counties identified the three major natural communities located in the South Loop District:

- *Oak Woodland – Brushland:* This includes portions of the South Loop district proposed for development, as well as some areas within ravines or along the bluff where development is restriction or prohibited. This natural community is characterized by dry woodlands on well-drained soils, with 50-70 percent canopy cover. The tree canopy is dominated by oaks, though other tree species may be present (paper birch, eastern red cedar, quaking aspen, basswood, and big-toothed aspen). This community typically has a dense shrub layer and groundcovers.

- *Mixed Emergent Marsh:* This community is located in the Minnesota River floodplain areas in open, flooded wetlands at lake or river margins. Persistent emergent vegetation dominates, such as river bulrush, cattalks, lake sedge, wild rice, bur reed, bluepoint grass, and rice cut grass.

- *Floodplain Forest – Silver Maple subtype:* This community is also located in the river floodplain. It is characterized by lowland forest that is seasonally flooded. The tree canopy often consists of a tall, open supercanopy of cottonwoods above a continuous canopy of Silver Maple. Other important subcanopy trees include: basswood, American elem, green ash, and peach-leaved willow. The shrub layer is sparce or absent and the ground layer may contain wood nettle, tall conflower, false nettle, cow-arsnip, white grass and eastern narrowleaf sedge.

The DNR also prepares ecological scores for Regionally Significant Ecological Areas. The area covered by the Minnesota Valley National Wildlife Refuge is given the highest score of 3, which reflects the large, intact area of terrestial and wetland ecological areas.

Many of these 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.

SECTION 12: PHYSICAL IMPACTS ON WATER RESOURCES

Note: The updated (2013) EAW requirements combine the previous EAW requirements for Sections 12 through 18. The updated EAW requirements are provided below for reference. Likewise, the EAW requirements from the 2002 AUAR are also provided for Sections 12-18. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the updated EAW requirements should be used for guidance on information required.

EAW: WATER RESOURCES (2013):

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, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include 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.
      1) 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.
      2) 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.
      3) 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.

   ii. Stormwater – Describe the quantity and quality of stormwater runoff at the site prior to the post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental

effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

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. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

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. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required conpensatory wetland mitigation for unaboidable 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 ditche) 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. 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.

EAW: *[2002 REQUIREMENTS]*
WILL THE PROJECT INVOLVE THE PHYSICAL OR HYDROLOGIC

ALTERATION (DREDGING, FILLING, STREAM DIVERSION, OUTFALL STRUCTURE, DIKING, IMPOUNDMENT) OF ANY SURFACE WATER (LAKE, POND, WETLAND, STREAM, DRAINAGE DITCH?)
_X_ NO ____ YES

IF YES, IDENTIFY THE WATER RESOURCE AND GIVE THE DNR PROTECTED WATERS INVENTORY NUMBERS(S) IF THE WATER RESOURCES AFFECTED ARE ON THE PWI:_____. DESCRIBE ALTERNATIVES CONSIDERED AND PROPOSED MITIGATION MEASURES TO MINIMIZE IMPACTS.

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.

Development and/or infrastructure proposed in the updated (2016) South Loop development scenario is not anticipated to result in physical or hydrologic alteration of surface waters, with the exception of Pond 30, which is located on the Adjoining Lands parcel. With redevelopment, Pond 30 will likely be removed. Potential mitigation measures exist within the South Loop District and are described in Section 17.

Since 2002, as part of Bloomington's MS4 stormwater permit coverage, the City developed its current Storm Water Pollution Prevention Program (SWPPP) and in 2007 adopted its current *Comprehensive Surface Water Management Plan.* 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. As part of that process Section IV of the 2007 *Comprehensive Surface Water Management Plan* was amended to strengthen the City's post construction stormwater requirements. Post construction stormwater runoff management is part of the city's SWPPP, *Comprehensive Surface Water Management Plan,* and MS4 permit.

Development projects disturbing one acre or more of ground must obtain coverage under the NPDES Construction Site Permit and provide the site SWPPP as a condition of local approval. Sites disturbing less than an acre 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.

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, fecal coliform,

polychlorinated biphenyls, dissolved oxygen, mercury, and in 2016 the MPCA listed the Minnesota River as impaired for nutrients. The impairment dictates additional 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.

SECTION 13: WATER USE

EAW: *[2002 REQUIREMENTS]*

WILL THE PROJECT INVOLVE THE INSTALLATION OR ABANDONMENT OF ANY WELLS, CONNECTION TO OR CHANGES IN ANY PUBLIC WATER SUPPLY OR APPROPRIATION OF GROUND OR SURFACE WATER (INCLUDING DEWATERING)?

___ NO ___X_ YES

IF YES, AS APPLICABLE, GIVE LOCATION AND PURPOSE OF ANY NEW WELLS; PUBLIC SUPPLY AFFECTED, CHANGES TO BE MADE, AND WATER QUANTITIES TO BE USED; THE SOURCE, DURATION, QUANTITY AND PURPOSE OF ANY APPROPRIATIONS; AND UNIQUE WELL NUMBERS AND DNR APPROPRIATION PERMIT NUMBERS, IF KNOWN. IDENTIFY ANY EXISTING AND NEW WELLS ON THE SITE MAP. IF THERE ARE NO WELLS KNOWN ON SITE, EXPLAIN METHODOLOGY USED TO DETERMINE.

AUAR: *If the area requires new water supply wells, specific information about that appropriation and its potential impacts on groundwater levels should be given; if groundwater levels would be affected, any impacts resulting on other resources should be addressed.*

Groundwater and Wells

Similar to the existing water supply wells in the South loop District discussed below, new water supply wells may be required to serve the development proposed in the updated AUAR development scenario described in Section 6. Additionally, existing wells are located on some of the development parcels (e.g., Kelley Farm property). These wells would be abandoned 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.

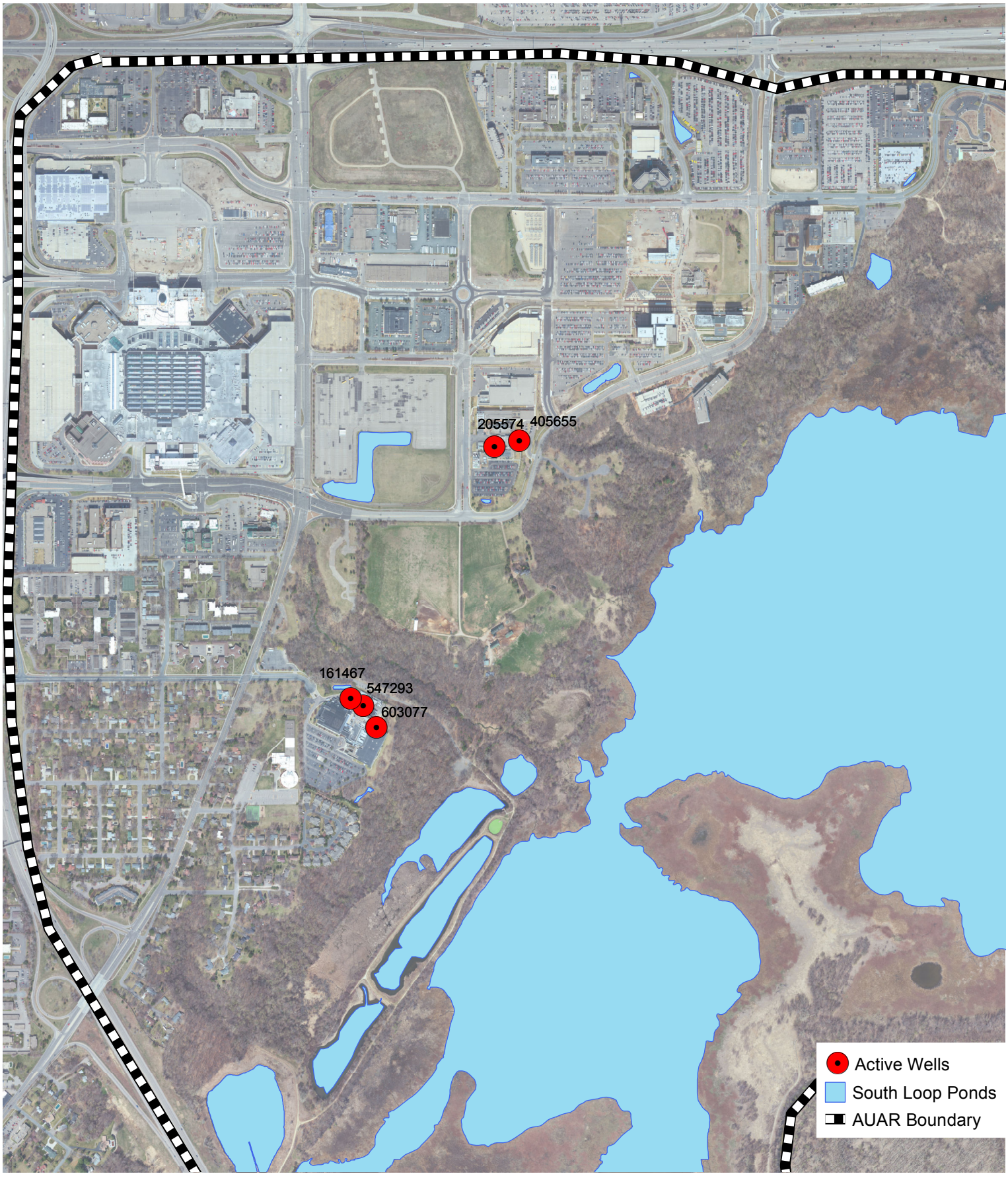
There are currently two properties that utilize private wells to supplement their public water supply to operate production facilities: Polar Semiconductor and Cypress. They currently draw 130 million gallons/year (MGY) and 290 MGY and have obtained DNR appropriation permits for up to 250 MGY and 440 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 Minnesota Department of Natural Resources (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 the Figure 13.1 and corresponding data for these wells is described in Table 13.1 below.

Table 13.1: Active Wells in the South Loop District

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	Jordan
405655	1973-1413	250	8/5/2011	Polar Semiconductor	0	400	Prairie du Chien-Jordan
161467	1986-6091	440	11/30/2009	Cypress Semiconductor (Minnesota)	1200	381	Prairie du Chien-Jordan
547293	1986-6091	440	11/30/2009	Cypress Semiconductor (Minnesota)	0	400	Prairie du Chien-Jordan
603077	1986-6091	440	11/30/2009	Cypress Semiconductor (Minnesota)	0	402	Prairie du Chien-Jordan

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 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 would require permits from the Minnesota Department of Natural Resources (water appropriation) and MPCA (National Pollutant Discharge Elimination System Permit (NPDES) for water discharge). As noted in the Mall of America Expansion EIS, if dewatering were 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.

With the 2017 update of the *Water Supply Plan*, the City will be actively involved with the public and industrial water users to expand water conservation practices for both publicly and privately supplied water. Enforcement of any water conservation efforts for private wells will necessarily fall to the DNR, who has sole responsibility for permitting the private wells, and the authority to alter well appropriations as they deem appropriate.



Source: City of Bloomington, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Active Wells

South Loop District AUAR

FIGURE 13.1

Changes in Public Water Supply-Distribution System

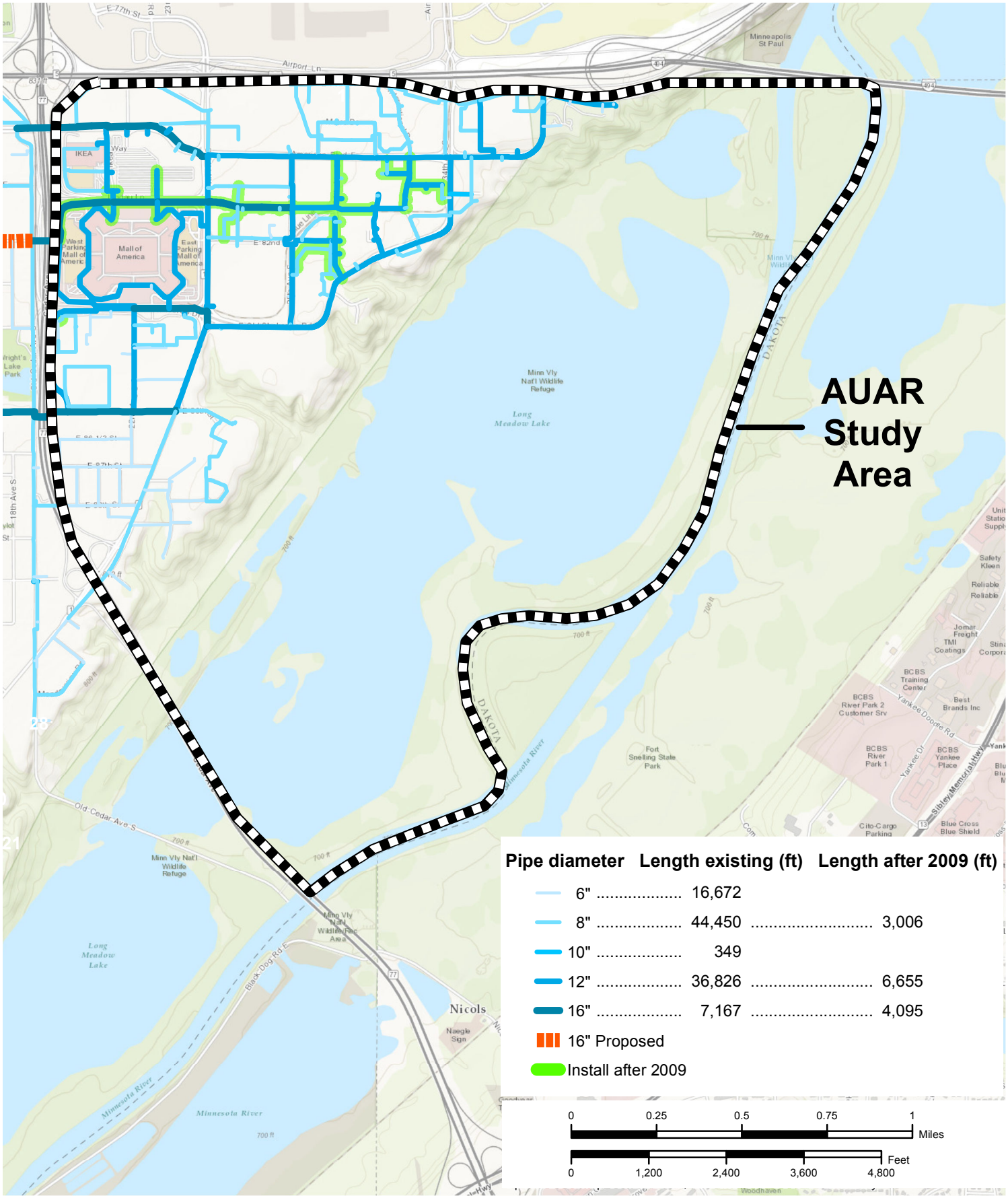
The City's 2010 *Water System Master Plan* reflects planned future land uses in the City, including planned redevelopment in the South Loop District. It assessed the impact of future water demand through 2030 on the City water supply, storage, treatment, and distribution system. The 2010 hydraulic model of the projected South Loop development estimated a water demand increase of 1.7 MGD for an average day. Recent modeling done to assess the revised South Loop development scenario (described in Section 6) indicates a demand increase through 2040 of 1.9 MGD above existing demand.

As 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 developments have not yet been developed, 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.

The largest new water demand is concentrated on 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 construction 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 located entirely outside of the South Loop District, it supplies water to distribution pipes in the South Loop District. Figure 13.2 illustrates both existing and future water piping serving the South Loop District.

The system improvements identified in the City's *Water System Master Plan* are programmed in the City's Capital Improvement Program (CIP). The CIP, which is updated annually, estimates costs and implementation timing for public infrastructure improvements in the upcoming five years. 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.



Source: City of Bloomington Utilities Division, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Water Distribution Facilities

South Loop District AUAR

FIGURE 13.2

SECTION 14: WATER-RELATED LAND USE MANAGEMENT DISTRICTS

EAW: *[2002 REQUIREMENTS]*

DOES ANY PART OF THE PROJECT SITE INVOLVE A SHORELAND ZONING DISTRICT, A DELINEATED 100-YEAR FLOOD PLAIN, OR A STATE OR FEDERALLY DESIGNATED WILD OR SCENIC RIVER LAND USE DISTRICT?

___ NO __X__ YES

IF YES, IDENTIFY THE DISTRICT AND DISCUSS THE COMPATIBILITY OF THE PROJECT WITH THE LAND USE RESTRICTIONS OF THE DISTRICT.

AUAR: Such districts should be delineated on appropriate maps and the land use restrictions applicable in those districts should be described. If any variances or deviations from these restrictions within the AUAR area are envisioned, this should be discussed.

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 zoned Conservation District (SC) with Flood Hazard Overlay District (FH) (see Figures 9.1 and 9.2).

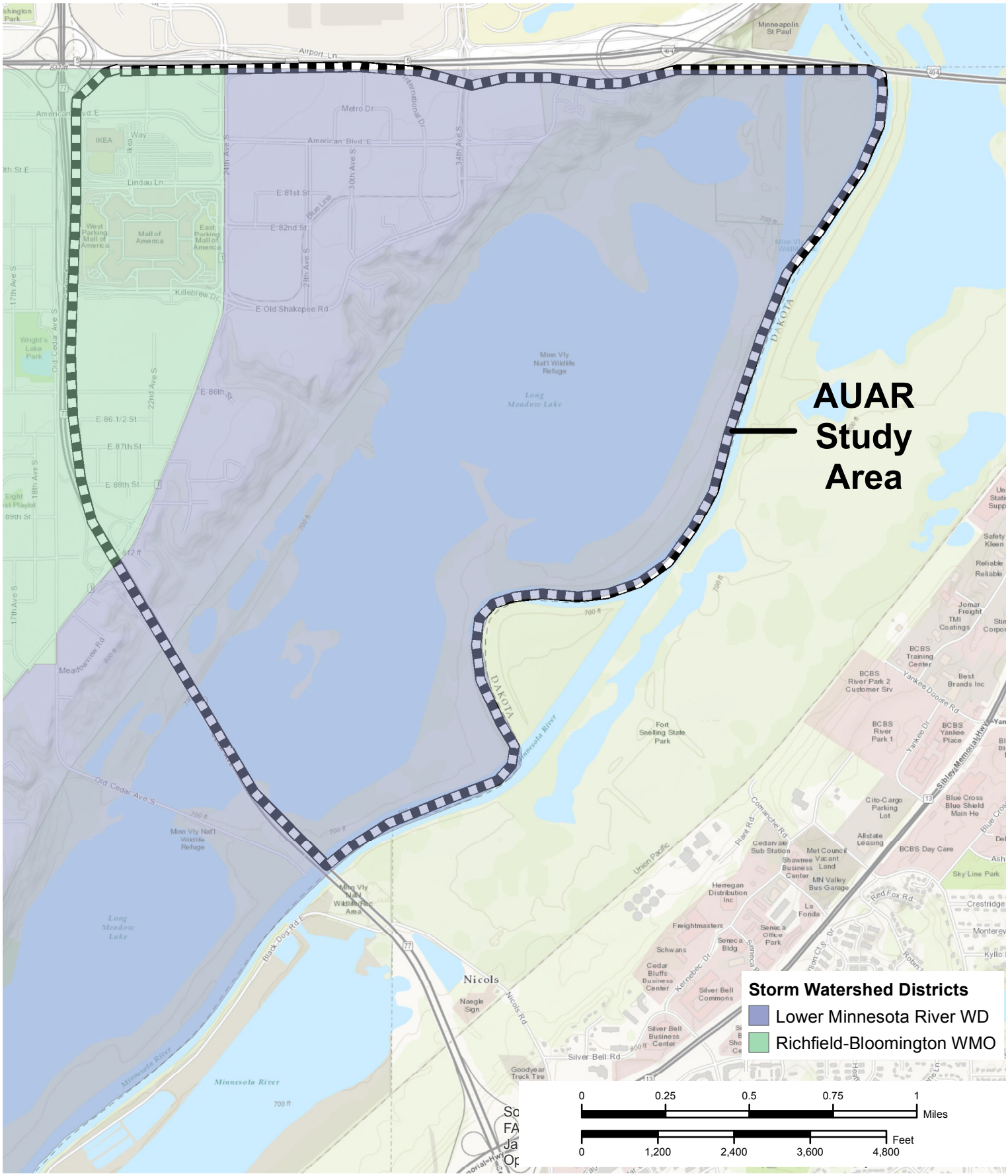
As shown on Figure 11.1, all of the redevelopment sites in the updated AUAR development scenario are located above the bluff, although portions of individual parcels may extend below the bluffline. Development is prohibited below the 760-foot elevation and no structures are anticipated on land within the Conservation or FH zoning districts or in areas covered by the City's shore area regulations.

It is noted that the City recently adopted an amendment to the FH Overlay District to align with updated Federal Emergency Management Agency (FEMA) requirements. Rezonings (map amendments) were also completed to adjust the boundaries of the FH Overlay District to match the updated Flood Insurance Rate Maps (FIRM).

Watershed Management Districts

There are two watershed management jurisdictions in South Loop: the Richfield Bloomington Watershed Management Organization; and the Lower Minnesota Watershed District. Figure 14.1 illustrates the boundaries of their physical jurisdiction 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* has updated their Watershed Management Plan and now has a policy that encourages low impact



Source: City of Bloomington, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Watershed Management Jurisdictions

South Loop District AUAR

FIGURE 14.1

development (LID) and enhanced infiltration practices to limit total suspended solids, surface water runoff volume, and phosphorus to 1988 levels.

- In 2011, the *Lower Minnesota River Watershed District* adopted their third generation Watershed Management Plan (2011-2020). This plan was amended in June 2015.

SECTION 15: WATER SURFACE USE

EAW: *[2002 REQUIREMENTS]*
WILL THE PROJECT CHANGE THE NUMBER OR TYPE OF WATERCRAFT ON ANY WATER BODY?
__X__ NO _____ YES

IF YES, INDICATE THE CURRENT AND PROJECTED WATERCRAFT USAGE AND DISCUSS ANY POTENTIAL COVERCROWDING OR CONFLICTS WITH OTHER USERS.

AUAR: This item need only be addressed if the AUAR area would include or adjoinrecreational water bodies.

The Minnesota River is used by both commercial and recreational watercraft. However, 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. Any watercraft access is limited to that needed by the U.S. Fish & Wildlife Service for management of the MVNWR.

None of the redevelopment sites in the AUAR study area physically abut the river and are not proposed to provide access to the Minnesota River.

SECTION 16: EROSION AND SEDIMENTATION

EAW: *[2002 REQUIREMENTS]*
GIVE THE ACREAGE TO BE GRADED OR EXCAVATED AND THE CUBIC YARDS OF SOIL TO BE MOVED: ACRES____; CUBIC YARDS_____. DESCRIBE ANY STEEP SLOPES OR HIGHLY ERODIBLE SOILS AND IDENTIFY THEM ON THE SITE MAP. DESCRIBE ANY EROSION AND SEDIMENTATION CONTROL MEASURES TO BE USED DURING AND AFTER PROJECT CONSTRUCTION.

AUAR: The number of acres to be graded and number of cubic yards of soil to be moved need not be given; instead, a general discussion of the likely earthmoving needs for development of the area should be given, with an emphasis on unusual or problem areas. In discussing mitigation measures, both the standard requirements of the local ordinances and any special measures that would be added for AUAR purposes should be included.

The majority of development projected to occur in the South Loop District will occur on sites

located in the relatively flat upland area of the district. The development proposed 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 Best Management Practices during and after construction. 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.

As described in Sections 9 (Land Use) and Section 11 (Fish, Wildlife, and Ecologically Sensitive Resources), five redevelopment sites are located adjacent to the Minnesota River valley bluff (see Figure 11.1). Portions of these sites are within the Bluff Protection Overlay Districts (BP-1 and BP-2) that apply 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 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.

A significant change since 2002 relates to a proposed road project, included in the 2002 AUAR that would connect 28th Avenue to 86th Street through the Kelley Farm site and over a ravine. This project is no longer considered a viable project and was formally removed from the City's *Comprehensive Plan* with adoption of the *South Loop District Plan* in 2012.

SECTION 17: WATER QUALITY: SURFACE WATER RUNOFF

EAW: *[2002 REQUIREMENTS]*

A: COMPARE THE QUANTITY AND QUALITY OF SITE RUNOFF BEFORE AND AFTER THE PROJECT. DESCRIBE PERMANENT CONTROLS TO MANAGE AND/OR THREAT RUNOFF. DESCRIBE ANY STORM WATER POLLUTION PREVENTION PLANS.

B: IDENTIFY THE ROUTE(S) AND RECEIVING WATER BODIES FOR RUNOFF FROM THE SITE; INCLUDE MAJOR DOWNSTREAM WATER BODIES AS WELL AS THE IMMEDIATE RECEIVING WATERS. ESTIMATE THE IMPACT OF THE RUNOFF ON THE QUALITY OF THE RECEIVING WATERS.

AUAR: For an AUAR, the following additional guidance should be followed in addition to that in the "EAW Guidelines".

- *It is expected that an AUAR will have a detailed analysis of storm water issues.*
- *A map of the proposed storm water management system and of the water bodies that will receive storm water should be provided.*
- *The description of the storm water management should identify onsite and "regional" detention ponding and also indicate whether the various ponds will be new water bodies or converted existing ponds or wetlands. Where onsite ponds will be used by have not yet been designed, the discussion should indicate the design standards that will be followed.*
- *If present in or adjoining the AUAR area, the following types of water bodies must be given special analyses:*
    - *Lakes – Within the Twin Cities metro area a nutrient budget analysis must be prepared for any "priority lake" identified by the Metropolitan Council (see Appendix E of "EAW Guidelines". Outside of the metro area, lakes needing a nutrient budget analysis must be determined by consultation with MPCA and DNR staffs;*
    - *Trout streams – If storm water discharges will enter or affect a trout stream, an evaluation of the impacts on the chemical composition and temperature regime of the stream and the consequent impacts on the trout population (and other species of concern) must be included.*

Through the application of existing stormwater standards, the updated AUAR redevelopment scenario should not 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 in the AUAR Study Area 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. In addition, all new development will be required to meet current standards for stormwater management, which have been updated since the 2002 AUAR.

Modeling indicates areas with potential for flooding under existing and future conditions. During redevelopment, modifications may be required to alleviate potential flooding, including:

- *MOA Transit Station* – Under existing conditions, a 100-year flood event could potentially result in flooding at the light rail transit (LRT) station, located in the southeast ground level of the MOA. One potential mitigation approach would involve installation of a new 42-inch storm sewer system to drain the LRT station low point. This system would run southeast from the LRT station, under 24th Avenue and connect to the proposed Lindau Lane Low Point system just north of Old Shakopee Road. Pipes and manholes within the existing storm sewer system would also require modifications.

- *Lindau Lane Low Point* – Other than substantial storm sewer infrastructure modifications, a reasonable and feasible alternative has not been identified.

- *Pond 30* – Modeling indicates this existing pond located on the Adjoining Lands site (MOA Phase 3) currently retains stormwater from the local subwatershed as well as backflow from the 24th Avenue trunk storm sewer system. Reconfiguration or removal of Pond 30 is anticipated with redevelopment of the Adjoining Lands (MOA Phase 3). Alternative infrastructure modifications evaluated in the model indicated they could successfully mitigate the flood elevation increases resulting from reconfiguration of Pond 30. Development of the Kelley Farm and the Adjoining Lands sites have potential to significantly alter runoff in this area. Redevelopment plans for sites that currently drain to this area should include significant rate control best management practices to mitigate the effects of 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 continue to be reviewed on a case-specific basis as actual re/development plans are realized. All final development projects will have to meet the City's revised *Comprehensive Surface Water Management Plan (2007)* requirements to maintain surface water discharge rates at or below existing levels. These are described below.
The stormwater management system would be able to maintain, if not improve on, the water quality guidelines noted in the 2002 AUAR and the impacts resulting from the updated (2016) AUAR redevelopment scenario.

The DNR is proposing to add a stream located south and east of East Old Shakopee Road and 24th Ave to the designated trout stream list. Potential development impacts on this stream are discussed in Section 11.

Stormwater Management Plan Updates

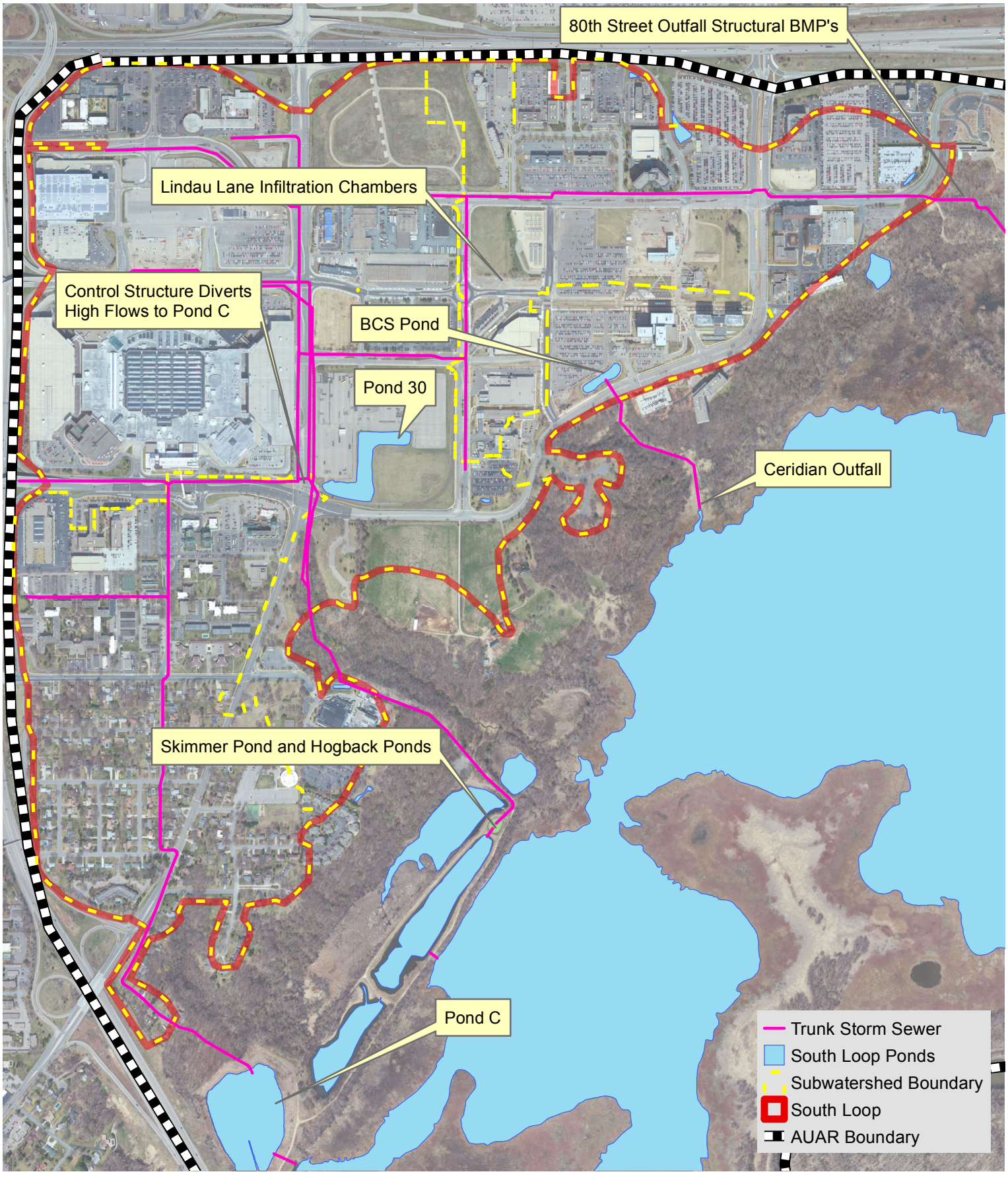
The Bloomington *Comprehensive Surface Water Management Plan* (CSWMP) was approved by the City Council on October 8, 2007. Section 4 of the CSWMP was updated in March 2015 to reflect updates related to the city's Stormwater Pollution Prevention Program. The CSWMP requires all new development/redevelopment to maintain surface water discharge rates at or below existing levels. Key items from the updated CSWMP that apply to all development in the City and South Loop include the following:

- Bloomington's Storm Water Pollution Protection Program (SWPPP) is consistent with the MPCA's current Phase II MS4 General Permit MS4 permit requirements. For new development projects, Bloomington requires no net increase from pre-project conditions (on an annual average basis) of stormwater discharge volume, stormwater discharges of Total Suspended Solids (TSS), and stormwater discharges of Total Phosphorus (TP). For re-development projects, Bloomington requires a net reduction from pre-project conditions (on an annual average basis) of stormwater discharge volume, stormwater discharges of TSS, and stormwater discharges of TP.
- Surface water discharge rates from new development and redevelopment on sites disturbing less than one (1) acre of land must be reviewed by the City Engineer.
- In the design and construction of new, or modifications to existing storm water conveyance systems, treatment of all storm water runoff from the parcel shall be treated to at least sixty percent (60%) annual removal efficiency for phosphorus, and at least eighty percent (80%) annual removal efficiency for total suspended solids.
- Sites that create one or more acres of impervious surface shall capture and retain on-site 1.0 inches of runoff from new and/or fully reconstructed impervious surfaces.

Stormwater Management Projects and Activities Since 2002

The South Loop District stormwater quantity and quality model prepared for the 2002 AUAR was updated in 2008 and 2012. Figure 17.1 illustrates the existing stormwater facilities serving the South Loop District. Several stormwater management projects have been implemented since 2002 and are described below. These projects improve stormwater quantity and quality capacity and stormwater flow.

- Regional Ponding - Regional Pond C, an existing water quality pond located in Mn/DOT right of way along TH 77, south of CSAH #1, takes drainage from a significant portion of South Loop as well as drainage from TH 77 (Cedar Ave) and areas west. The 2002 AUAR analysis indicated that Pond C did not meet expected removal efficiencies for any of the parameters modeled. This inability to meet expected removal efficiencies is related to two Pond C characteristics: (1) the overall drainage area of Pond C is larger than the treatment capacity of the impoundment; and (2) the pond was constructed prior to NURP or MPCA design guidelines or standards. Improvement to Pond C were completed in 2008 to address these deficiencies and increase treatment efficiency prior to discharging to Long Meadow



Source: City of Bloomington, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Stormwater Facilities

South Loop District AUAR

FIGURE 17.1

Lake and the Minnesota River. The project doubled the surface area of the pond and added significant volume to improve phosphorus and sediment removal.

- American Blvd East (formerly 80th Street) Outfall Project - The American Boulevard East outfall project was undertaken to repair erosion and stabilize the outfall at the base of the bluff. The project was completed in the winter of 2004-2005. In addition, two water quality structures were installed above the bluff in public right of way to capture floating debris, and settle out solids and sediment prior to discharge.
- Long Meadow Lake (Ceridian) Outfall Project - This water quality improvement project reconstructed an existing storm sewer outfall to Long Meadow Lake from the Bloomington Central Station area. To reduce the energy and erosive forces at the outfall location, the design included: increasing the pipe to 48'' diameter, reducing the pipe grade to 0% for the last 40 feet and construction of a two-cell energy dissipation basin. The project was completed in the winter of 2012-2013.
- 24th Avenue Storm Sewer Project (Lindau Land Low Point System) - The project included tunneling a new 36-inch storm sewer pipe along the east side of 24th Avenue to accommodate stormwater due to the Lindau Lane grade separation project. The 24th Avenue Storm Sewer project occurred before the grade separation so the storm sewer collection system was in place prior to grade separation work. The project was completed in the winter of 2012-2013.

The 2002 AUAR, also, addressed pollutant overloading from accidental spills from commercial and industrial properties within the South Loop District. City staff continues to work with commercial/industrial property owners on site-specific spill prevention plans when required by NPDES and MPCA permitting. In addition, the City's SWPPP specifically addressed illicit discharges to the storm sewer system and has implemented a number of BMP's accordingly.

Surface Water Pollutant Load Assessment

The City completed a nondegradation 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 nondegradation 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 nondegradation water quality rules with new antidegradation rules in 2015. The city meets the antidegradation rules through post construction stormwater management requirements detailed in Section 4 of the CSWMP.

South Loop Drainage and Water Quality Modeling Update

The 2002 analysis 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 provide a current assessment of existing conditions and indicate the following:

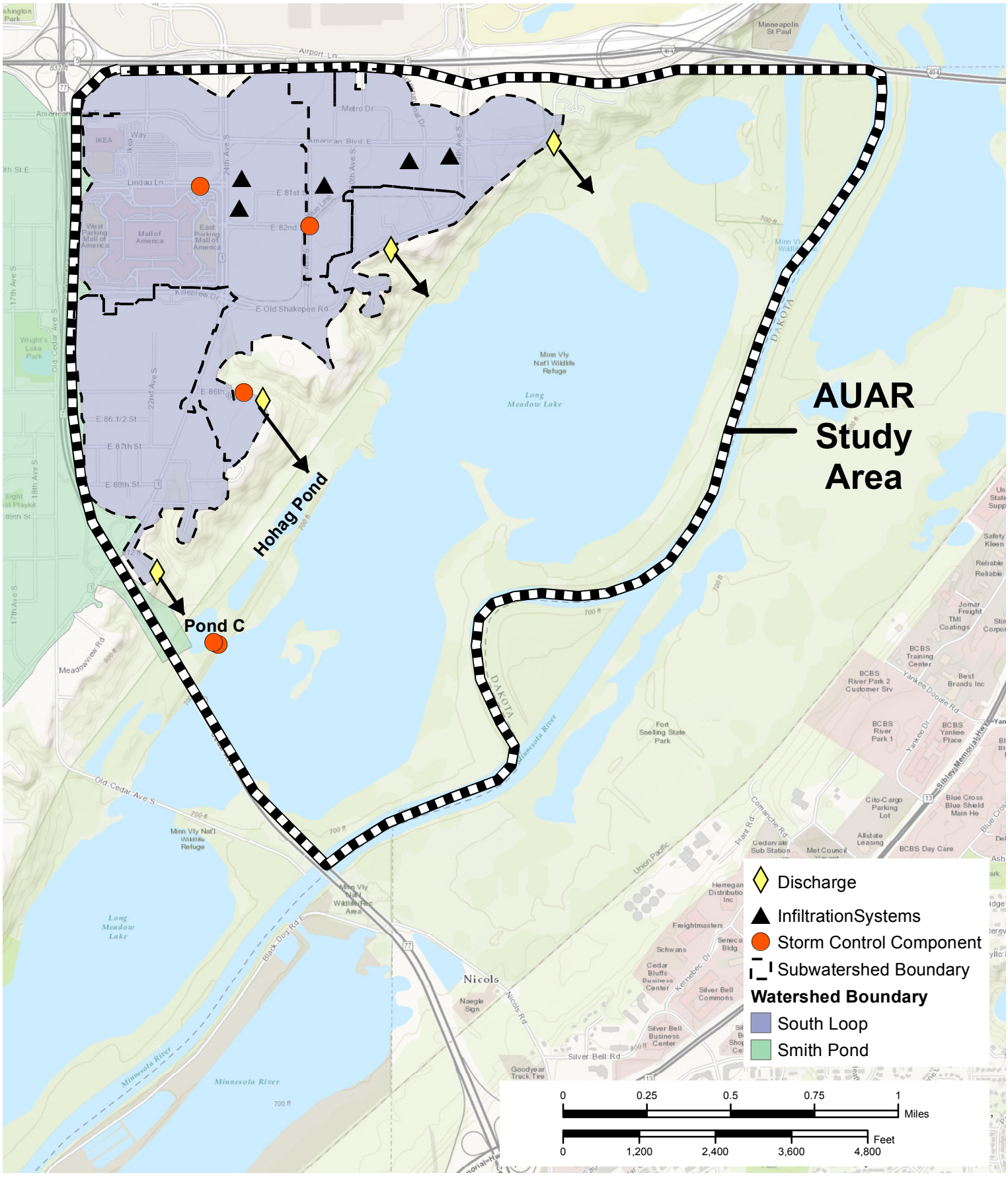
- Through on-site and regional BMPs and naturally occurring wetlands, approximately 52% of the annual total phosphorus was removed from the Smith Pond and South Loop Drainage Districts; and
- Approximately 80% of the total suspended solids (TSS) loads generated are removed from the Smith Pond and South Loop Drainage Districts prior to discharge to downstream Long Meadow Lake.

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.

Figure 17.2 illustrates the drainage flow and discharge locations in the South Loop District. The 2008 South Loop District Drainage modeling results are provided in Appendix D.



Source: City of Bloomington, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Drainage Flow

South Loop District AUAR

FIGURE 17.2

SECTION 18: WATER QUALITY: SANITARY WASTEWATER

EAW: *2002 REQUIREMENTS:*

A. DESCRIBE SOURCES, COMPOSITION AND QUANTITIES OF ALL SANITARY, MUNICIPAL AND INDUSTRIAL WASTEWATER PRODUCED OR TREATED AT THE SITE.

B. DESCRIBE WASTE TREATMENT METHODS OR POLLUTION PREVENTION EFFORTS AND GIVE ESTIMATES OF COMPOSITION AFTER TREATMENT. IDENTIFY RECEIVING WATERS, INCLUDING MAJOR DOWNSTREAM WATER BODIES, AND ESTIMATE THE DISCHARGE IMPACT ON THE QUALITY OF RECEIVING WATERS. IF THE PROJECT INVOLVES ONSITE SEWAGE SYSTEMS, DISCUSS THE SUITABILITY OF SITE CONDITIONS FOR SUCH SYSTEMS.

C. IF WASTES WILL BE DISCHARGED INTO A PUBLICLY OWNED TREATMENT FACILITY, IDENTIFY THE FACILITY, DESCRIBE ANY PRETREATMENT PROVISIONS AND DISCUSS THE FACILITY'S ABILITY TO HANDLE THE VOLUME AND COMPOSITION OF WASTES, IDENTIFYING ANY IMPROVEMENTS NECESSARY.

D. IF THE PROJECT REQUIRES DISPOSAL OF LIQUID ANIMAL MANURE, DESCRIBE DISPOSAL TECHNIQUE AND LOCATION AND DISCUSS CAPACITY TO HANDLE THE VOLUME AND COMPOSITION OF MANURE. IDENTIFY ANY IMPROVEMENTS NECESSARY. DESCRIBE ANY REQUIRED SETBACKS FOR LAND DISPOSAL SYSTEMS.

AUAR: Observe the following points of guidance in the AUAR:

- *Only domestic wastewater should be considered in an AUAR – industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process.*
- *Wastewater flows should be estimated by land use sub-areas of the AUAR area, the basis of flow estimates should be explained.*
- *The major sewer system features should be shown on a map and the expected flows should be identified.*
- *If not explained under Item 6, the expected* staging *of the sewer system construction should be described.*
- *The relationship of the sewer system extension to the RGU's comprehensive sewer plan analasis (for metro area AUARs) to Metropolitan Council regional systems plans, including MUSA expansions, should be discussed. For non-metro area AUARs, the AUAR must discuss the capacity of the RGU's wastewater treatment system compared to the flows from the AUAR area,' and necessary improvements should be described.*
- *If onsite systems will serve part of the AUAR, the guidance in "EAW Guidelines*

" page 16 regarding item 18b under Residential development should be followed.

The 2002 AUAR included a recommendation from the City's *Sanitary Sewer Policy Plan (1998)* to install a new 18-inch sewer main parallel to Cedar Ave to connect directly into the sanitary sewer trunk line in Killebrew Drive. This 18-inch sewer line was constructed in 2003. The line relieves demands on the 24th Ave sewer main juncture at Killebrew Drive and East Old Shakopee Road resulting from increased flows from a Mall of America Phase II project.

The 2002 AUAR also indicated that the sewer line located along Killebrew Drive and East Old Shakopee Road (from about 21st Ave to 28th Ave), needed capacity improvements. In the summer of 2008 new pipe was installed at the east and west ends of the segment needing capacity upgrades. The remaining central portion was installed in 2013, in conjunction with 24th Ave and Killebrew Dr intersection improvements. A short segment of sewer line in 28th Ave (north of E Old Shakopee Road) also needs capacity improvements and will likely be upgraded in conjunction with future street reconstruction.

In 2008, the MCES abandoned the regional wastewater lift station and force mains that were capable of diverting sanitary flows north to an alternate treatment plant. City staff have been working with the Metropolitan Council on reconveyance of several regional interceptors in the South Loop District, including the Cedar Ave interceptor (7804). It is anticipated that reconveyance may occur in 2017. Once the reconveyance occurs, it will negate the 85 percent capacity restrictions discussed in the 2002 AUAR.

Updated Sanitary Wastewater Analysis

Wastewater flows from the South Loop District are generated primarily by commercial and residential development. Existing flows representing the Average Daily Flows in the maximum month of the year are about 1.55 MGD for these commercial and residential properties. There are also three major industrial properties in the South Loop District that currently generate another 0.58 MGD of Average Daily Flow.

Future sewer flow calculations are based on the updated (2016) AUAR development scenario described in Section 6, which reflects the maximum amount of development anticipated to occur through the year 2040 and beyond, including existing "background" development. The development forecasts were divided into two timeframes for use in infrastructure modeling. The first phase covers the period 2016 through 2025. This includes all parcels with approved development plans and parcels that developers have expressed interest in, although have not yet become formal development applications. The second phase covers the period 2026 through 2040. Assumed development amounts are based on development forecasts and current development regulations. Total development projected by year 2040 is described in Table 6.2.

Additional future sewer flows were calculated by utilizing unit flow rates derived from the Metropolitan Council Sewer Availability Charge (SAC) parameters, multiplied by the forecast increased development for each phase (2016-2025 and 2026-2040). Between 2016 and

2025, it is estimated that there could be an additional 1.00 MGD of commercial/residential flow and another 0.22 MGD of industrial flow generated by forecast development. Between 2026 and 2040 (and beyond) it is estimated that there could be an additional 1.10 MGD of commercial/residential flow and another 0.02 MGD of industrial flow generated by forecast development.

Wastewater from the South Loop District is collected in Bloomington's public wastewater system and is directed to a Metropolitan Council Interceptor, located west of TH 77 and the AUAR study area. Wastewater flows from the South Loop District are treated at the Seneca Wastewater Treatment Plant, operated by the Metropolitan Council Environmental Services (see Figure 18.1). The Seneca Wastewater Treatment Plant has a capacity of 34 MGD and currently treats an average of 22.4 MGD. Therefore it appears that there is adequate capacity to treat the estimated future wastewater flow (4.57 MGD) generated by forecast development in the South Loop District out to year 2040 (and beyond).

Onsite Systems

While there are currently only a couple of existing onsite sewage systems in the South Loop District (located on the Kelley Farm site), it is anticipated that those systems will be removed with redevelopment and replaced by an extension of the public sewer system. No additional onsite systems should be installed. There is also no need for liquid animal manure disposal currently or in the future for the South Loop District.

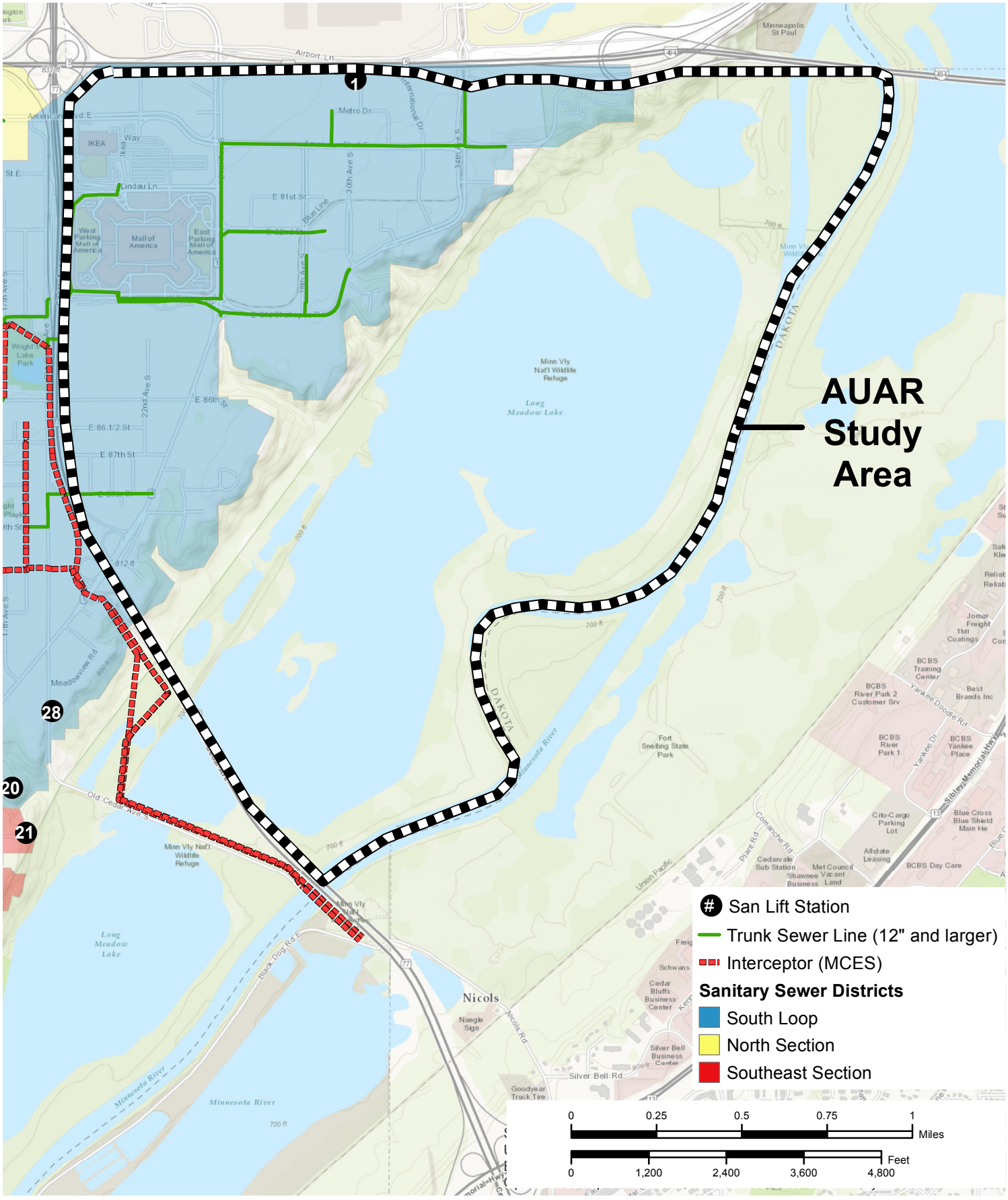
Sanitary Sewer System Modeling and Capacity Analysis for the South Loop District

Hydraulic modeling was completed using H2OMAPSWMM Software (from Innovyze). The model was originally built in 2008 by the City's consultant, Black and Veatch, as part of the City's *Comprehensive Sanitary Sewer System Hydraulic Model* project. Updates to this model reflecting system pipe changes, as well as revised flow forecasts, were input by City staff.

Hydraulic modeling and capacity analysis was conducted relative to forecast development in the AUAR study area anticipated to occur by Year 2025 and Year 2040. Modelling indicated that several of the mainline segments do not currently have adequate capacity to serve all the forecast development. Hydraulic analysis examined the calculated volume and level of flow in the sanitary sewer system pipes, over a 24 hour period, under wet weather conditions. Pipes where modeled flow levels exceeded 75% full, under peak flow conditions, were considered unacceptable and the associated pipe systems were examined for potential upgrades.

Modeled sewer flow loading was based upon the following:

1. Current annual average daily consumption records were used (along with a thirty percent multiplier to reflect the maximum month use), for properties located within the South Loop District that are not expected to experience any future redevelopment.
2. Properties in the South Loop District identified for redevelopment (see Figure 6.2 and Table 6.2) were loaded with estimated flows based upon unit flow rates derived from the



Source: City of Bloomington Utilities Division, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Existing Sanitary Sewer Facilities

South Loop District AUAR

FIGURE 18.1

Metropolitan Council's Sewer Availability Charge (SAC) parameters applied to the City's current forecasts up to year 2025 and 2040 (and beyond).

3. The average daily flow rates from the original 2008 Black &Veatch model were used for the majority of properties located outside of the South Loop District, (again along with a thirty percent multiplier to reflect the maximum month use).
4. Flow inputs for properties located outside of the South Loop District that are expected to redevelop were loaded with estimated flows based upon SAC unit flow rates applied to the City's previous 2015 version of redevelopment forecasts up to year 2025 and 2040 (and beyond).

The modeling and analysis indicates that the total average daily sewer flow rates (out of the South Loop District) could increase the existing flows by 1.6 times in year 2025 and by 2.1 times in year 2040 and beyond.

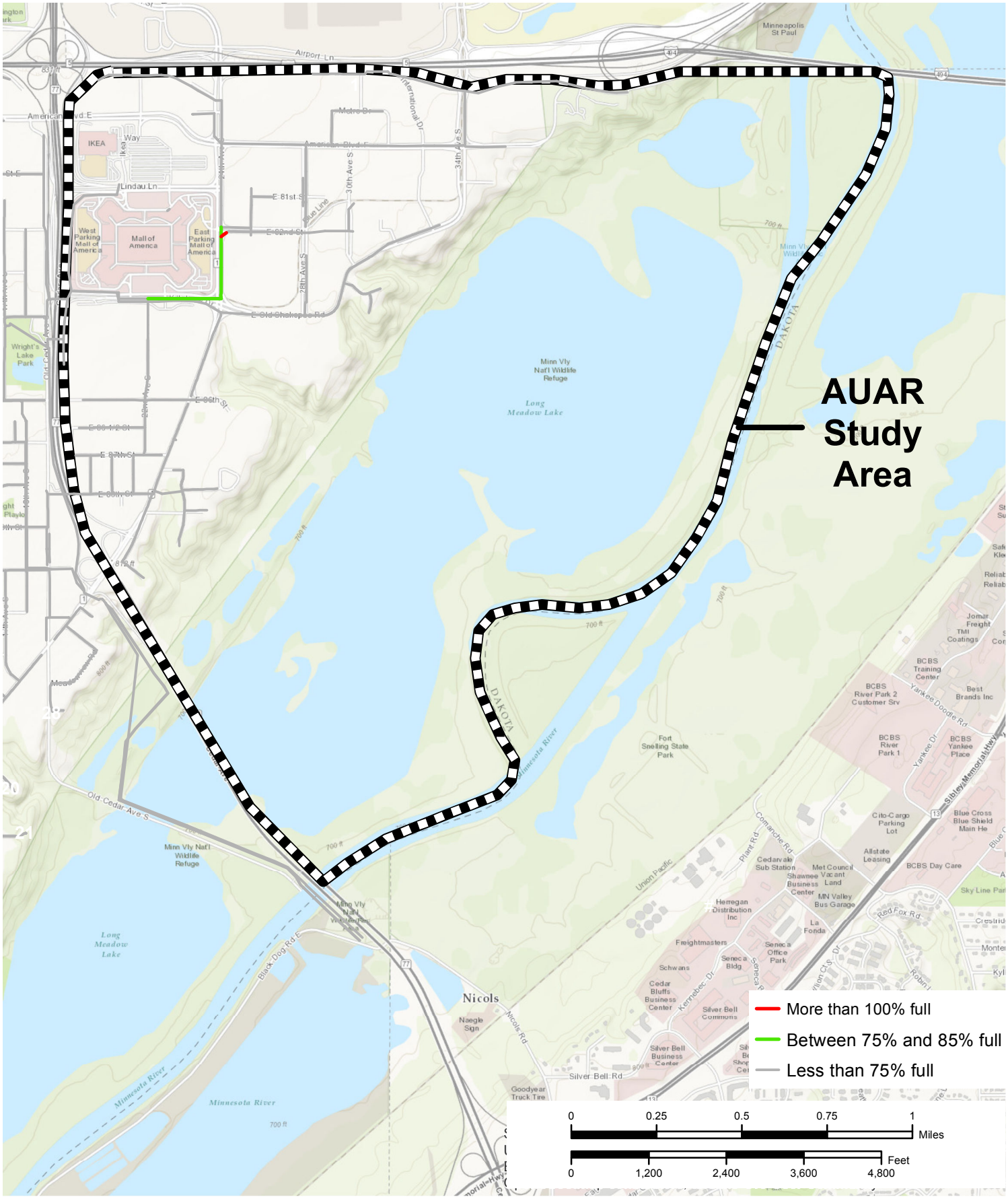
- *Year 2025 H2OMAP SWMM Modeling Results:* H2OMAP SWMM modeling results in the South Loop District (under the year 2025 development forecasts) indicated that flow rates would: exceed 100% full in one pipe segment, run between 85% to 100% full in zero pipe segments, and run between 75% to 85% full in seven pipe segments. The total length of these critical pipe segments is about 2,291 feet involving 16-inch through 21-inch pipe (see Figure 18.2).
- *Year 2040+ H2OMAP SWMM Modeling Results:* H2OMAP SWMM modeling results in the South Loop District (under the year 2040+ development forecasts) indicated that flow rates would: exceed 100% full in thirty-two pipe segments, run between 85% to 100% full in four pipe segments, and run between 75% to 85% full in three pipe segments. The length of these critical pipe segments includes about 3,992 feet of 20 and 21-inch pipe, about 4,555 feet of 15 to 18-inch pipe, and about 3,285 feet of 8 to 12-inch pipe (see Figure 18.3).

Proposed Sanitary Sewer Improvements

A key element of the City's current *Wastewater and Comprehensive Sewer Plan* (WWCSP) is the Wastewater Capital Improvement Program (CIP). The WWCSP, which was updated in 2012 and 2015, has identified a total of 29 CIP work items that are intended to relieve sewer mainline capacity constraints throughout the City. Ten of these CIP items directly affect the South Loop District (AUAR study area). To date three of these items have been completed and three additional items (located west of Cedar Ave) are scheduled for construction in 2017 (CIP-01A, CIP-01B and CIP-01C).

To relieve the flow capacity problems anticipated with projected 2025 development, the following improvements are required:

- Installing the rest of a bypass that would redirect flow away from the constrained pipes in 24th Ave by taking a new route in 28th Ave (from American Blvd to E Old Shakopee Rd) with about 2,800 feet of larger 24" and 27" pipes (CIP-20 and CIP-02C).



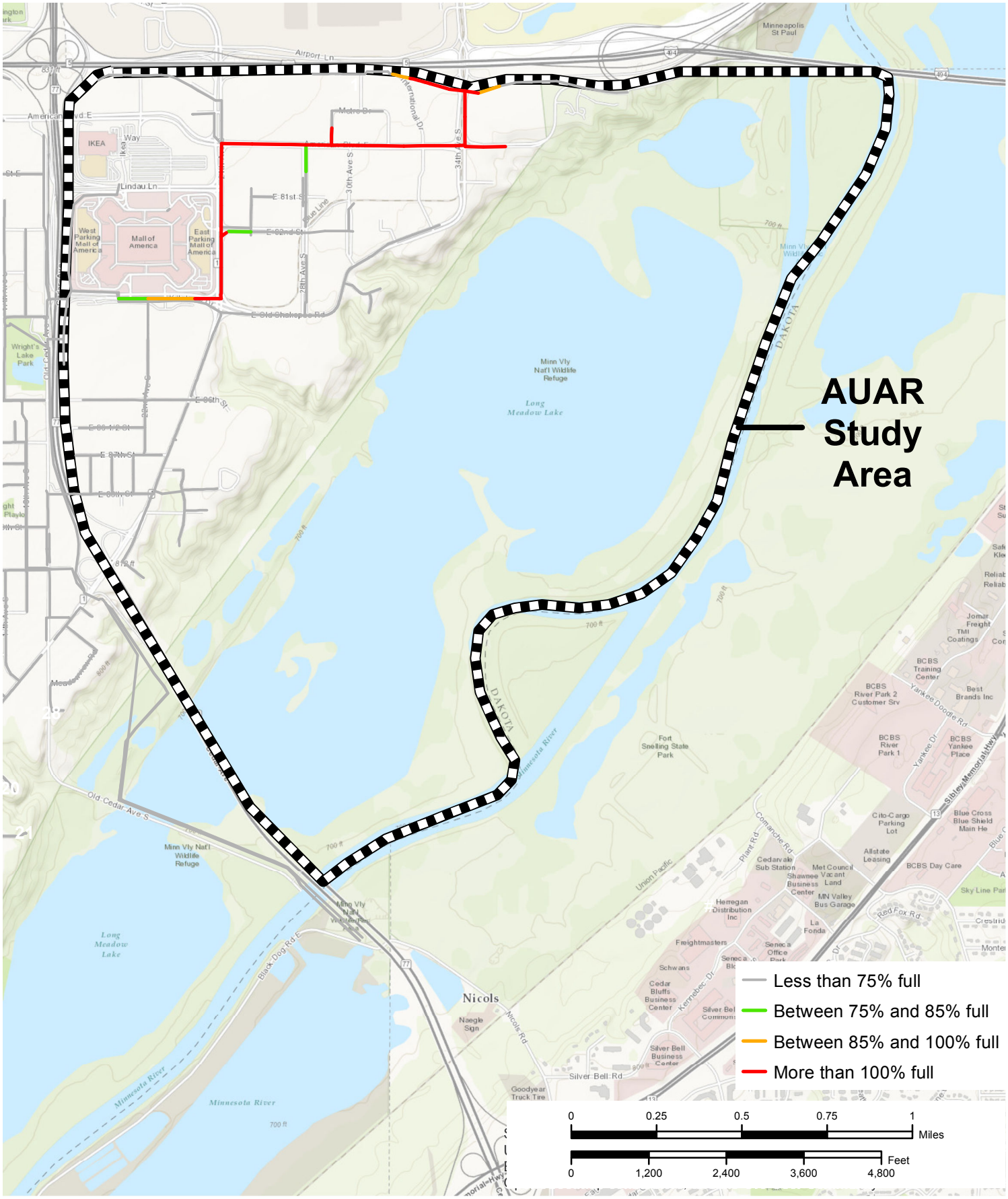
Source: City of Bloomington Utilities Division, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Sanitary Sewer Modeling for Forecast Development up to Year 2025

South Loop District AUAR

FIGURE 18.2



Source: City of Bloomington Utilities Division, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Sanitary Sewer Modeling for Forecast Development up to Year 2040+

South Loop District AUAR

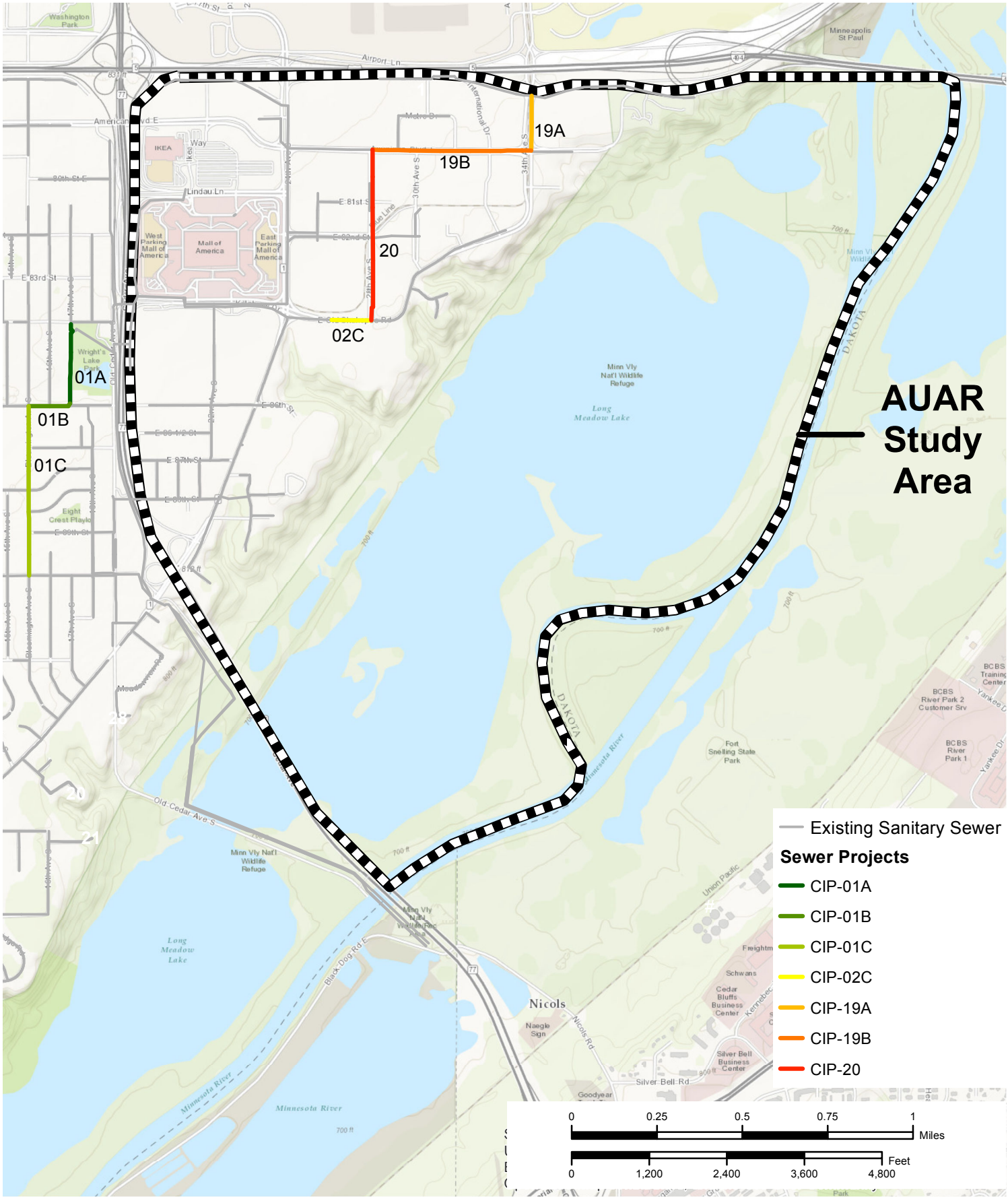
FIGURE 18.3

To relieve the flow capacity problems caused by the additional forecast development out to year 2040 and beyond, the following improvements are required:

- Replacing roughly 3,300 feet of existing 12 and 18 inch pipes in American Blvd from 28th Ave to 34th Ave and also in 34th Ave from American Blvd to the I-494 exit ramp with upsized 15" through 24" pipes (CIP-19A and CIP-19B).

Figure 18.4 illustrates the locations of the proposed sanitary sewer improvements described above. Implementation of these ten WWCSP-CIP items effectively mitigates the capacity issues in the South Loop District associated with the projected 2040 and beyond development.

Rough cost estimates (2015 dollars) of the CIP items described above indicate costs of about $4.1 M for the 2016-2025 phase improvements and about $5.3M for improvements to be implemented in the 2026-2040+ phase. Accurate cost estimates for this work will require detailed engineering design because of conflicts with traffic, LRT, extremely large storm sewer lines, ground water, and other public utility lines. The City is beginning the process of updating its *Comprehensive Plan*, which must be completed by December 31, 2018. That update will include an update of the City's *Wastewater and Comprehensive Sewer Plan*. As part of the update process for both of these plans, the sewer model for the entire City will be updated with current flow inputs for existing properties and the revised forecast developments for properties citywide. Any changes to the list of recommended CIP items affecting the South Loop District identified during the WWCSP and/or Comprehensive Plan updates will be reflected in the next update of the South Loop AUAR, which is routinely done on a 5-year cycle.



Source: City of Bloomington Utilities Division, 2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Proposed Sanitary Sewer Projects

South Loop District AUAR

FIGURE 18.4

SECTION 19: GEOLOGIC HAZARDS AND SOIL CONDITIONS

Note: The updated (2013) EAW requirements address Geology, Soils, and Topography in a new Section 10. The updated EAW requirements related to Geology and Soils are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO GEOLOGY AND SOILS:*

A. Geology – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formatons, unconfined/shallow acquifers, 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) classificatons 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.

EAW: *2002 REQUIREMENTS:*

A. APPROXIMATE DEPTH (IN FEET)

TO GROUND WATER: 10 FEET MINIMUM 20 FEET AVERAGE
TO BEDRODK: 200 FEET MINIMUM 250 FEET AVERAGE

Source: Geologic Atlas, Hennepin County, Minnesota (University of Minnesota, Minnesota Geological Society, St. Paul, 1989)

DESCRIBE ANY OF THE FOLLOWING GEOLOGIC SITE HAZARDS TO GROUND WATER AND ALSO IDENTIFY THEM ON THE SITE MAP: SINKHOLES, SHALLOW LIMESTONE FORMATIONS OR KARST CONDITIONS. DESCRIBE MEASURES TO AVOID OR MINIMIZE ENVIRONMENTAL PROBLEMS DUE TO ANY OF THESE HAZARDS.

B. DESCRIBE THE SOILS ON THE SITE, GIVING NRCS (SCS) CLASSIFICATIONS,

IF KNOWN. DISCUSS SOIL GRANULARITY AND POTENTIAL FOR GROUNDWATER CONTAMINATION FROM WASTES OR CHEMICALS SPREAD OR SPILLED ONTO THE SOILS. DISCUSS ANY MITIGATION MEASURES TO PREVENT SUCH CONTAMINATION.

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

A. GEOLOGIC FEATURES

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

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 19.1.

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.

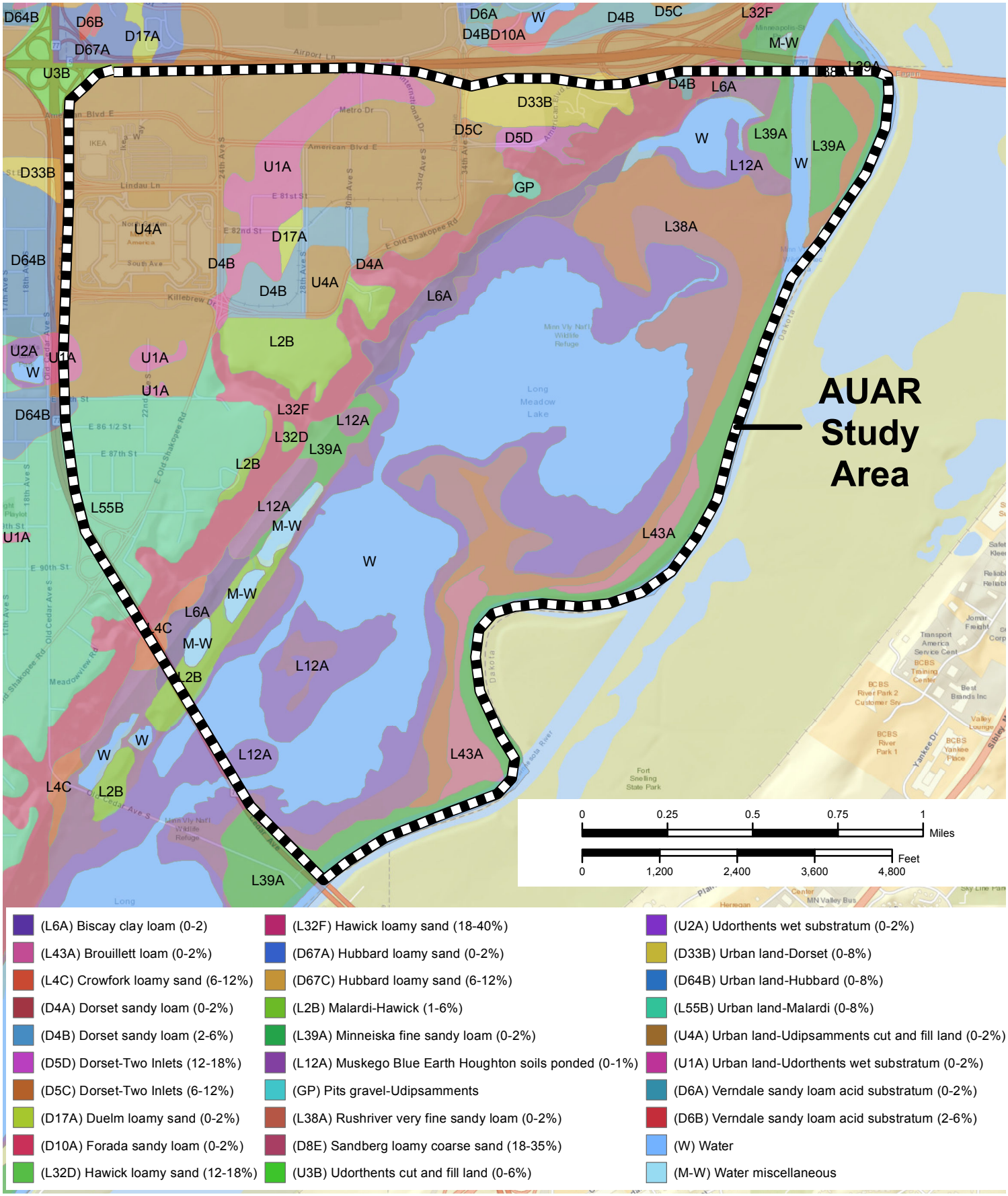
An area of steep slopes (defined as 12 percent or greater), comprises the blufflands that extend through the site from the southwest to the northeast corners and separate the upland (developable) area and the Minnesota River valley bottomlands (development restricted) conservation area.

SECTION 20: SOLID WASTES, HAZARDOUS WASTES, STORAGE TANKS

Note: The updated (2013) EAW requirements address Solid Wastes, Hazardous Wastes, and Storage Tanks in a new Section 12. The updated EAW requirements related to Solid Wastes, Hazardous Wastes, and Storage Tanks are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO SOLID WASTES, HAZARDOUS WASTES, STORAGE TANKS:*

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



Source: U.S. Dept. of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed 08/31/2016; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Soils

South Loop District AUAR

FIGURE 19.1

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 above or below ground tanks to store petroleum or other materials. 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.

EAW: *2002 REQUIREMENTS*

A. DESCRIBE TYPES, AMOUNTS AND COMPOSITIONS OF SOLID OR HAZARDOUS WASTES, INCLUDING SOLID ANIMAL MANURE, SLUDGE AND ASH, PRODUCED DURING CONSTRUCTION AND OPERATION. IDENTITFY METHOD AND LOCATION OF DISPOSAL. FOR PROJECTS GENERATING MUNICIPAL SOLID WASTE, INDICATE IF THERE IS A SOURCE SEPARATION PLAN; DESCRIBE HOW THE PROJECT WILL BE MODIFIED FOR RECYLCLING IF HAZARDOUS WASTE IS GENERATED, INDICATE IF THERE IS A HAZARDOUS WASTE MINIMIZATION PLAN AND ROUTINE HAZARDOUS WASTE REDUCTION ASSESSMENTS.

B. IDENTIFY ANY TOXIC OR HAZARDOUS MATERIALS TO BE USED OR PRESENT AT THE SITE AND IDENTIFY MEASURES TO BE USED TO PREVENT THEM FROM CONTAMINATING GROUNDWATER. IF THE USE OF TOXIC OR

HAZARDOUS MATERIALS WILL LEAD TO A REGULATED WASTE, DISCHARGE OR EMISSION, DISCUSS ANY ALTERNATIVES CONSIDERED TO MINIMIZE OR ELIMINATE THE WASTE, DISCHARGE OR EMISSION.

C. INDICATE THE NUMBER, LOCATION, SIZE AND USE OF ANY ABOVE OR BELOW GROUND TANKS TO STORE PETROLEUM PRODUCTS OR OTHER MATERIALS, EXCEPT WATER. DESCRIBE ANY EMERGENCY RESPONSE CONTAINMENT PLANS.

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. 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.

B. Toxic or Hazardous Material

No response is necessary for item B

C. Above and Below Ground Storage Tanks

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 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.

Activity Since 2002

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 City of 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

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 Cypress Semiconductor 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 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 Cypress Semiconductor 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 21: TRAFFIC

Note: The updated (2013) EAW requirements address transportation in a new Section 18. The updated EAW requirements related to traffic and transportation are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO TRANSPORTATION:*

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.

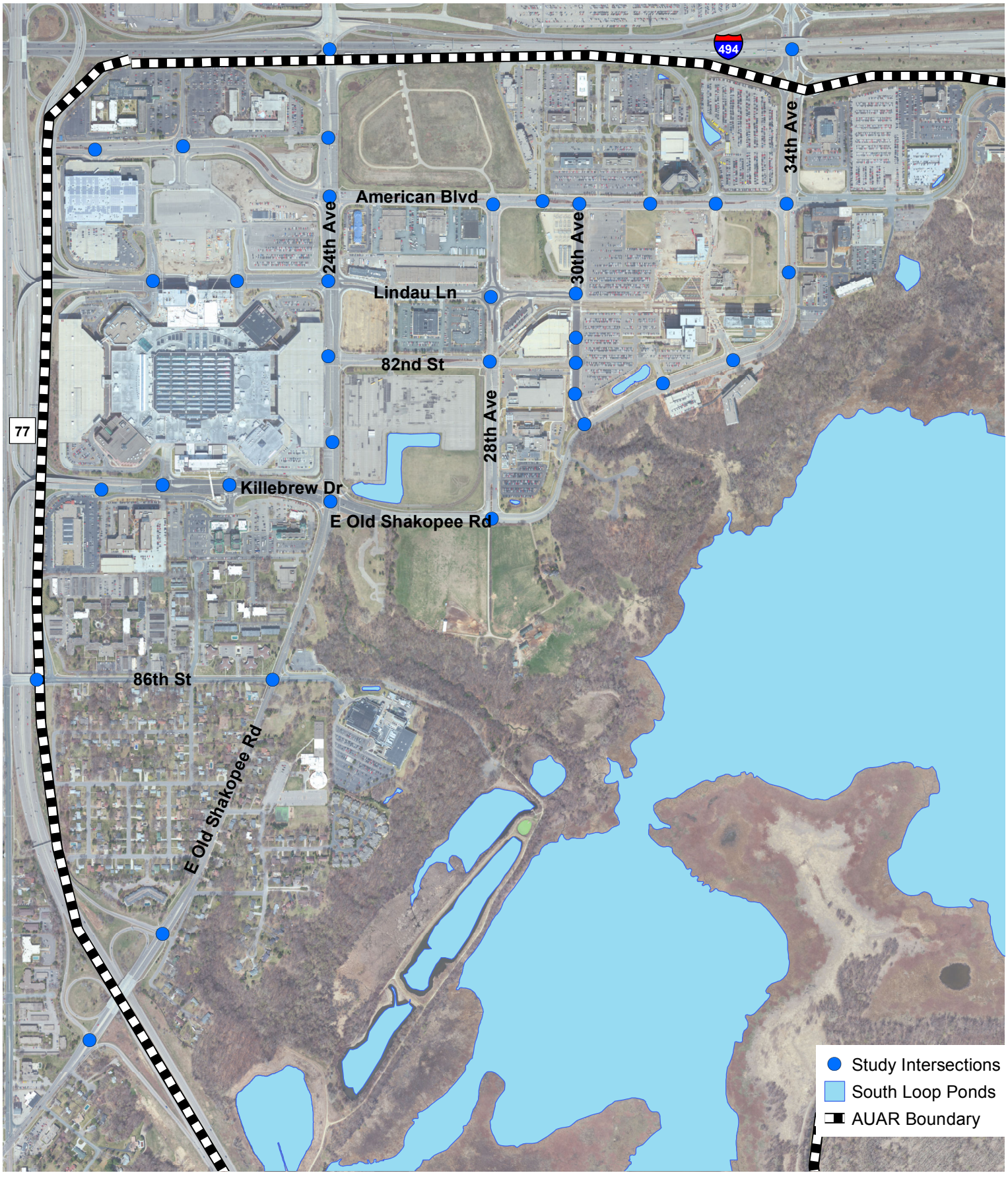
EAW: *2002 REQUIREMENTS:*

PARKING SPACES ADDED:_____
EXISTING SPACES (IF PROJECT INVOLVED EXPANSION):____
ESTIMATED TOTAL AVERAGE DAILY TRAFFIC (ADT) GENERATED: _____
ESTIMATED MAXIMUM PEAK HOUR TRAFFIC GENERATED (IF KNOWN) AND ITS TIMING:_____
AN ESTIMATE OF THE IMPACT ON TRAFFIC CONGESTION ON THE AFFECTED ROADS AND DESCRIBE ANY TRAFFIC IMPROVEMENTS NECESSARY. IF THE PROJECT IS WITHIN THE TWIN CITIES METROPOLITAN AREA, DISCUSS ITSIMPACT ON THE REGIONAL TRANSPORTATION SYSTEM.

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 and in the noise aspect of item 24.

Since the 2002 AUAR was completed, there have been numerous traffic studies completed for development projects and infrastructure improvements within the South Loop District. A detailed list of these studies is included in Section 6 of this AUAR. A complete South Loop (formerly Airport South) Traffic Study was completed for the original AUAR in 2002, but since then only minor traffic updates have been completed, typically in conjunction with specific development proposals such as the MOA Phase II expansion in 2006.

With this AUAR update, a complete South Loop District Traffic Study was commissioned by the City to analyze existing conditions, the traffic impacts under Years 2025 and 2040 development conditions, and to prepare a transportation improvement plan 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 the following key intersections in the South Loop District (see Figure 21.1):



Source: SRF Consulting Group Inc., 2016; City of Bloomington Aerial, 2015

CITY OF BLOOMINGTON MINNESOTA

Location of Intersections Modelled in Traffic Study

South Loop District AUAR

FIGURE 21.1

- American Blvd & IKEA Access
- SB 77 & NB 77 Merge at Lindau Ln
- E 86th St & E Service Rd
- E Old Shakopee Rd & TH 77 S Ramps
- American Blvd & Thunderbird Rd
- Lindau Ln & IKEA Way
- Killebrew Dr & 20th Ave
- E Old Shakopee Rd & TH 77 N Ramps
- Lindau Ln & 22nd Ave
- Killebrew Dr & 22nd Ave
- 24th Ave & I-494 Ramps
- 24th Ave & 77th Ave
- American Blvd & 24th Ave
- 24th Ave & Lindau Ln
- 24th Ave & 82nd St
- 24th Ave & Transit Station
- 24th Ave & Killebrew Dr/E Old Shakopee Rd
- E Old Shakopee Rd & 86th St
- American Blvd & 28th Ave/Airport Access
- Lindau Ln & 28th Ave
- 82nd St & 28th Ave
- E Old Shakopee Rd & 28th Ave
- American Blvd & Metro Drive W
- American Blvd & 30th Ave
- Lindau Ln & 30th Ave
- 30th Ave & North HP Driveway/METRO Park-n-Ride
- 30th Ave & Central HP Driveway
- 30th Ave & South HP Driveway
- 30th Ave & E Old Shakopee Rd
- American Blvd & Metro Drive E
- E Old Shakopee Rd & 31st Ave
- American Blvd & International Dr
- E Old Shakopee Rd & 33rd Ave/Ceridian Access
- 34th Ave & I-494
- 34th Ave & American Blvd
- 34th Ave & Appletree Square

A full copy of the *2016 South Loop District Traffic Study* is included in Appendix E.

Year 2016 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.
- **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.
- **24th Ave/82nd St**: Queues inside the east MOA ramp occasionally extend back onto 24th Avenue causing interference with southbound through traffic. There is an unbalanced lane utilization for the southbound traffic movements entering the MOA east ramp. MOA has recently installed internal wayfinding to improve this issue.

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 (when the

Results of the year 2025 conditions analysis, summarized in Table 21.1 and illustrated in Figures 21.2 and 21.3, 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 21.1 Year 2025 Peak Hour Capacity Analysis

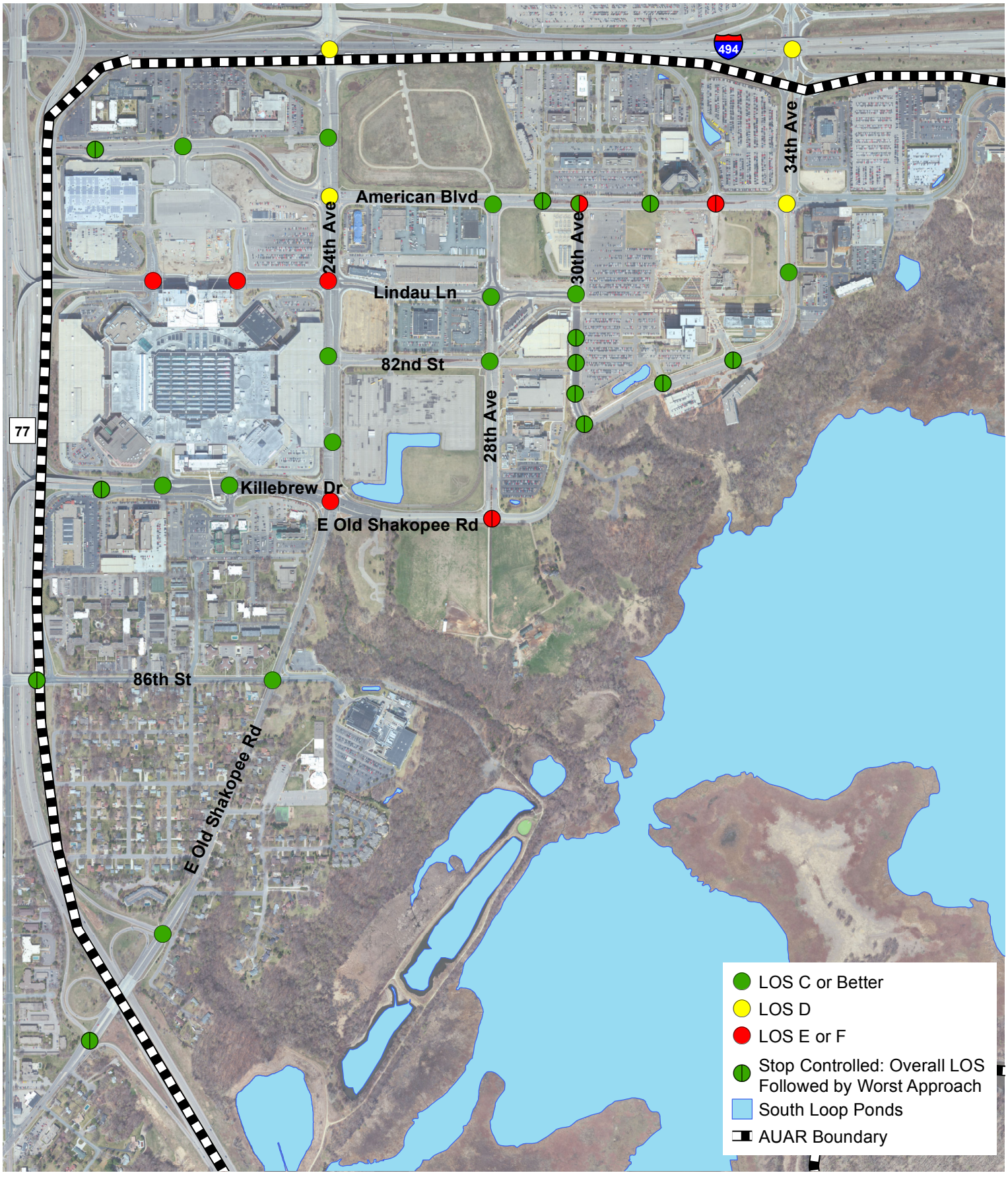
Intersection	Level of Service (LOS)	
	P.M. Peak	Saturday Peak
American Blvd & IKEA Access	A/C	A/B
SB 77 & NB 77 Merge at Lindau Ln	A	A
E 86th St & E Service Rd	A	A
E Old Shakopee Rd & TH 77 S Ramps	A	A
American Blvd & Thunderbird Rd	C	D
Lindau Ln & IKEA Way	**F**	**F**
Killebrew Dr & 20th Ave	B	C
E Old 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
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, 2016-17

The following road improvements were identified to accommodate forecast Year 2025 traffic levels:

- **I-494 & 24th Ave Interchange**: Construct dual northbound right turn lanes onto eastbound I-494 ramps; signal timing improvements and possible ramp signalization.
- **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.
- **Killebrew Dr & 20th Ave**: Reconstruct southbound approach to repurpose lanes and provide dual southbound right turn lanes (signalized).
- **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.
- **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.
- **Killebrew Dr & 22nd Ave**: Modify striping to single southbound and northbound left turn lane; modify signal timing to eliminate split phasing.
- **E Old Shakopee Rd & 28th Ave:** Construct a multi-lane roundabout.
- **E Old Shakopee Rd & 24th Ave**: Restripe to remove westbound trap right-turn; three westbound through lanes east of intersection would align with three westbound through lanes at the intersection and a right-turn lane would be developed.
- **E Old Shakopee Rd & 33rd Ave**: Pedestrian crossing improvements.
- **American Blvd E & 30th Ave**: Install a signal.
- **American Blvd & 28th Ave**: Repurpose lanes on south approach to bette 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.



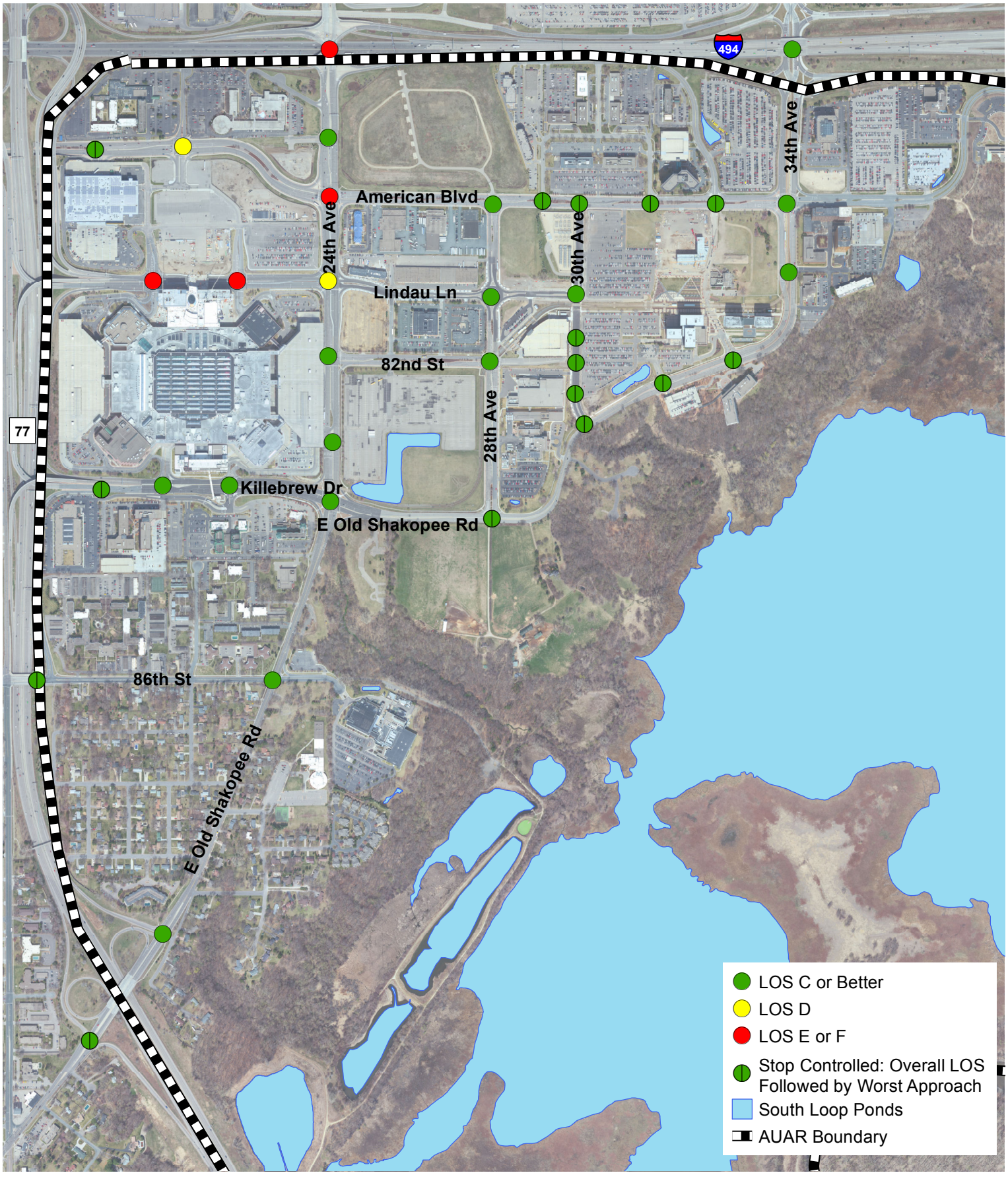
Source: SRF Consulting Group Inc., 2016; City of Bloomington Aerial, 2015

CITY OF BLOOMINGTON MINNESOTA

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

South Loop District AUAR

FIGURE 21.2



Source: SRF Consulting Group Inc., 2016; City of Bloomington Aerial, 2015

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

South Loop District AUAR

FIGURE 21.3

Year 2040 (Full-Build) Conditions

Table 6.2 describes the amount of development assumed on individual sites based on the 2016 AUAR Development Scenario that was used in the Year 2040 Traffic Analysis. 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 21.2, 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 21.2 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
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, 2016-17

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 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.

Comparison to 2002 AUAR

As described in Section 6, the development scenario used in the original 2002 AUAR has been substantially revised for this AUAR update. There are differences in the overall amount and location of development (see Figure 6.2 and Table 6.2), that directly affect the amount of traffic generated in the AUAR study area. The tables below illustrate the differences in traffic generation relative to the 2002 and 2016 development scenarios.

Table 21.3: 2002 AUAR Daily Trip Generation

Site	2002 AUAR 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 21.4: 2016 AUAR Daily Trip Generation

Site (subTAZ)	2016 AUAR Daily Trips	
	2040 Weekday	2040 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 (2016)

As shown in Table 21.5 below, the total number of daily vehicle trips anticipated in the South Loop AUAR in 2002 was significantly greater than anticipated for the 2040 development scenario in the revised 2016 AUAR development scenario. The difference is about 68,900 trips on weekdays and 72,700 on Saturdays. There are several factors that may have contributed to the trip reduction besides the reduction in overall amount of development

projected. 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 and the high potential for multi-use trips given the mix of uses in the area. As a result, trip generation rates were modified for the model.

Table 21.5: AUAR Daily Trip Generation Comparison – 2002 and 2016

	2002 AUAR Development Scenario	2016 AUAR Daily Trips	
		2040 Weekday	2040 Saturday
Total Daily Trips	274,355	205,450	201,650

Proposed Transportation Improvements through Year 2025

One of the goals in analyzing the interim year 2025 traffic was to determine the transportation improvements needed within the next 5 to 10 years. Table 21.6 below lists the transportation improvements that will be needed to accommodate projected development in the South Loop District through 2025. 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 21.6: Proposed Transportation Improvements (2016-2025)

Location		Timing	Lead Agency
I-494 / 24th Avenue	Construct dual NB right turn lanes onto eastbound I-494 ramps; signal timing improvements and possible ramp signalization	2020	Bloomington/ Hennepin Co/ MnDOT
I-494 / 34th Avenue	Construct dual NB right turn lanes onto EB I-494 ramps; eliminate the EB 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	Beyond 2025	Bloomington/ MnDOT
Killebrew Drive / 20th Avenue	Reconstruct SB approach to repurpose lanes and provide dual SB right turn lanes (signalized).	2018	Bloomington
Signal Timing, as needed	American Boulevard/Thunderbird Road; 34th Avenue/Appletree Square	2019-2020	Bloomington/ Hennepin Co /MnDOT/Metro Transit
Lindau Lane at IKEA Way and 22nd Avenue	Modify “cat-tracking” SB right at Lindau Lane/IKEA Way into the two south lanes; add “cat-tracking” SB right at Lindau Lane/22nd	Beyond 2025	Bloomington

	Avenue; update signal cycle lengths/splits; modify wayfinding signage		
American Boulevard at International Drive and Metro Drive East	Modify American Boulevard/International Drive intersection to three-quarter access; construct a roundabout at American Boulevard/Metro Drive East intersection	2021	Bloomington
24th Avenue Corridor	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	2020	Bloomington/ Hennepin Co/ MnDOT
Killebrew Drive/22nd Avenue	Modify striping to single SB and NB left turn lane; modify signal timing to eliminate split phasing	2018	Bloomington
East Old Shakopee Road/28th Avenue	Construct a multi-lane roundabout at intersection	Beyond 2025	Bloomington
East Old Shakopee Road/24th Avenue	Restripe to remove WB trap right-turn; three WB through lanes east of intersection would align with three WB through lanes at the intersection	2018	Bloomington/ Hennepin Co/ Metro Transit
East Old Shakopee Road/33rd Avenue	Pedestrian crossing improvements	2018	Bloomington
American Boulevard E/30th Avenue	Install a signal	Beyond 2025	Bloomington
American Boulevard/28th Avenue	Repurpose lanes on south approach to better utilize existing roadway width.	Beyond 2025	Bloomington

SECTION 22: VEHICLE-RELATED AIR EMISSIONS

Note: The updated (2013) EAW requirements address Air Emmissions in a new Section 16. The updated EAW requirements related to Vehicle-Related Air Emissions are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO TRANSPORTATION:*

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.

EAW: *2002 REQUIREMENTS:*

ESTIMATE THE EFFECT OF THE PROJECTS TRAFFIC GENERATION ON AIR QUALITY, INCLUDING CARBON MONOXIDE LEVELS. DISCUSS THE EFFECT OF TRAFFIC IMPROVEMENTS OR OTHER MITIGATION MEASURES ON AIR QUALITY IMPACTS. (IF THE PROJECT INVOLVED 400 OR MORE PARKING SPACES, CONSULT "EAW GUIDELINES" ABOUT WHETHER A DETAILED AIR QUALITY ANALYSIS IS NEEDED.)

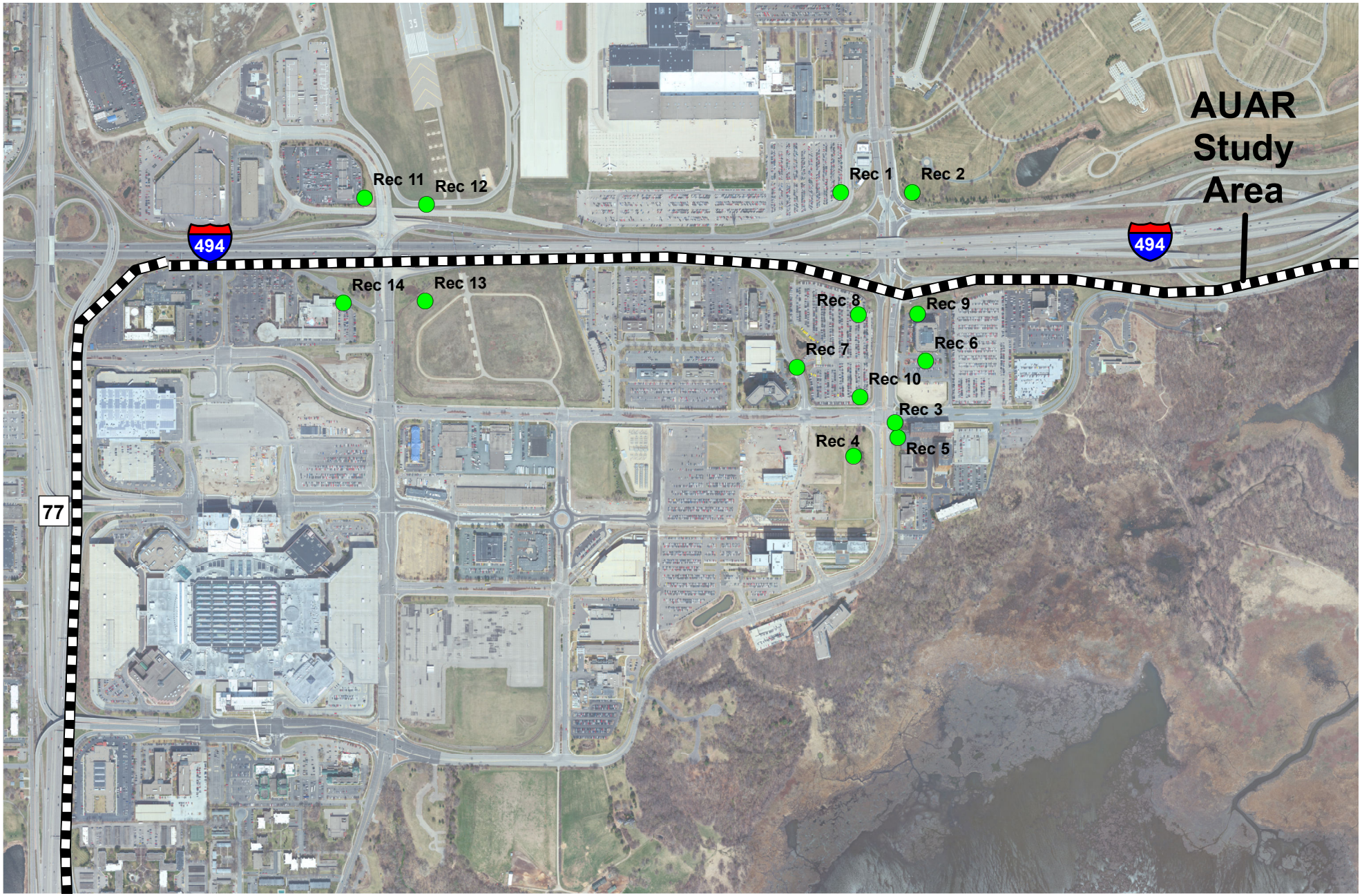
AUAR: Although the Pollution Control Agency no longer issues Indirect Source Permits, traffic-related air quality may still be an issue if the analysis in item 21 indicates that development would cause or worsen traffic congestion. The general guidance for item 22 in EAW Guidelines should be followed. Questions about details of air quality analysis should be directed to the MPCA staff.

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 22.1. 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 (see Figure 22.1), which predicted an 8-hour concentration of 7.5 ppm.

As described in Section 21, total daily trips generated by the revised AUAR Development Scenario (2016) are assumed to be substantially less than those predicted in the original 2002 AUAR Development Scenario (see Table 21.6). In addition, air emissions standards have become more stringent over time. Therefore, it is anticipated that the vehicle-related air emissions resulting from the revised AUAR development scenario (proposed 2040 development) will be lower than expected in the 2002 AUAR.

Section 22 of the 2002 AUAR concludes that the proposed development scenario would not



Source: City of Bloomington, 2016

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Carbon Monoxide Receptor Locations

South Loop District AUAR

FIGURE 22.1

result in exceeding State air quality standards and thus did not propose specific air quality mitigation measures. It is assumed that impacts resulting from the updated (2016) development scenario are likely less than those described in the 2002 AUAR given reductions in single-occupancy vehicle traffic and increases in vehicle emissions. As such, the conclusion from the 2002 AUAR that State air quality standards will not be exceeded remains unchanged.

SECTION 23: STATIONARY SOURCE AIR EMISSIONS

Note: The updated (2013) EAW requirements address Air in a new Section 16. The updated EAW requirements related to Stationary Source Air Emissions are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO TRANSPORTATION:*

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. 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 16a). 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.

EAW: *2002 REQUIREMENTS:*

DESCRIBE THE TYPE, SOURCES, QUANTITIES AND COMPOSITIONS OF ANY EMMISIONS FROM STATIONARY SOURCES OF AIR EMISSIONS SUCH AS BOILERS, EXHAUST STACKS OR FUGITIVE DUST SOURCES. INCLUDE ANY HAZARDOUS AIR POLLUTANTS (CONSULT *EAW GUIDELINES* FOR A LISTING) AND ANY GREENHOUSE GASES (SUCH AS CARBON DIOXIDE, METHANE, NITROUS OXIDE) AND OZONE-DEPLETING CHEMICALS (CHLORO-FLUOROCARBONS, HYDROFLUOROCARBONS, PERFLUOROCARBONS OR SULFER HEXAFLUORIDE). ALSO DESCRIBE ANY PROPSOED POLLUTION

PREVENTION TECHNIQUES AND PROPOSED AIR POLLUTION CONTROL DEVICES. DESCRIBE THE IMPACTS ON AIR QUALITY.

AUAR: This item is not applicable to an AUAR. Any stationary air emission source large enough to merit environmental review requires individual review.

No response is required for an AUAR.

SECTION 24: ODORS, NOISE AND DUST.

Note: The updated (2013) EAW requirements addresses Dust and Odors in a new Section 16 and Noise is address in a new Section 17. The updated EAW requirements related to Odors, Noise and Dust are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO ODORS, NOISE AND DUST:*

a. 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 16a). 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.

b. Noise - 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.

EAW: *2002 REQUIREMENTS:*

WILL THE PROJECT GENERATE ODORS, NOISE OR DUST DURING CONSTRUCTION AND/OR OPERATION? NO___YES ___

IF YES, DESCRIBE THE SOURCE, CHARACTERISTICS, DURATION, AND QUANTITIES OR INTENSITY, AND ANY PROPSOED MEASURES TO MITIGATE ADVERSE IMPACTS. ALSO, IDENTIFY THE LOCATIONS OF SENSITIVE RECEPTORS AND ESTIAMTE THE IMPACTS ON THEM. DISCUSS POTENTIAL IMPACTS ON HUMAN HEALTH OR QUALITY OF LIFE.

AUAR: *Dust, odors, and construction noise need not be addressed in an AUAR, unless there is some unusual reason to do so. The RGU might want to discuss a part of the mitigation plan, however, any dust control or construction noise ordinances in effect.*

If the area will include or adjoin major noise sources, a noise analysis is needed to determine if any noise levels in excess of standards would occur, an if so, to identify appropriate mitigation measures. With respect to traffic-generated noise, the noise analysis should be based on the traffic analysis of item 21.

Dust and noise normal to construction would occur in conjunction with proposed AUAR 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).

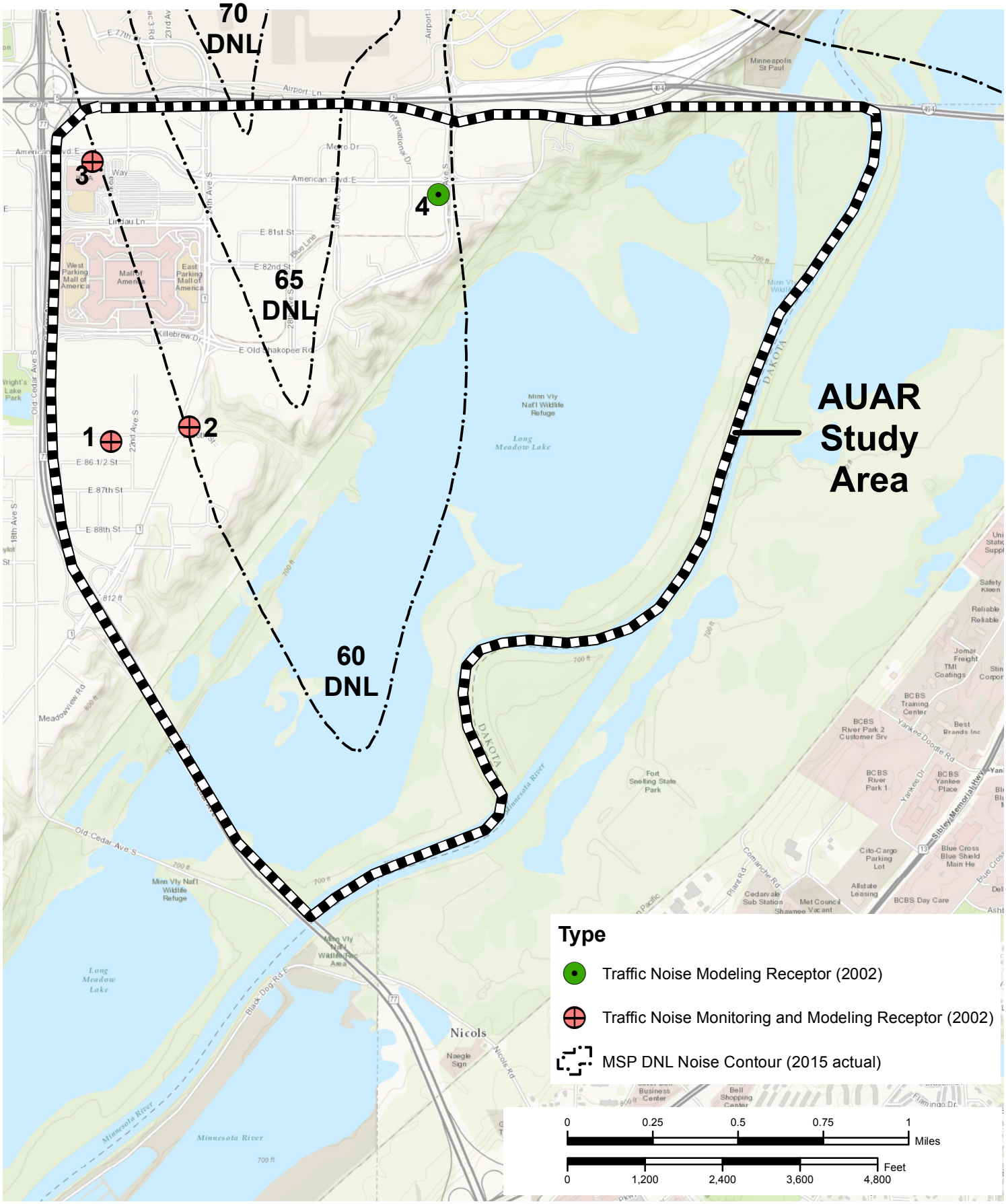
Construction noise is mostly limited to daytime hours in accordance with City ordinances, except in the instance that a noise variance is approved by the Community Development Director. Construction equipment would be fitted with mufflers that would be property maintained during the construction process.

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 24.1, along with the updated airport noise contours.

The 2002 AUAR provides a detailed description of the traffic-related noise analysis conducted at that time. As described in Section 21, the total daily vehicle trips assumed in the original 2002 AUAR were greater than total trips projected with the revised AUAR development scenario (through 2040). In addition, new vehicles are expected to be quieter. 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.

In addition to traffic noise generated by development within the South Loop District, major existing noise sources located within and near the AUAR study area include aircraft noise originating at the Minneapolis-St. Paul International Airport and traffic noise generated on TH 77 and I-494. The information presented in this section is based on analysis of both existing and anticipated traffic-generated noise only. Aircraft noise was not analyzed because future development projects have no direct effect on noise originating from aircraft



Source: City of Bloomington; MAC, MSP Annual Noise Contour Analysis, 2015; MLCCS Land Cover, 2016; ESRI World Street Map, 2016

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Traffic and Airport Noise

South Loop District AUAR

FIGURE 24.1

traffic; that is dependent on aircraft design and fluctuations in the amount of air travel. However, the South Loop District is subject to significant aircraft noise and those impacts on future development are discussed in a separate subsection below.

Airport Noise

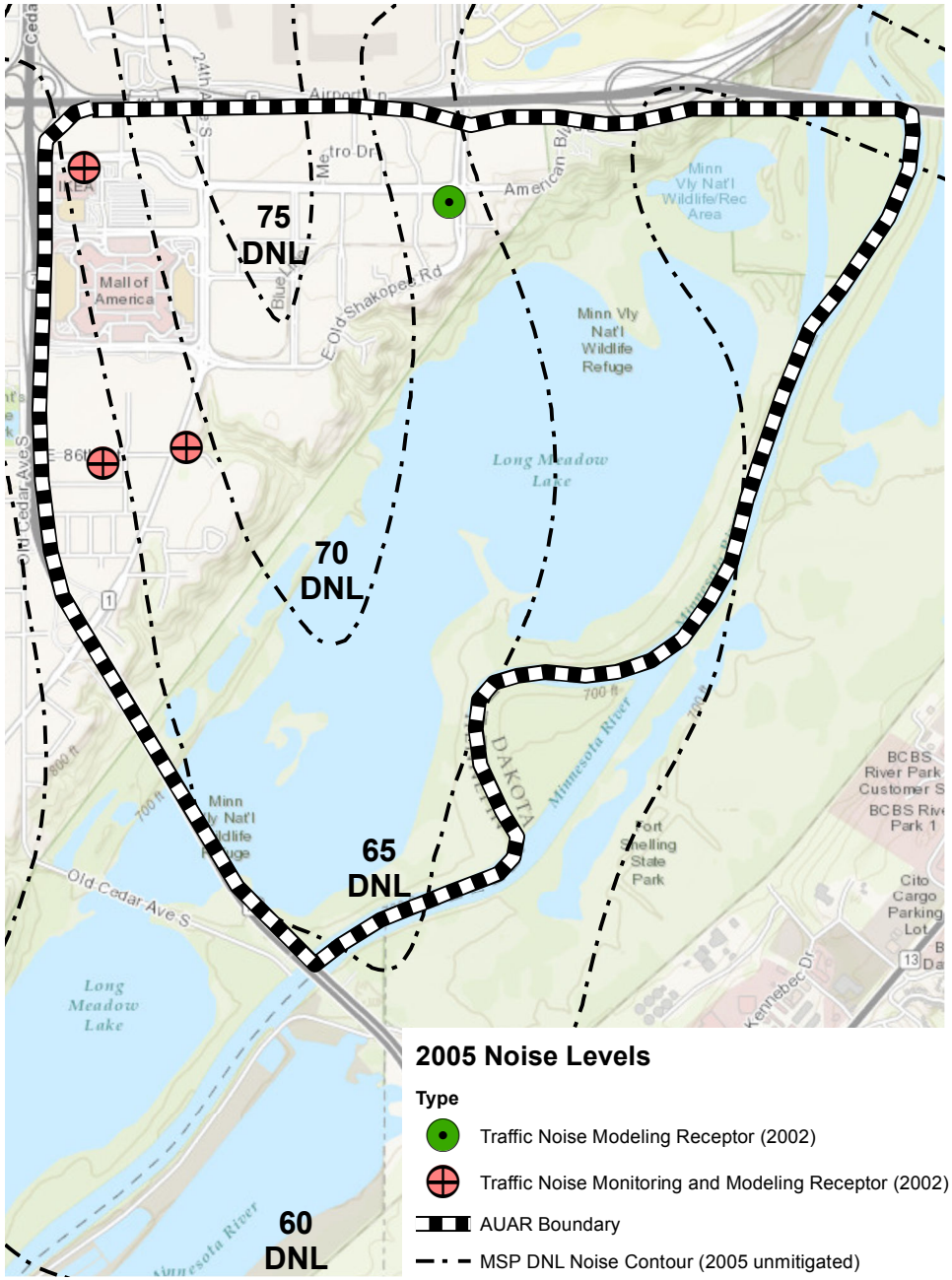
When the new Runway 17/35 at Minneapolis-St Paul International Airport opened, changes in flight patterns resulted in significant air traffic at lower altitudes over the South Loop District. Federal and State regulations are in place to ensure the compatibility of land uses with anticipated noise exposure 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).

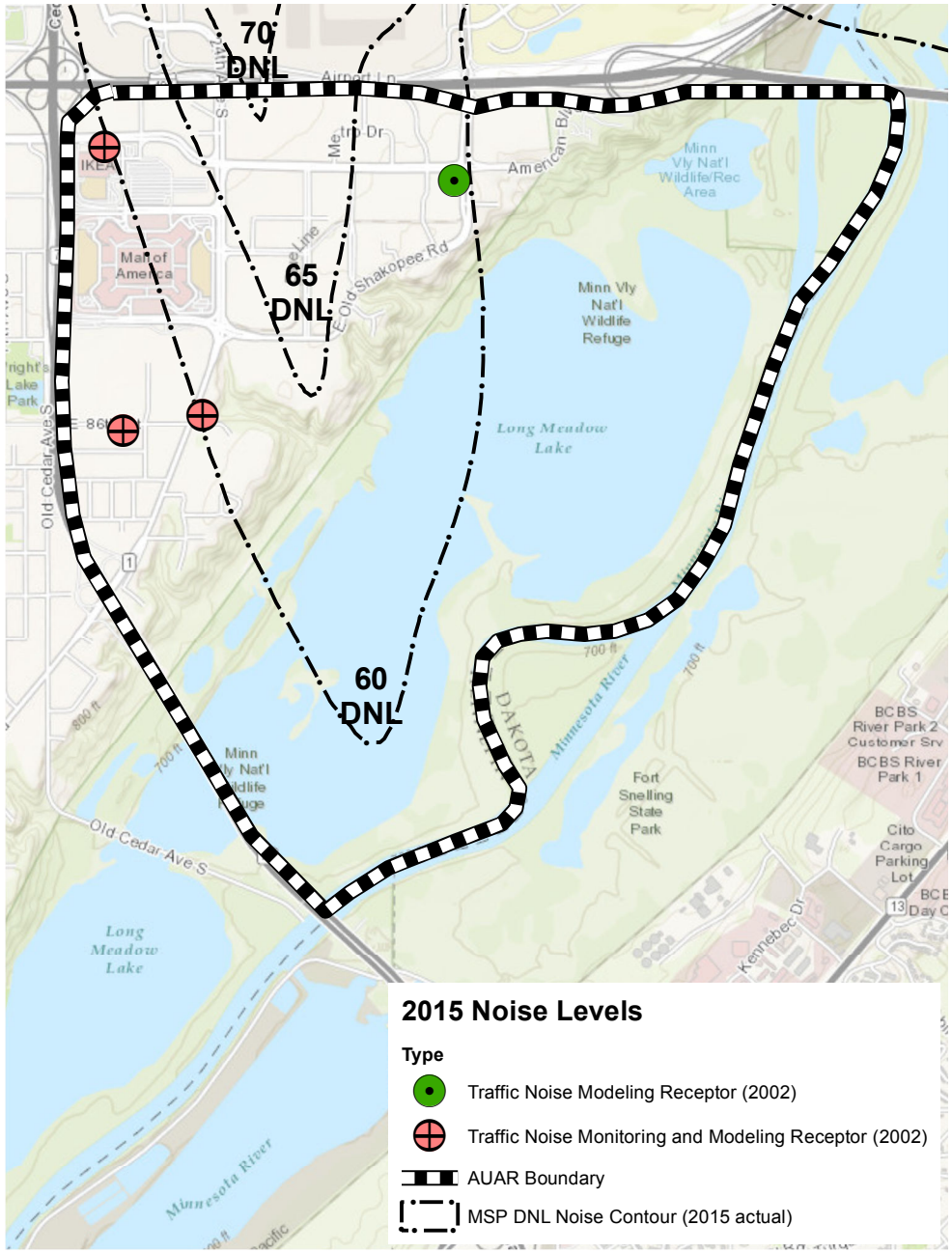
Current regulations regarding land use compatible around airports are described in the *Minneapolis-St. Paul International Airport (MSP) 2030 Long Term Comprehensive Plan Update (July 26, 2010)* and the Metropolitan Council's *2040 Transportation Policy Plan*. In addition, the Joint Airport Zoning Board (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). 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. Today, none of the South Loop district is within the 75 DNL contour and only a very small portion – located in the Runway Protection Zone where development is prohibited - remains in the 70 DNL contour. Currently, the center portion of the district lies between the 65 and 70 DNL contours. Figure 24.2 compares aircraft noise levels in the South Loop District for 2002 and 2016.

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 25 decibels are achieved. Most other uses, including office and retail uses, are considered to be compatible within this noise-level zone.

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. While the City has no code requirements related to noise attenuation, the City attaches conditions to project approval, on a case-specific basis, related to noise attenuation. It is also noted that private developers of new hotels developed in the last five years have all conducted noise studies and built the shells of their buildings to mitigate noise.





Source: City of Bloomington; MAC, MSP Annual Noise Contour Analysis, 2005 & 2015; MLCCS Land Cover, 2016; ESRI World Street Map, 2016

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Change in Aircraft Noise Levels 2005 to 2015

South Loop District AUAR

FIGURE 24.2

Most of the remainder of the South Loop District - where future development is proposed - lies between the 60 and 65 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.

Multi-family residential developments in the South Loop located in the 60-65 DNL range (IndiGO apartments and Reflections condominiums) were required – via City Council approved conditions - to meet noise attenuation standards. The Minnesota Pollution Control Agency (MPCA) also enforces noise mitigation requirements in Section 7030 of State Statutes. The other areas of the South Loop where future residential development is projected are located east of 30th Avenue. 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 25: SENSITIVE RESOURCES

Note: The updated (2013) EAW requirements does not include a section on Sensitive Resources per se. A new section Section 14 deals with historic properties. The updated EAW requirements related to Historic Properties are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO HISTORIC PROPERTIES:*

a. Historic properties: Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity 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.

EAW: *2002 REQUIREMENTS:*

ARE ANY OF THE FOLLOWING RESOURCES ON OR IN PROXIMITY TO THE

SITE? IF ANY ITEMS ARE ANSWERED YES, DESCRIBE THE RESOUCE AND IDENTIFY ANY IMPACTS ON THE RESOURCE. DESCRIBE ANY MEASURES TO BE TAKEN TO MINIMIZE OR AVOID ADVERSE IMPACTS.

A. ARCHEOLOGICAL, HISTORICAL, OR ARCHITECTURAL RESOURCES? ____NO __X_ YES
B. PRIME OR UNIQUE FARMLANDS OR LAND WITHIN AN AGRICULTURAL PRESERVE? __X_ NO____ YES
C. DESIGNATED PARKS, RECREATION AREAS, OR TRAILS? ___ NO __X_YES

AUAR:

A: *Archaeological, Historical or Architectural Resources – 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 the is in more detail. The mitigation plan must include mitigation for any impacts identified.*

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.

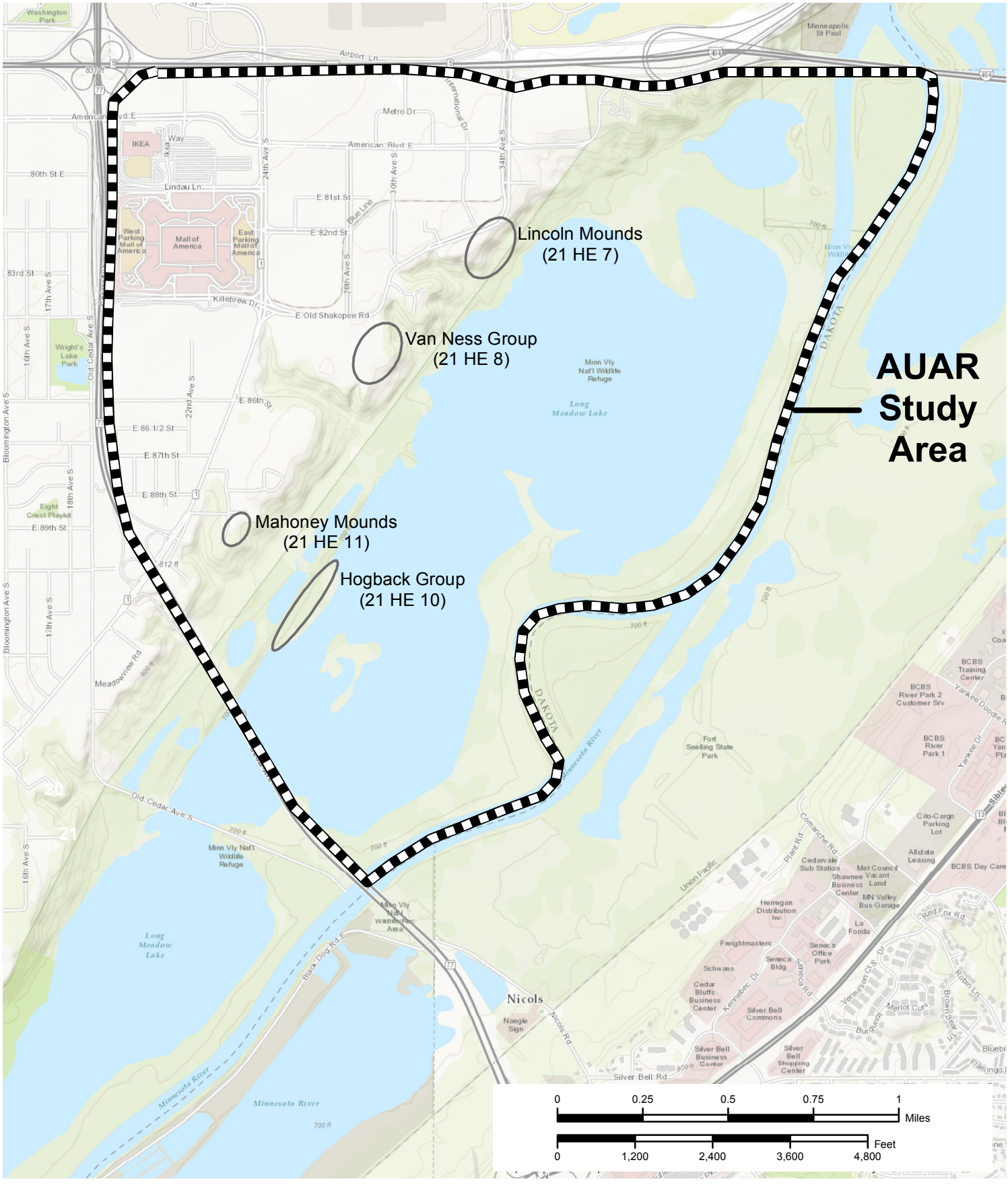
- *"Work Plan for Providing Assistance in Authentication and Additional Cultural Resources Work at the Lincoln Mound Group (21HE7) for the Bloomington Central Station Project, Hennepin County, Minnesota"* - This investigation was completed during construction of the first phase (Reflections condominiums)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

- During Spring/Summer 2016, the MnDNR, 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.

As required, City staff sent a letter to the SHPO on October 18, 2016 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 and 2012). The SHPO indicated that the information regarding historic and archaeological resources provided in previous AUARs appears sufficient, and is thus repeated 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 (21HE7, 21HE8, 21HE10 and 21HE11) were reported destroyed by subsequent land disturbances. Approximate locations of these four earthworks are depicted on Figure 25.1. 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 seven sites, the Van Ness Mounds (21HE8), is located on a site proposed for development under the AUAR – the Kelley Farm at 2901 East Old Shakopee Road. 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



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)

CITY OF BLOOMINGTON MINNESOTA

Archaeological Sites

South Loop District AUAR

FIGURE 25.1

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 near the bluff edge, within intermediate terraces of the bluff, and in the floodplain at the base of the bluff, have potential for containing previously unreported sites. It is noted that The Minnesota Department of Natural Resources 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.

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.
- *Interstate/Detroit Diesel* located at 2501 E. American Boulevard was constructed in 1966. This is a single story office/industrial building.
- It is noted that the *Thunderbird Hotel* (Ramada Hotel) property located at 2201 E. 78th St. was purchased by the City of Bloomington/Port Authority and the building and

parking lot were demolished in late 2016. The original Thunderbird Hotel was constructed in 1963. However, various remodeling efforts over the years significantly altered the original character of the hotel.

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. 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.

B. <u>Prime/Unique Farmland or Agricultural Preserve Land:</u> The extent of conversion of existing farmlands anticipated in the AUAR should be described. If any farmland will be preserved by special protection programs, this should be discussed.

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 owner recently listed this property for sale. It is anticipated that a future owner will seek to develop the site. The site is included in the AUAR redevelopment scenario (see Figure 6.2).

C. <u>Designated Parks, Recreation Areas or Trails:</u> If development of the AUAR will interfere or change the use of any existing such resources, this should be described in the AUAR. The RGU may also want to discuss under this item any proposed parks, recreation areas, or trails to be developed in conjunction with development of the AUAR area.

Park, trail and recreation facilities in or near the South Loop District are shown on Figure 25.2 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 proposed future 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. The Minnesota Department of Natural Resources (MDNR) is proposing to add the unnamed stream and adjacent tributaries to the designated trout stream list. However, at this time, the stream is not a designated trout stream.

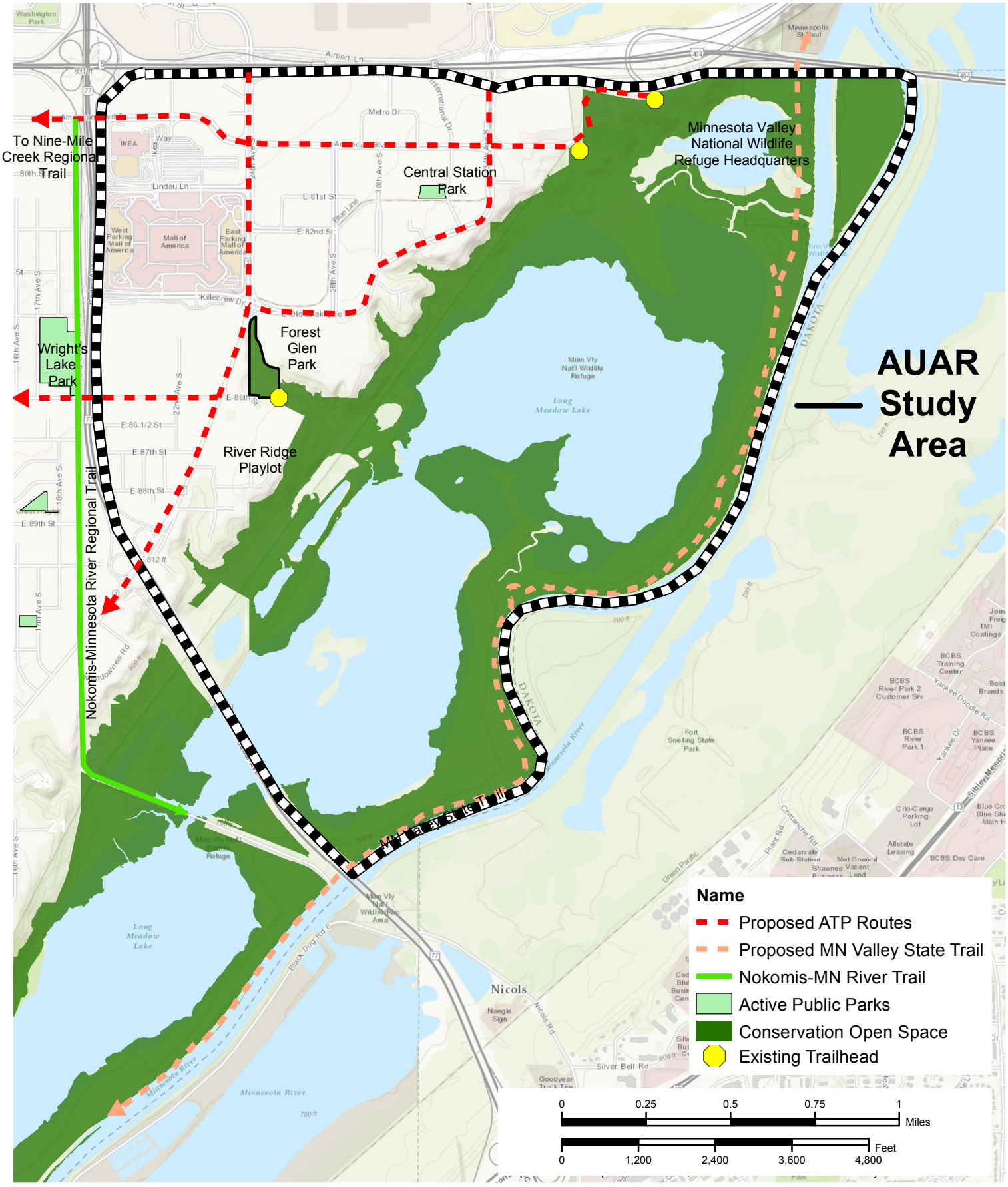
- *River Ridge Playlot and Tennis Courts* – This 2-acre playlot includes two tennis courts, playground equipment, and a soccer field. Parking is located on the adjacent Evergreen Community Church site to the north. This park mostly serves the surrounding residential neighborhood, south of E. 86th Street.

- *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 South Loop, 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, and a bluff top park (including dog park), were envisioned in the South Loop District Plan adopted in 2012. Since then, the City has decided not to acquire property to create this park and trailheadtrail through “Ike’s Creek” ravine. However, 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 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. A variety of nature-based recreation and education activities, including hiking and cross-country ski trails, are provided.

- *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.

- *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 and the Minnesota Department of Natural Resources (MDNR) is currently preparing plans and required environmental documentation for the project. Findings from the completed cultural resources field investigation are described above under subsection A. Construction on the State Trail is anticipated to begin in 2018.



Source: City of Bloomington Parks Division, May 2017; ESRI World Street Map, 2016

CITY OF BLOOMINGTON MINNESOTA

Parks and Trails

South Loop District AUAR

FIGURE 25.2

Several new parks that were not in the original 2002 AUAR are proposed in the South Loop District Plan (SLDP), adopted in 2012. Most of these are fairly small (less than one acre) and would be implemented by private developers as part of new development projects to provide green space amenities and playgrounds close to proposed future residential development. The largest proposed public park is located southeast of the intersection of East Old Shakopee Road/Killebrew Drive and 24th Avenue, abutting Forest Glen Park (described above). As noted above, the City is no longer considering purchasing these parcels, currently owned by the Metropolitan Airports Commission (MAC), for development of a park and dog park. There is an existing "deer trail" through the ravine and Forest Glen Park, leading into the MVNWR. The City will continue to work in cooperation with the US Fish and Wildlife Service staff and other stakeholders to minimize natural resource impacts resultinf rom public use of this existing, informal trail.

The SLDP recommended public plazas at the intersection of 24th Avenue and Lindau Lane. These were designed into the Lindau Lane road extension project in 2013-14 and will be constructed in conjunction with adjacent private development in 2015 (completed) and 2016-17 (in progress).

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 17, the proposed 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 ponds will likely result in an overall improvement in the quality of storm water discharges to Long Meadow Lake.

As described in Section 11, development on parcels adjacent to the bluff (i.e., Kelley Farm, Forest Glen Apartments, Long Meadow Circle, and Apple Tree parcels) are partially within the City's Bluff Protection (BP) Overlay Zoning (see Figure 11.1). The BP zoning district requires development adhere to more stringent standards regarding disturbance (e.g., grading, vegetation removal, erosion control), stormwater management, tree preservation and planting of native tree species, and setbacks along the bluff edge. These regulations will help to mitigate the impacts of future development on areas of significant natural resources in the AUAR study area.

D: <u>Scenic views and vistas</u> – Any impacts on such resources presented in the AUAR should be addressed. This would include both direct physical impacts and impacts on visual quality or integrity. EAW Guidelines contains a list of possible scenic resources on page 13.

As noted above and illustrated on Figure 11.1, five sites identified for redevelopment are located along the bluff that separates the upland areas where urban development may occur from the floodplain and ravine areas that cannot be developed. Portions of all these sites are within the City's Bluff Protection Overlay zoning districts (BP-1 and BP-2). These overlay districts impose additional development restrictions to guard against negative impacts on the surrounding, natural bluff environment. The bluff overlay districts were 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 26: VISUAL IMPACTS

Note: The updated (2013) EAW requirements address visual impacts in a new Section 15. The updated EAW requirements related to Visual Impacts are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO VISUAL IMPACTS:*

a. Visual: Describe any scenic views or vistas on or near the project site. Describe any 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.

EAW: *2002 REQUIREMENTS:*

WILL THE PROJECT CREATE ADVERSE VISUAL IMPACTS DURING CONSTRUCTION OR OPERATION? (SUCH AS GLARE FROM INTENSE LIGHTS; LIGHTS VISIBLE IN WILDERNESS AREAS; AND LARGE VISIBLE PLUMES FROM COOLING TOWERS OR EXHAUST STACKS). IF YES, EXPLAIN. __X_ NO ____ YES

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 districts (BP-1 and BP-2), which apply to all development adjacent to the bluff. 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.

SECTION 27: COMPATIBILITY WITH PLANS & LAND USE REGULATIONS

Note: The updated (2013) EAW requirements no longer includes a section addressing Compatibility with Plans & Land Use Regulations. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR and related requirements as described below.

EAW: IS THE PROJECT SUBJECT TO AN ADOPTED LOCAL COMPREHENSIVE LAND USE PLAN OR REGULATION OR OTHER APPLICABLE LAND USE,

WATER, OR RESOURCE MANAGEMENT PLAN OF A LOCAL, REGIONAL, STATE, OR FEDERAL AGENCY? _____ NO __X_ YES

IF YES, DESCRIBE THE PLAN(S), DISCUSS ITS COMPATIBILITY WITH THE PROJECT AND EXPLAIN HOW ANY CONFLICTS WILL BE RESOLVED. IF NO, EXPLAIN.

AUAR: The AUAR must include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out at 4410.3610, subpart 1. The AUAR document should discuss the proposed AUAR area development in the context of the comprehensive plan. If this has not been done as part of the responses to items 6, 9, 18, 21, and others, it must be addressed here; a brief synopsis should be presented here if the material has been presented in detail under other items. Necessary amendments to comprehensive plan elements to allow for any of the development scenarios should be noted. If there are any management plans of any other local, state, or federal agencies applicable to the AUAR area, the document must discuss the compatibility of the plan with the various development scenarios studied, with emphasis on any incompatible elements.

The City of Bloomington certifies that its comprehensive plan is consistent with the requirements set out in 4410.3601, Subpart 1, which includes a land use plan; a public facilities plan (addressing transportation, sewer and water supply systems); and an implementation program.

Sections 6 and 9 of this AUAR update describe the revised AUAR development scenario land uses and their conformity to the City's adopted comprehensive plan and land use guide plan. The development forecasts described in Section 6 (see Table 6.2) reflect what the City believes will be the maximum amount of development by 2040 based on approved plans, current demographic forecasts, land use designations and zoning. The current land use designations were adopted as recommended in the *South Loop District Plan*. Amendments to the comprehensive plan are not needed to accommodate any of the proposed future development.

The following City plans apply to current and future development in the AUAR study area:

- *Bloomington Comprehensive Plan* - An update to the City's Comprehensive Plan was adopted in 2009 (Resolution #2009-52). This replaced the *Comprehensive Plan 2000* referenced in the 2002 AUAR. This update resulted in modifications to land use designations on several properties in the district previously designated for residential uses. The City is currently in the process of updating its comprehensive plan, which is required every 10 years. The comprehensive plan update – called *Forward 2040* – will be completed by the end of 2018 and will replace the current *Comprehensive Plan 2008*. The development forecasts used in the revised AUAR development scenario (described in Section 6) are consistent with the forecasts being used in the comprehensive plan update.

- *South Loop District Plan (SLDP)* - The SLDP was adopted and incorporated into the City's Comprehensive Plan in 2012 (Resolution #2012-97). The SLDP proposed creation of two new land use designations and corresponding zoning districts to accommodate the types and intensity of development envisioned in the SLDP. The City's Land Use Guide (portion of Comprehensive Plan) was amended to reflect the designations proposed in the SLDP and apply the new land use designations. At this time, only one of the proposed zoning districts has been adopted and applied to land parcels – the Lindau Mixed Use District (LX).

- *Minnesota Valley Strategic Plan* – The City adopted a framework plan in 2016 identifying long-term goals and strategies to: enhance awareness, appreciation, and enjoyment of the Minnesota River Valley in a manner that balances resource preservation with appropriate access and utilization. The plan focuses on city-owned land in the river valley, which does not include the portion abutting the South Loop District, which is mostly owned by the U.S. Fish & Wildlife Service. However, the strategic plan is broad in scope and identifies opportunities to work in partnership with other – particularly the US Fish & Wildlife Service – to achieve the plan vision.

- *Bluff Report District Plan*, adopted in 1982, set the foundation for establishment of bluff district overlay zoning and design guidelines for development on or near the bluff.

- *Comprehensive Surface Water Management Plan* – An update to the City's Comprehensive Surface Water Management Plan was adopted in 2007 and Section IV was amended in 2015. Section IV of the city's Comprehensive Surface Water Management Plan establishes goals and policies for water resource management. The 2015 amendment updated the city's requirements for post construction storm water runoff management requirements within the plan and is consistent with the MPCA's NPDES permit for Municipal Separate Storm Sewer Systems (MS4s). Post construction storm water runoff management is part of the city's Storm Water Pollution Prevention Program and MS4 permit.

- *Bloomington Water System Master Plan* – Updates in 2010, this plan assesses the impact of future water demand through 2030 on the City's water supply, storage, treatment and distribution systems. Modelling of water system demand has been updated to estimate demand related to the revised development forecasts in the South Loop District as reflected in the revised AUAR development scenario described in Section 6.

In addition to policy plans, the City has adopted several zoning ordinances to minimize development impacts on natural resources and impacts related to aircraft noise. Most of these were adopted prior to completion of the original South Loop AUAR in 2002. All of these regulations apply to some or portions of some sites proposed for redevelopment (see Figure 9.2 – Zoning Map) and include:

- *Bluff District Overlay Zoning Districts (BP-1 and BP-2)* were adopted in 1982 to regulate development activities in the bluff zone. The Bluff Protection Overlay district applies to areas between the 722-foot and 800-foot elevation contours. The BP zoning districts require development to adhere to more stringent standards regarding disturbance (e.g., grading, vegetation removal, erosion control), stormwater management, tree preservation and planting of native tree species, and setbacks along the bluff edge. These regulations will help to mitigate the impacts of future development on areas of significant natural resources in the AUAR study area.

- *Flood Hazard Overlay Zoning District (FH)* was adopted in 1982 to regulate development activities in floodway, flood fringe, and flood plain areas. The Flood Hazard overlay District was most recently updated in October 2016 to reflect changes in FEMA's FIRM maps which became effective on November 4, 2016.

- *Shore Area Regulations* were adopted in 1993 to protect the natural characteristics of shore areas and adjacent water areas, prevent pollution of surface and grounds waters, and minimize flood damage.

- *Airport Runway Overlay Zoning Districts (AR-17 and AR-22)* were adopted in 2004 to implement the 2004 Minneapolis-St Paul International Airport Zoning Ordinance, pursuant to the provisions and authority of Minnesota Statutes Sec. 360.063. The overlay districts mirror the 2004 MSP Zoning Ordinance regulations and prevent the establishment of Airport Hazards, including noise sensitive uses and establish limits for structure height, .

Where applicable, development in the South Loop District must also be consistent with plans prepared by other agencies. These include:

- *Minneapolis-St. Paul International Airport (MSP) 2030 Long Term Comprehensive Plan Update* – This plan, approved by the Metropolitan Airports Commission on July 26, 2010, analyzes air travel trends, runway use, and describes the future facility needs over the next 20 years. It includes a chapter focused on land use compatibility and noise exposure.

- *Natural Resources Inventory of the City of Bloomington* – In 2007, Hennepin County conducted a detailed natural resources assessment for the City of Bloomington. The project classified and assessed the relative ecological quality of the remaining natural and semi-natural areas in the City and made recommendations regarding natural resource management.

- *Comprehensive Conservation Plan and Environmental Assessment* – USFWS approved this plan in 2004 to articulate the 15-year management direction for the Minnesota Valley National Wildlife Refuge and Wetland Management District.

- *Habitat Management Plan (HMP)* – USFWS is in the process of developing this plan, which is a step-down plan of the Comprehensive Conservation Plan. It provides more

precise guidance for habitat management on Refuge land. The HMP identifies resources (species) of concern and rare habitate within the Minnesota Valley National Wildlife Refuge and sets priorities for restoration.

- *Lower Minnesota River Watershed District - Water Management Plan* – Much of the South Loop District is within the jurisdiction of the Lower Minnesota River Watershed Management District. The Water Management Plan, adopted in 2011, provides a framework to protect, preserve, and manage surface water resources within the district over a 10-year period. The plan was amended in 2015 to include studies of District governance, strategic resources, and dredge materials management. The plan describes how the District will address water resources management as required by M.S. 103B and 103D and Minnesota Rules (MN Rules) 8410. The purpose of the plan is to protect, preserve, and manage the surface water resources (Minnesota River, lakes, streams, and wetlands) and groundwater within the District.

- *Richfield-Bloomington Watershed Management Organization Watershed Management Plan* – The Richfield-Bloomington Watershed Management Organization Watershed Management Plan was adopted in July 2008, a minor plan amendment was approved in March 2014, and an update is expected in late 2017. The plan focuses on preserving and using natural water storage and retention systems to:
  - Reduce, to the greatest practical extent, the public capital expenditures necessary to control excessive volume and rate of runoff.
  - Improve water quality.
  - Prevent flooding and erosion from surface flows.
  - Promote ground water recharge.
  - Protect and enhance fish and wildlife habitat and water recreational facilities.
  - Secure the other benefits associated with the proper management of surface water.

SECTION 28: IMPACT ON INFRASTRUCTURE AND PUBLIC SERVICES

Note: The updated (2013) EAW requirements no longer includes a section addressing Impact on Infrastructure and Public Services. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR and related requirements as described below.

EAW: WILL NEW OR EXPANDED UTILITIES, ROADS, OTHER INFRASTRUCTURE, OR PUBLIC SERVICES BE REQURIED TO SERVE THE PROJECT? _____ NO __X_ YES

IF YES, DESCRIBE THE NEW OR ADDITIONAL INFRASTRUCTURE/ SERVICES NEEDED. ANY INTRASTRUCTURE THAT IS A “CONNECTED ACTION” WITH RESPECT TO THE PROJECT MUST BE ASSESSED IN THE EAW; SEE “EAW GUIDELINES” FOR DETAILS.

AUAR: This item should first of all summarize information on physical infrastructure presented under other items (such as 6, 17, 18, and 21). Other major

infrastructure or public services not covered under other items should be discussed as well. This includes major social services such as schools, police, fire, etc. The RGU must be careful to include project-associated infrastructure as an explicit part of the AUAR review if it is to exempt from project-specific review in the future.

Section 6 describes existing and future development proposed in the South Loop District through 2040 and summarizes the public infrastructure and services needed to support it, including: transportation, sanitary sewer and water utility infrastructure, and storm water management. Detailed descriptions of infrastructure required to accommodate and/or mitigate the impacts of future development are also provided in the sections of this AUAR specific to individual infrastructure systems. A brief summary description of proposed new and/or additional infrastructure and services to be implemented in the South Loop District through 2040 is provided below along with references to appropriate sections in the AUAR where additional details can be found.

Water Supply

As described in Section 13, modeling based on the revised South Loop development scenario (described in Section 6) indicates a demand increase – through 2040 - of 1.9 MGD above existing conditions. As with previous studies, the planned development will require some additional distribution piping and some larger trunk water main to be constructed for system reliability and to insure adequate pressures and fire flow to hydrants during high demand days.

Based on current development forecasts, approximately 2,640 linear feet of new 16" diameter trunk water main should be construction 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 located entirely outside of the South Loop District, it supplies water to distribution pipes in the South Loop District. Figure 13.2 illustrates both existing and future water piping serving the South Loop District.

The system improvements identified in the City's *Water System Master Plan* are programmed in the City's Capital Improvement Program (CIP). The CIP, which is updated annually, estimates costs and implementation timing for public infrastructure improvements in the upcoming five years. 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.

Storm Water Conveyance/Treatment

As described in Section 17, the updated AUAR redevelopment scenario should not increase the rate of stormwater discharge under normal conditions when compared to existing conditions. 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. In addition, all new development

will be required to meet current standards for stormwater management, which have been updated since the 2002 AUAR.

During redevelopment, modifications may be required to alleviate potential flooding in the following locations:

- *MOA Transit Station* – The100-year flood elevation at the light rail transit (LRT) station is predicted to increase by approximately 0.1 feet as a result of future redevelopment. One potential mitigation approach would involve installation of a new 42-inch storm sewer system to drain the LRT station low point. This system would run southeast from the LRT station, under 24th Avenue and connect to the proposed Lindau Lane Low Point system just north of Old Shakopee Road.

- *Lindau Lane Low Point* – Other than substantial storm sewer infrastructure modifications, a reasonable and feasible alternative has not been identified.

- *Pond 30* –Reconfiguration or removal of Pond 30 is anticipated with redevelopment of the Adjoining Lands (MOA Phase 3). Alternatives evaluated in the model could all successfully mitigate the resulting flood elevation increases. However, the ability to mitigate flooding at other locations was reduced. Redevelopment plans should include significant rate control best management practices to mitigate the effects of 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 continue to be reviewed on a case-specific basis as actual re/development plans are realized. All final development projects will have to meet the City's revised 2007 *Comprehensive Surface Water Management Plan* requirements to maintain surface water discharge rates at or below existing levels. The stormwater management system would be able to maintain, if not improve on, the water quality guidelines noted in the 2002 AUAR and the impacts resulting from the updated AUAR redevelopment scenario.

Sanitary Sewer

As described in Section 18, Bloomington's *Wastewater and Comprehensive Sewer Plan* identified seven CIP work items in the South Loop District needed to provide adequate sanitary sewer capacity for forecast development out to the year 2040. Three of these items are planned to be constructed in 2017. The other four CIP work items will need to be scheduled in stages so that the capacity will be available to support the forecast development when needed.

Future sanitary sewer improvements to accommodate the revised AUAR development scenario are described in Figure 18.4. In order to economize costs and to minimize the impact on adjacent properties, Bloomington will coordinate the Sanitary Sewer CIP projects with any upcoming street upgrades. Much of the right-of-way in the South Loop District is characterized as containing large storm sewer mains, multiple buried private utility lines, heavy traffic, and in some areas Light Rail Transit. Design of each of the CIP projects will

require preparation of a detailed survey of existing facilities and, potentially, slight alignment changes to minimize construction impacts on an area. Some of the previously completed CIP projects in the South Loop District required more expensive trenchless technology construction methods to minimize area disruption. It is anticipated that construction method for some of the remaining CIP projects may also require trenchless technology.

Transportation

As described in Section 21, several anticipated traffic mitigation projects will be needed to accommodate development forecasts for the revised AUAR development scenario, through 2040. However, detailed traffic improvements were only described relative to projected development needs through Year 2025, due to the speculative nature of the development projections in terms of timing and size, and the potential for new transportation technologies to emerge that could change the way the roadway infrastructure is utilized. These are described in Table 21.6.These improvements will be evaluated for need with each development proposal.

Social Services (schools, police, fire)

There are no schools located in the South Loop District (AUAR study area). One church – Evergreen Community Church – is located at 2300 E. 88th St. Bloomington Fire Station #3 is located at 2050 E. 86th Street. This station is 50 years old and planning is underway to replace and upgrade the facility on the existing site or a nearby site. The new fire station will also expand either onto the adjacent property to accommodate more fire truck bays. The Bloomington Police Department has a unit (South Loop PD Unit) stationed at Mall of America (MOA), including in the MOA transit station, along with Metro Transit Police. The new fire station will include space for Bloomington Police as well.

SECTION 29: CUMULATIVE POTENTIAL EFFECTS

EAW: MINNESOTA RULE PART 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 IMPACT UNDER APPROPRIATE ITEMS(S) 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 30: OTHER POTENTIAL ENVIRONMENTAL IMPACTS

Note: The updated (2013) EAW requirements address Other Potential Environmental Impacts in a new Section 20. The updated EAW requirements related to Other Potential Environmental Impacts are provided below for reference. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR. Where the AUAR requirements refer to the EAW requirements, the update EAW requirements should be used for guidance on information required.

EAW: *UPDATED (2013) REQUIREMENTS RELATED TO OTHER POTENTIAL ENVIRONMENTAL IMPACTS:*

> 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.

EAW: *2002 REQUIREMENTS:*

> IF THE PROJECT MAY CAUSE ANY ADVERSE ENVIRONMENTAL IMPACTS WHICH WERE NOT ADDRESSED BY ITEMS 1 TO 28, IDENTIFY AND DISCUSS THEM HERE, ALONG WITH ANY PROPOSED MITIGATION.

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

No additional potential environmental impacts, beyond those described in items 1-19, would result from the proposed AUAR development.

SECTION 31: SUMMARY OF ISSUES

Note: The updated (2013) EAW requirements no longer includes a Summary of Issues section. However, this AUAR update continues to follow the section divisions used in the original 2002 AUAR and related requirements as described below.

EAW: LIST ANY IMPACTS AND ISSUES IDENTIFIED ABOVE THAT MAY REQUIRED FURTHER INVESTIGATION BEFORE THE PROJECT IS BEGUN. DISCUSS ANY ALTERNATIVES OR MITIGATIVE MEASURES THAT HAVE BEEN OF MAY BE CONSIDERED FOR THESE IMPACTS AND ISSUES, INCLUDING THOSE THAT HAVE BEEN OR MAY BE ORDERED AS PERMIT CONDITIONS.

AUAR: The RGU may answer this question as asked by the form, or instead may choose to provide an Executive Summary to the document that basically covers the same information. Either way, the major emphasis should be on:

potentially significant impacts, the differences in impacts between major development scenarios, and the proposed mitigation.

This is an update to the original South Loop AUAR approved in 2002. For this update, several modifications have been made to the AUAR redevelopment scenario, including changes in the location, type, and amount of future development forecast for the South Loop District through 2040. Section 6 provides an Executive Summary of the proposed future development and related infrastructure improvements anticipated through 2040.

Overall, the 2016 development scenario projects a reduction in the total amount of development anticipated in South Loop compared with what was proposed in the original 2002 AUAR. The reduction in total development, coupled with current regulations that are more stringent and implementation of new technologies (e.g., autonamous vehicles), suggest that environmental impacts will not exceed those identified in the 2002 AUAR. However, additional development and corresponding infrastructure projects will invariably create impacts compared to existing conditions.

Generally, the projected land use changes result in more evenly dispersed traffic flows and reduced peak hour traffic volumes. Cleaner emissions and noise reductions associated with newer aircraft and vehicles will reduce impacts related to air quality and noise compared to the 2002 AUAR assessment. On the other hand, more residential and hotel development will increase demand on water and sanitary sewer systems resulting in the need for infrastructure upgrades to provide increased capacity.

It is important to also note that the current development forecasts span the next 20 years, whereas the 2002 AUAR only projected development over a 5-year period. The 2016 development scenario will be reviewed, and updated as appropriate, during routine updates to the AUAR, required every five years. Additionally, interim updates will be conducted if any of the circumstances outlined in Minnesota Rules 4410.3610, Subp. 7 occur that trigger and earlier update.

Summary of Issues

The South Loop District is planned to accommodate about 65% of all new growth in Bloomington over the next several decades. The South Loop District is characterized by the juxtaposition of its developed upland area abutting the bluff that defines the Minnesota River valley and bottomlands. All of the proposed new development will be located in the flat upland area of the district, most of which is, or has been, developed with urban/suburban land uses including: offices, housing, hotels, and retail and associated transportation and utility infrastructure. Thus, much of the natural character and resources of this area have been significantly altered as a result of development activities over the last century.

Future development and infrastructure improvements are not anticipated to result in additional or extra-ordinary impacts on the environmental resources in the AUAR study area. All development and construction projects must comply with current regulations and permitting processes and associated mitigation measures. These are described in the

AUAR Mitigation Plan. While a diligent effort was made to ensure the AUAR development scenario reflects the maximum amount and type of development anticipated over the next 20 years, it is difficult to identify specific or unique impacts that could occur until specific development plans are prepared and reviewed by the City and other agencies. As noted above, should development be proposed that exceeds the assumptions made in this AUAR, an update will be conducted as required by State Statutes.

This AUAR update process identified a few areas where impacts may occur with future development that require additional monitoring and/or mitigation, including:

Surface Water/Storm Water Management

- Reconfiguration of Pond 30 - This existing pond located on the Adjoining Lands site (MOA Phase 3) currently retains stormwater from the local subwatershed as well as backflow from the 24th Avenue trunk storm sewer system. Reconfiguraton of Pond 30 is anticipated with redevelopment of the Adjoining Lands (MOA Phase 3). While alternatives evaluated could all successfully mitigate the flood elevation increases, mitigatation of flooding at other locations may also be needed. Redevelopment plans should include significant rate control best management practices to mitigate the effects of Pond 30 reconfiguration. In addition, volume control may be required to mitigate the effects of additional flow volumes on the system.

Airport Noise and Land Use

- Given its adjacency to MSP International Airport, aircraft noise has a persistent impact on the South Loop District. Zoning regulations in the South Loop prohibit residential development in areas subject to noise levels at or above the 70 DNL contour. Most of the South Loop District where future development is proposed lies between the 60 and 70 DNL contours. Under Part 150 Noise/Land Use Compatibility Guidelines, no land uses have been determined to be incompatible between the 60 and 65 DNL contours. 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, where 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. The City does not currently have code requirements related to noise attenuation, though noise attenuation has been required via condition of project approval or installed by private developers. In addition, the MPCA enforces noise mitigation standards per State Statutes Section 7030. The City intends to develop airport noise insulation standards in 2017. If adopted, these would apply to future development.

Cultural Resources

- The South Loop District contains several recorded archaeological sites, though only one is located on a site proposed for redevelopment – the Kelley Farm site. Agricultural activities on this site over the past several decades may have destroyed any archaeological resources. 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.

Sensitive Resources

- There is an unnamed spring-fed stream located south and east of East Old Shakopee Road and 24th Ave, known by some locally as "Ike's Creek", that the DNR has proposed to add to the designated trout stream list. Even if "Ike's Creek" is not designated as a trout stream, the City will continue to enforce current regulations to minimize development impacts on the stream and bluff habitat. 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. 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. 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 appropriate is determined to have the potential to significantly reduce the stream level, the DNR may impose additional provisions in order to protect the stream level. Such provisions may include: reducing pumping rate, reduced pumping time, and winter withdrawal.

- 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 17, 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 ponds will likely result in an overall improvement in the quality of storm water discharges to Long Meadow Lake. 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.

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.