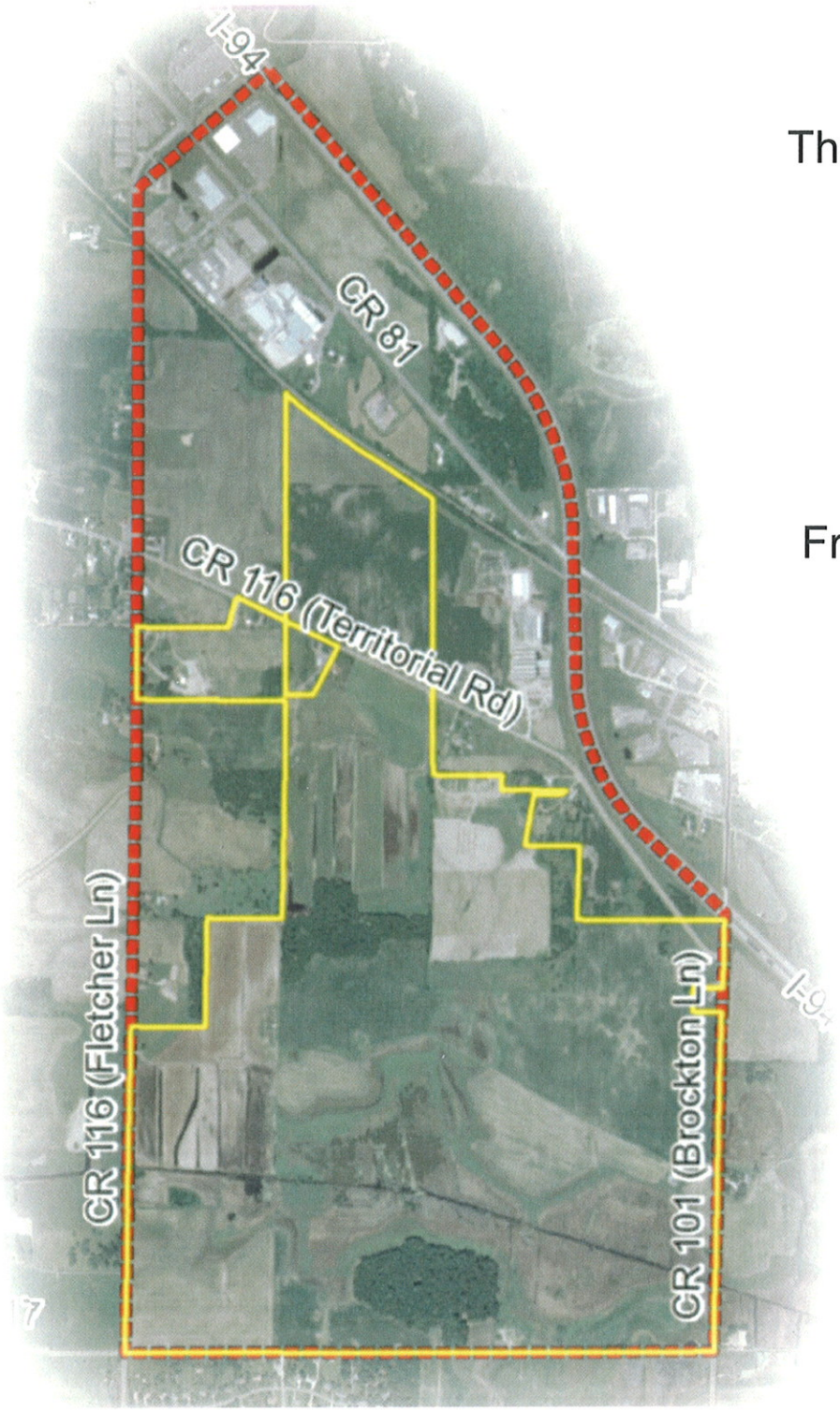
# Southeast Town of Hassan

# Alternative Urban Areawide Review (AUAR)




Prepared for:
The Town of Hassan, MN

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Planning Engineering Surveying

June 11, 2007

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# LIST OF PREPARERS

The individuals and firms who assisted in the preparation of this AUAR Document are listed below.

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# EXECUTIVE SUMMARY

## Overview:

The Stone's Throw AUAR was prepared for the Town of Hassan in accordance with Minnesota Rules Chapter 4410. The study area comprises approximately 1,043 acres of land in the southeast corner of Hassan; and is generally bordered by Interstate 94 to the north, County Road 101 (Brockton Lane) to the east, County Road 116 (Fletcher Lane South) to the west, and the City of Corcoran to the south. This AUAR was initiated by the Town of Hassan to review the environmental impacts of a 634-acre master planned community known as "Stone's Throw" (submitted by Hassan Mainstreet, LLC). The Stone's Throw development is proposed to incorporate areas of commercial, residential, and mixed-use development. Additionally, the AUAR includes 409 acres of adjacent land that is considered to be within the area of influence of the proposed development.

On February 3, 2007 a Draft AUAR was prepared and submitted to the required government agencies and reviewers for their comments. Eleven reviewing agencies replied to the Draft AUAR within the required timeline. Upon review of the submitted comments the AUAR was amended to incorporate the requested changes where appropriate. Several new appendices were also added to the Final AUAR including an **"addendum to previous memorandum"** prepared by URS Corporation (traffic consultant to the AUAR). The addendum reports further findings on impacts to additional intersections and connecting roadways beyond what were studied under the Draft AUAR. (See Appendix G)

On May 11, 2007 The Final AUAR was drafted with the appropriate changes to the document and mitigation plan. The reviewer letters and the responses to each of their comments are provided under a separate cover as Appendix O to the Final AUAR.

Minnesota Rules state that "the Responsible Governmental Unit (RGU) may specify more than one scenario of anticipated development provided that at least one scenario is consistent with the adopted comprehensive plan. At least one scenario must be consistent with any known development plans of property owners within the area," (Mn Rules. Chapter 4410.3610 subp.3).

This AUAR includes a review of three development scenarios.

- Scenario One:

  Scenario ONE examines the study area based on the current Town comprehensive plan (see Figure 4). In this Scenario, approximately 50% of the Stone's Throw development area would be under the Urban Commercial/Industrial classification, and 50% would fall under the classification of Urban Single Family (0-3units/acre). This breakdown would accommodate approximately 573 single-family units based on net acres, and 5,500,000 square feet of Commercial/Industrial building (based on 30% of the selected land area for buildings).

Development of the area under Scenario One will occur over the next 20 years. The pace of development will depend on market conditions, individual property owner decisions regarding development or redevelopment, and the city's growth management plans. Infrastructure will be staged so that necessary sewer, water, roadway and other infrastructure are in place to accommodate future development. Under these plans, development and accompanying infrastructure will likely occur from the northwest and continue to the south and southwest portions of Hassan. With the connection of the Elm Creek Interceptor, development may simultaneously grow from the south and move northward.

- Scenario Two:

  Scenario TWO is based on development of the study area using a mixture of residential, commercial, and mixed land uses coupled with the construction of a new interchange at Brockton Lane/Country Road 101 and Interstate 94 (see Figure 5). The future construction of such an interchange is an integral component for the type of development anticipated by this Scenario. The interchange is a realistic goal for this area as the need for such is recognized by surrounding communities and most governing agencies in their applicable planning documents. A new interchange will be subject to the 2030 Transportation Policy Plan. The proposed 634± acre Stone's Throw mixed-use development consists of approximately 218± acres of residential, 83± acres of mixed-use, and 114± acres of commercial land uses; the remainder of the land is categorized as open space or right-of-way (ROW). Additionally, the AUAR includes 409 acres of adjacent land that is considered to be within the area of influence of the proposed mixed-use development.

- Scenario Three:

  Scenario THREE is based on the same premise as Scenario Two but does not include the construction of an interchange over I-94 (see Figure 6). Without the interchange, the make-up of development in the Stone's Throw area will shift to including increased residential components as the commercial area will be scaled appropriately to serve local customers rather than a regional area.

**Anticipated Development by Scenario (in acres)**

| | Scenario 1 | Scenario 2 | Scenario 3 |
|---|---|---|---|
| **Buildable Land** | | | |
| Single Family | 242.62 | 180.95 | 180.95 |
| Multi Family | 0 | 184.37 | 239.18 |
| Commercial / Industrial | 500.21 | 357.67 | 302.86 |
| Park | 6 | 25.84 | 25.84 |
| **Non-buildable Land** | | | |
| Wetlands | 294.04 | 294.04 | 294.04 |
| | | | |
| **TOTAL:** | 1042.87 | 1042.87 | 1042.87 |

## Summary of the Major Issues and Mitigation Strategies:

The major issues identified during the preparation of this AUAR related to traffic and the proposed interchange, availability of urban services, connectivity with surrounding land uses and natural resources/open spaces. All of these issues are examined in detail within the AUAR along with the proposed mitigation measures.

The AUAR includes specific mitigation measures suggested to address anticipated impacts. The identified mitigation measures are intended to assist the public in understanding an initial approach to addressing the impacts, and to generate discussion on alternative methodology. A final mitigation plan was generated in response to comments received during the review of the AUAR. The final mitigation plan will become a component of the action plan to ensure the Town avoids, minimizes, or mitigates significant environmental impacts due to development within the AUAR area.

### Traffic

The traffic study focused on intersection and roadway operation during the a.m. and p.m. peak hours in 2015 and 2030. The scenarios were analyzed for comparative purposes and to determine what level of mitigation is needed in order for the eleven study intersections to operate in an acceptable manner. (Refer to Appendix G for the complete traffic study and associated analysis)

The study outlines that due to the increased traffic, generated by any of the three scenarios, road improvements will be needed to improve the service levels at the existing intersections. In 2015 each scenario anticipates about 41,000 daily trips. In 2030 this will increase in each scenario to around 100,000 trips. The chart below provides a breakdown of the daily and AM/PM peak trips expected in each scenario for 2015 and 2030.

**Trip Generation by Scenario**

| SCENARIO | 2015 | | | 2030 | | |
|---|---|---|---|---|---|---|
| | AM PEAK | PM PEAK | DAILY | AM PEAK | PM PEAK | DAILY |
| 1 - Comprehensive Plan | 3,330 | 3,970 | 41,040 | 8,140 | 9,420 | 97,240 |
| 2 - Stones Throw with New Access | 3,140 | 3,910 | 40,830 | 6,830 | 9,800 | 104,330 |
| 3 - Stones Throw no New Access | 3,140 | 3,910 | 40,830 | 6,740 | 9,020 | 95,410 |

Capacity analysis results are presented in terms of LOS which ranges from A to F. LOS A represents the best intersection operation, with very little delay for each vehicle using the intersection. LOS F represents the worst intersection operation with excessive delay. Depending on several variables including type of roadway,

traffic control, location, etc., a level of service D is generally the desired minimum operating condition.

Analyses of the eleven study intersections indicate that some of the intersections are presently underperforming during peak hour periods. For the Years 2015 and 2030, under any Scenario and time of day, many intersections will operate at Level of Service F (LOS F) if no improvements are made to the intersections.

Capacity analysis was performed for each study intersection for each Scenario during both peak hour periods. Level of Service and delay were identified for the following conditions:

- Existing conditions
- 2015 with existing geometry and traffic control
- 2015 with mitigated geometry and traffic control
- 2030 with further mitigated geometry and traffic control

Mitigation measures will be addressed in the Mitigation Plan as part of the AUAR process to achieve adequate traffic levels of service concurrent with stages of development. With the recommended mitigation plan improved service levels would be seen at all of the studied intersections. See table on next page.

| Scenario | | Peak Hour Period | Fletcher Lane at 109th Ave. N. | Fletcher Lane at Territorial Road | Brockton Lane at Territorial Road | Brockton Lane at 97th Ave. N. | Brockton Lane at CSAH 81 | Brockton Lane and S. Diamond Lake | Fletcher Lane and 97th Ave. N. | Main Street and Territorial Road | Main Street and CSAH 81 | Main Street and EB I-94 Ramps | Main Street and WB I-94 Ramps |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Existing | | AM | D | C | F | D | D | A | C | F | E | C | B |
| | | PM | C | F | F | F | D | A | C | B | E | E | F |
| 2015 Existing Geometry and Traffic Control | sc. 1 | AM | F | F | F | F | F | * | * | * | * | * | * |
| | sc. 1 | PM | F | F | F | F | F | * | * | * | * | * | * |
| | sc. 2&3 | AM | F | F | F | F | F | * | * | * | * | * | * |
| | sc. 2&3 | PM | F | F | F | F | F | * | * | * | * | * | * |
| 2015 Mitigated Geometry and Traffic Control | sc. 1 | AM | B | B | C | C | C | * | * | * | * | * | * |
| | sc. 1 | PM | C | C | C | C | C | * | * | * | * | * | * |
| | sc. 2&3 | AM | B | B | C | C | C | * | * | * | * | * | * |
| | sc. 2&3 | PM | B | C | C | C | C | * | * | * | * | * | * |
| 2030 Mitigated Geometry and Traffic Control | sc. 1 | AM | C | D | D | D | C | C | C | C | E | D | D |
| | sc. 1 | PM | D | D | E | E | C | C | C | C | F | B | E |
| | sc. 2 | AM | C | C | C | D | C | C | D | B | E | D | B |
| | sc. 2 | PM | C | D | E | E | C | B | C | B | D | C | F |
| | sc. 3 | AM | C | C | C | D | E | B | C | B | E | D | D |
| | sc. 3 | PM | B | D | C | D | C | B | C | B | F | C | E |

*2015 Conditions were not analyzed for these intersections

**Annexation/Urban Services**

The site currently falls within the orderly annexation agreement between the City of Rogers and the Town of Hassan. The northern portion of the Stone's Throw area (above County Road 116) is within the 2010 annexation agreement boundary. The remaining project area is not specifically noted in the annexation agreement, but is scheduled for sewer services between 2010-2030. The annexation of the entire site is possible since the annexation agreement provides flexibility for allowing annexation of *any* land after 2010 upon the agreement of both parties and meeting certain criteria in the orderly annexation agreement.

Both the Town of Hassan and the City of Rogers have indicated in their guide plans that urban development is to occur within the study area, and that a mixed-use plan would be consistent with their development growth patterns including the provision of urban services. Some urban services are expected to be provided by the City of Rogers with additional sewer capacity being provided by the extension of the Elm Creek Interceptor.

Under this arrangement, it is expected that sewer, water, police, fire and roads will extend from the City of Rogers in partnership with the Town of Hassan. A new water tower and additional lift stations will be located within the study area. Sewer services could be provided by the City of Rogers wastewater plant and the extension of the Elm Creek Interceptor. Rogers current collection system has the capacity to take some additional flows from the study area without any major upgrade. The current plant currently treats 0.8 MGD (Million Gallons per Day) with peaks reaching near 1.0 MGD. The plant has a wet weather capacity of 1.602 MGD.

The Metropolitan Council is scheduled to start design of the Elm Creek Interceptor in 2007 and begin construction in 2008 with completion anticipated in 2009. The Interceptor will bring sewer services to the southeast corner of Hassan and the project site providing a capacity of 870,000 gallons (.87 MGD) per day to the area.

The entire AUAR study area is located within the Elm Creek Watershed Management Organization. The majority of the area drains to County Ditch 21. The Stone's Throw project developer is proposing creative approaches to stormwater management by incorporating stormwater treatment and rate control as an amenity within the site. An environmental corridor is proposed that will incorporate a series of integrated linear stone weir storm ponds to control stormwater as it flows north to south prior to discharging into County Ditch 21. In addition, an integrated system of surface swales and on-site piping systems will carry water to stormwater drainage ponds located throughout the site. This stormwater management approach will provide Best Management Practices (BMPs) in efforts to provide enhanced environmental amenities while offering high quality, rate, and water quality for the Stone's Throw site and the area of influence. The benefits of having a project – wide stormwater management plan include the following:

- Reduce the amount of agricultural pollutants and erosion into the County Ditch

- Provide treatment of all new stormwater before it enters the creek.
- Remove the direct pumping of water from the current sod field operations.

**Connectivity with Surrounding Cities**

There are four different governmental municipalities outside of the Town of Hassan that border the AUAR study area. The Stone's Throw project and the area of influence are consistent with the vision for future land use and anticipated development growth in both Hassan and the adjacent municipalities. The study includes similar or compatible land uses along the perimeter of the study area.

- In the east and northeast, the commercial components match with the commercial and industrial activities existing and proposed along the I-94 corridor in the City of Rogers and Dayton.
- In the southeast, the high-density multi-family is matched with Corcoran's urban residential and business park/light industrial plans. All of these uses have higher traffic demand that are best accommodated by close proximity to County Road 101.
- In the south and southwest, the proposed single-family matches the existing single-family development in Corcoran. To the west, the land is currently agricultural and guided urban reserve, which is harmonious to the extensive greenway corridor along the project's western edge.
- In the north and northwest, the study area will be developed low density with neighborhood commercial. Again, this will match the existing Fletcher neighborhood and the commercial and industrial development just north of the study area in Rogers.

The Stone's Throw study area is also compatible with the parks and trail system plans of Hassan and neighboring communities. A more in-depth analysis of the surrounding parks is provided under section 25 of the AUAR.

**Natural Resources and Open Space**

The AUAR study area encompasses over 300 acres of wetlands, floodplain and wooded areas. The Hassan Park, Trail and Open Space Plan identifies a portion of this area to be used for parks, trails and open space/greenway corridor.

Most wetlands in the study area are Type I (Seasonally flooded basins and flats), Type 2 (Wet meadows), and Type 3 (Shallow marshes). These wetland types account for about 80 percent of the wetlands in the study area. Remaining wetlands are predominantly Type 6 or 7 (shrub swamps and forested swamps). Predominant vegetation in the Type 1 and 2 wetlands includes reed canary grass with smaller amounts of smartweed, barnyard grass, and other plants such as dandelion and clovers. Sedges and other wetland plants indicative of low disturbance levels are present in very few areas. Most Type 3 wetlands are dominated by cattails.

Canopies of Type 6 and 7 wetlands are dominated by species such as willows, box elder, elm, and green ash.

Although the majority of the wetland acreage in the study area will be avoided, development of the study area will involve the fill and excavation of wetlands necessary for the construction of streets, stormwater ponds, park areas, and the built environment. It is anticipated that development of the Stone's Throw area could involve somewhere between 10 and 25 acres of wetland fill and excavation. This range is roughly equivalent to 4 to 9.6 percent of the wetlands in the study area. Many of the wetlands in this area, however, have already experienced some level of disturbance as a result of past agricultural practices including ditching and farming.

The area along County Ditch 21 holds potential for establishment of a greenway corridor and restoration area, which is likely to exceed 200 acres of land. This potential corridor area holds several noteworthy qualities including:

- It is part of a continuous east-west greenway corridor established by the Town of Hassan
- It includes substantial floodplains and wetlands
- It is located adjacent to two remnant stands of the "Big woods."

The proposed development within the AUAR area has considered the potential for combining ecological restoration and wetland creation in this area. With appropriate planning, management, and stewardship; potential ecological enhancements could increase wetland functions associated with wildlife habitat, aesthetics, recreation, education, and vegetative diversity/integrity. The project could result in a contiguous complex of wetlands and uplands that could possibly be protected and maintained with assistance by public/private partnerships.

# SOUTHEAST TOWN OF HASSAN
## Alternative Urban Areawide Review (AUAR)

The format and content of the Southeast Town of Hassan AUAR is based upon the Environmental Quality Board (EQB) guidance document entitled "Recommended Content and Format" dated April 2005. The intent of the guidance is to ensure AUAR documents meet the directive of Minnesota State Rule 4410.3610, subp. 4 that "the content and format [of an AUAR document] must be similar to that of an Environmental Assessment Worksheet (EAW), but must provide for a level of analysis comparable to that of an Environmental Impact Statement (EIS) for impacts typical of urban residential, commercial warehousing, and light industrial development and associated infrastructure."

The complete AUAR consists of answers to thirty (30) questions established by the standard EAW form (February 1999 version). An introductory Executive Summary has been provided in lieu of a summary at the end of the document. For each of the thirty (30) questions being addressed, the EAW question will be provided in bold lettering followed by the corresponding AUAR guidance from the EQB noted in italics. The answer to the question and/or the applicable analysis of the three Scenarios follows the question.

General guidance followed in the preparation of this AUAR is as follows:

- *Information must be supplied for each of the major development Scenarios being analyzed, and it is important to clearly explain the differences in impacts between the various Scenarios.*

- *If an EAW question is not applicable to the AUAR process, the item # and its title should still be included followed by an indication that the EQB guidance indicates that no response is necessary in an AUAR (as opposed to just skipping reference to that item).*

- *Whenever a certain impact may or may not occur, depending on the exact design of future developments, the AUAR should cover the possible impacts through a "worst case Scenario" analysis or else prevent the impacts through the provisions of the mitigation plan. Failure to cover possible impacts by one of these means risks the invalidation of the environmental review exemption for specific development projects.*

## 1. Project title.

*AUAR Guideline: An appropriate descriptive title for the geographical area of the AUAR should be chosen.*

Southeast Town of Hassan Alternative Urban Areawide Review

## 2. Proposer.

*AUAR Guideline: It is not necessary for AUAR purposes to identify property owners within the AUAR area (although it may be useful to use such names as identifiers of various land parcels).*

According to the EQB guidance, it is not necessary for AUAR Purposes to identify property owners within the AUAR area.

## 3. RGU.

*AUAR Guideline: No changes from EAW form*


Contact: Jim Willis

Title: Town of Hassan & City of Rogers
Planning Consultant

Address: 25000 Hassan Parkway

City, State, zip: Rogers, MN 55374

Phone: (763) 428-4100

Fax: (763) 428-2102

Email: jwillis@townofhassan.com


## 4. Reason for AUAR preparation.

*AUAR Guideline: Not applicable to AUAR.*

The AUAR was written to analyze whether there are any potentially significant environmental effects associated with anticipated development in the southeast portion of the Town of Hassan. Three different development scenarios are examined by this study, with particular focus given to the proposed development area referred to as "Stone's Throw." This type of study was deemed to be the most appropriate type of environmental review due to a number of variables including:

- Effects on long-range community goals and the expected growth of surrounding areas;
- The scope of potential development and the several land use changes proposed within the Stone's Throw development;
- The development of the area will be phased over several years;
- The development of this area may create cumulative impacts to the Town of Hassan and the surrounding area;
- The capacity and service area of the Elm Creek Interceptor and Rogers Water Treatment Plant and Water System Improvements.

## 5. Location and maps.

**County:** _____

**City/Township:** _____

**Section:** _____

**Township:** _____

**Range:** _____

*AUAR Guideline: a. The county map is not needed for an AUAR. b. The USGS map should be included. c. Instead of a site plan, include: (1) a map clearly depicting the boundaries of the AUAR and any subdistricts used in the AUAR analysis; (2) land use and planning and zoning maps as required in conjunction with items 9 and 27; and (3) a cover type map as required for item 10. Additional maps may be included throughout the document wherever maps are useful for displaying relevant information.*

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County: Hennepin

City/Township: Hassan

Section: south ½ section 25 and section 36

Township: 120N

Range: 23W

See Figures: (All figures can be found in Appendix A)

-- AUAR Boundary Map showing subdistricts used in the AUAR analysis (Figure 1)

-- USGS map (Figure 2)

-- Current zoning (Figure 3)

-- Current comprehensive plan guidance (Figure 4)

*(continued)*

-- Current land cover/uses as required by question 9 (include reference here) (Figure 13)

-- Land cover acreages as required by question 10 (include reference here) (Figures 21, 22, & 23)

-- Other planning document maps of other agencies affecting the AUAR study area as required by question 27 (see Appendix A)

Please note: Additional figures can be found throughout the document, which are not referenced above (see the index of Figures on pg ii). The above list of figures is specifically described as they comprise the minimum figures required by the Environmental Quality Board (EQB) as part of an AUAR.

## 6. Description.

**a. Provide a project summary of 50 words or less to be published in the EQB Monitor.**

**b. Give a complete description of the proposed project and related new construction. Attach additional sheets as necessary. Emphasize construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes. Include modifications to existing equipment or industrial processes and significant demolition, removal or remodeling of existing structures. Indicate the timing and duration of construction activities.**

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

**d. Are future stages of this development including development on any outlots planned or likely to happen? ☐ Yes ☐ No If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.**

**e. Is this project a subsequent stage of an earlier project? ☐ Yes ☐ No If yes, briefly describe the past development, timeline and any past environmental review.**

*AUAR Guideline: Instead of the information called for on the form, the description section of an AUAR should include the following elements for each major development Scenario included:*

- *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.) Roadways intended primarily to serve as adjoining land uses within an AUAR area are normally expected to be reviewed as part of an AUAR. More "arterial" types of roadways that would cross an AUAR area are an optional inclusion in the AUAR analysis; if they are included, a more intensive level of review, generally including an analysis of alternative routes, is necessary;*
- *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.*

***Important Note:*** *Every AUAR document MUST review one or more development Scenarios based on and consistent with the RGU's Comprehensive Plan in effect when the AUAR is officially ordered. (This is equivalent to reviewing the "no-build" alternative in an EIS.) If an RGU expects to amend its existing Comprehensive Plan, it has the options of deferring the start of the AUAR until after adopting the amended plan or reviewing developments based on both the existing and amended comprehensive plans; however, it cannot review only a development based on an expected amendment to the existing plan. Also, the rules require that one or more development Scenarios analyzed must be consistent with known development plans of property owners within the AUAR area.*

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The Southeast Town of Hassan AUAR study area comprises approximately 1,043 gross acres of land; and is generally bordered by Interstate 94 to the north, County Road 101 (Brockton Lane) to the east, County Road 116 (Fletcher Lane South) to the west, and the City of Corcoran to the south (see Figure 1). The complete study area is divided into two main components: the anticipated area of development referred to as the "Stone's Throw" area, and the surrounding acreage predominantly to the north referred to as the "area of influence."

The boundaries studied as part of the AUAR were selected by the Town based on the anticipated areas of impact created by the development Scenarios being studied. Land use of the surrounding communities was taken into account in the AUAR analysis.

## ***Description of Development Scenarios***

The Scenarios of the AUAR Study are based on the potential development of the 634-acre Stone Throw project (referred to as the "development site", "Stone's Throw" or "Stone's Throw site"). The "area of influence" refers to a 409 acre area that surrounds the proposed development. For the purposes of this study, the area of influence is anticipated to develop per the current comprehensive plan guidance established by the Town of Hassan and the City of Rogers. Combined, the two areas are referred to as "study area", "AUAR area" or "AUAR study area"

The Southeast Town of Hassan AUAR includes analysis of three development Scenarios which vary in type and intensity of development as shown in table 6-1.

**Table 6-1: Proposed Land Use in acres**

| | Scenario 1 | Scenario 2 | Scenario 3 |
|---|---|---|---|
| **Buildable Land** | | | |
| Single Family | 242.62 | 180.95 | 180.95 |
| Multi Family | 0 | 184.37 | 239.18 |
| Commercial / Industrial | 500.21 | 357.67 | 302.86 |
| Park | 6 | 25.84 | 25.84 |
| | | | |
| **Non-buildable Land** | | | |
| Wetlands | 294.04 | 294.04 | 294.04 |
| | | | |
| **TOTAL:** | 1042.87 | 1042.87 | 1042.87 |

The three Scenarios can be summarized as follows:

- Scenario One:

  Scenario ONE examines the study area based on the current Town comprehensive plan (see Figure 4). In this Scenario, approximately 50% of the Stone's Throw development area would be under the Urban Commercial/Industrial classification, and 50% would fall under the classification of Urban Single Family (0-3units/acre). This breakdown would accommodate approximately 573 single-family units based on net acres, and 5,500,000 square feet of Commercial/Industrial building (based on 30% of the selected land area for buildings).

- Scenario Two:

  Scenario TWO is based on development of the study area site using a mixture of residential, commercial, and mixed land uses coupled with the construction of a new interchange at Brockton Lane/Country Road 101 and Interstate 94 (see Figure 5). The future construction of such an interchange is an integral component for the type of development anticipated by this Scenario. The interchange is a realistic goal for this area as the need for such is recognized by surrounding communities and most governing agencies in their applicable planning documents. A new interchange will be subject to the 2030 Transportation Policy Plan. The proposed 634± acre Stone's Throw mixed-use development consists of approximately 218± acres of residential, 83± acres of mixed-use, and 114± acres of commercial land uses; the remainder of the land is categorized as open space or right-of-way (ROW).

- Scenario Three:

  Scenario THREE is based on the same premise as Scenario Two but does not include the construction of an interchange over I-94 (see Figure 6). Without the interchange, the make-up of development in the Stone's Throw area will shift to including increased residential components as the commercial area will be scaled appropriately to serve local customers rather than a regional area.

***Style and Type of Development***

The overall development contains conservation development (residential); standard single, medium, and high-density housing; and mixed use areas with open space, parks, and trails. The following is a summary of the style and type of development anticipated on the Stone's Throw site within the AUAR study area:

- Residential

  Residential development under **Scenario 1** was estimated at approximately 573 units[1].

  Residential development under **Scenario 2** was estimated at approximately 1450 units[2].

  Residential development under **Scenario 3** was estimated at approximately 1900 units[2].

  All scenarios are anticipated to be constructed utilizing a variety of single family and multi-family products. Residential areas under Scenario One will be designed to meet local regulations for minimum lot size requirements. It is anticipated that construction would follow the pattern of typical suburban homes compatible with the surrounding neighborhoods in the City of Rogers and Corcoran. Single-family areas in Scenarios Two and Three assume a diversity of lot sizes ranging from 0.10 acres to 1.0 acre to generate a wide variety of detached single-family housing styles. This diversity of unit types would also carry over to those areas guided for multi-family housing (i.e. twin and row homes) areas. Multi level living structures akin to the urban designs planned for under Scenarios Two and Three are anticipated to include senior housing, condominiums, and/or apartments. These vertical type housing complexes may include mixed uses with commercial/office on the lower levels and residential units above.

[1] Three (3) units per acre over all buildable land guided for residential development in current planning documents

[2] Density levels for residential areas in Scenarios Two & Three were based on 1.5 units per acre (conservation development), 3.0 units per acre (standard single family), 3.0-5.0 units per acre (medium density), and 5.0 to 20 units per acre (high density areas). Areas guided for mixed use were calculated using 7.0 units per acre.

- Commercial

  The Commercial development of the AUAR area would include up to 50% of the area built as commercial under Scenario 1, more regional scale commercial development under Scenario 2, and local scale commercial development under Scenario 3. The full build out of the proposed commercial portion has not been determined at this time, but it is estimated that up to 4,500,000 sq. ft. of commercial floor area (Scenario Two) could be constructed within the AUAR study area. However, it is anticipated that the commercial segment for the Stone's Throw project will consist of various types of retail and service oriented businesses.

  In Scenario Two, it is anticipated that smaller commercial nodes will contain a mix of neighborhood retail/service/small office and office showroom. The large commercial node is expected to consist of large building style commercial with satellite retail or a corporate office complex. Under Scenario Three, it is anticipated that the smaller commercial segment will remain the same, while the larger commercial node would be reduced by roughly 50%. The reduction in the commercial size, under Scenario Three, is based on no future access to Interstate 94 from Brockton Lane/CR. 101.

  In the 409-acre area of influence, commercial and industrial development is anticipated to consist of existing businesses with the addition of newer independent operations. The size and style of those businesses will be determined by the zoning standards and design guidelines regulating the land at the time of permit applications. With the development of the Stone's Throw area, it is expected that design standards will be incorporated into the project that will positively influence the type of businesses and the quality of construction eventually seen in this adjacent area.

***Anticipated Infrastructure***

The AUAR study area includes three significant roadways that serve as integral traffic corridors for all of the surrounding communities in the area. The characteristics of each road are as follows:

- County Road 159 (Territorial Road)

  Currently, the Territorial Road corridor serves as one of Hassan's major east-west traffic routes. The transportation plans for the Town of Hassan and the City of Rogers do not indicate any future changes of the function or improvement of this road. However, to accommodate the needs of the development created by Scenarios Two and Three, this road will need to be realigned. This realignment is needed to provide proper access to the commercial component of the development and to accommodate the area needed for a future I-94/Brockton interchange.

- County Road 116 (Fletcher Lane South)

  Currently, the Fletcher Lane South corridor serves as the area's major north-south traffic route to the west of Interstate 94. The paved north arm of Fletcher Lane South presently ends at Territorial Road where it converts to a gravel road for local access. However, to accommodate anticipated growth to the north, a future connection to County Road 81 is proposed in the comprehensive plans for both Hassan and Rogers (Fletcher Bypass).

- County Road 101 (Brockton Lane)

  Currently, Brockton Lane serves as the predominant north-south traffic corridor for areas east of Interstate 94. Brockton Lane currently crosses Interstate 94 via an existing overpass which does not accommodate access to the freeway but has been indicated as a strong option for a future I-94 interchange.

A breakdown of further anticipated infrastructure needs for each of the Scenarios is provided below.

- Scenario One:

  New site infrastructure improvements will be based on Hassan's anticipated urban services staging plan. All improvements will be based on infrastructure planning by the Town of Hassan, the City of Rogers, and Hennepin County.

  - Roadways:

    The transportation plans for the Town of Hassan and the City of Rogers identify no new roads within the study area. However, both plans identify two similar needs. (See Figures 8 and 9):

    1. The realignment of the CR 116 (Fletcher Lane South) to occur south of CR 159 (Territorial Road) and shift slightly to the east creating a new connection to CR 81 (Fletcher Bypass).
    2. Identifying a new interchange across I-94. Hassan, Rogers and the City of Dayton (see figure 10) have all identified a future interchange with Interstate 94 in this general area within their comprehensive plans. The Minnesota Department of Transportation (MnDOT) is continually reviewing the options for an interchange, but at this time has not identified a specific crossing.

    When constructed, the future interchange will become a major traffic access point to Interstate 94 for the study area. Local roadway systems will be necessary as parcels within the AUAR study area develop.

Planning for these additional internal roadway systems will be based on each development's infrastructure needs.

- Sanitary:

  At this time, sanitary sewer is not provided to the study area. It is anticipated that sanitary infrastructure improvements will be based on Hassan's Urban Services Staging Plan and Metropolitan Council infrastructure Improvements. It is anticipated that the southern portion of the site will receive sanitary service from the Elm Creek Interceptor Line currently in Maple Grove near the southeast corner of the study area. The northern portion of the study area is anticipated to receive sanitary service from the City of Rogers. The City has not identified specific sewer connection locations; however, preliminary locations have been identified (See Figure 33.)

- Water:

  Currently, City water services are not provided to the study area. It is anticipated that the study area will receive water service from the north by the City of Rogers. No connection points have been determined at this time however the most likely connection points will be in the CR 81 and Fletcher Lane South Corridors including a potential water tower.

- Storm Water:

  Storm water ponding and treatment would be provided on an individual development basis utilizing the adopted requirements of the Town of Hassan or the City of Rogers. Rogers has recently drafted a Stormwater Management Plan that is pending watershed management organization review and approval. Compliance with the MPCA's Construction Stormwater permit will also be required.

- Scenarios Two & Three:

  The key difference between Scenario Two and Scenario Three is the construction of an interchange with Interstate 94 in Scenario Two. It is clear that such a change would result in impacts to area traffic movements. In addition to the placement of an interchange in Scenario Two, both Scenarios require a number of site infrastructure improvements for the study area and adjacent areas. The roadway design plan identifies several roadway improvements to existing County Road 116 (Fletcher Lane South), County Road 159 (Territorial Road) and County Road 101 (Brockton Lane). Additional water and sewer capacity is needed to serve the greater number of homes and businesses than currently envisioned in Hassan's Comprehensive Plan.

The benefits to the AUAR Study Area under Scenario Two and Three include new infrastructure to Brockton and 94, the placement of a new watertower and extending sewer and water laterals to outside of the Stones Throw development and into the surrounding area of influence.

- Roadways:

  With the increased traffic, generated by any scenario, road improvements will be needed to improve the service levels at the existing intersections. In 2015 each scenario anticipates about 41,000 daily trips. In 2030 this will increase in each scenario to around 100,000 trips. Scenario 2 would have the most trips at 104,330 while scenario 3 would have the least at 95,410. However in 2030, scenario 1(current guide plan) would have the heaviest AM peak hour trips at 8,140, more than a 1,300 trips greater than scenario 3. The main conclusions of the in-depth traffic study are as follows (please refer to Appendix G for the complete traffic study and associated analysis):

**Table 6-2: Trip Generation by Scenario**

| SCENARIO | 2015 | | | 2030 | | |
|---|---|---|---|---|---|---|
| | AM PEAK | PM PEAK | DAILY | AM PEAK | PM PEAK | DAILY |
| **1 – Comprehensive Plan** | 3,330 | 3,970 | 41,040 | 8,140 | 9,420 | 97,240 |
| **2 – Stones Throw with New Access** | 3,140 | 3,910 | 40,830 | 6,830 | 9,800 | 104,330 |
| **3 – Stones Throw NO New Access** | 3,140 | 3,910 | 40,830 | 6,740 | 9,020 | 95,410 |

For the Years 2015 and 2030, under any Scenario and time of day, all intersections will operate at Level of Service F (LOS F) if no improvements are made to the intersections. Mitigation measures will be addressed in the Mitigation Plan as part of the AUAR process to achieve adequate traffic levels of service concurrent with stages of development. With the recommended mitigation plan improved service levels would be seen at all of the studied intersections as noted in the chart below.

Capacity analysis was performed for each study intersection for each Scenario during both peak hour periods. Level of Service and delay were identified for the following conditions:

- Existing conditions
- 2015 with existing geometry and traffic control
- 2015 with mitigated geometry and traffic control
- 2030 with further mitigated geometry and traffic control

The levels of service for each intersection in each of these conditions are shown in Table 6-3 below.

**Table 6-3: Intersection Level of Service Analysis**

| Scenario | Peak Hour Period | Fletcher Lane at 109th Ave. N | Fletcher Lane at Territorial Road | Brockton Lane at Territorial Road | Brockton Lane at 97th Ave. N | Brockton Lane at CSAH 81 |
|---|---|---|---|---|---|---|
| EXISTING | AM | D | C | F | D | D |
| EXISTING | PM | C | F | F | F | D |
| 2015 Existing Geometry and Traffic Control | | | | | | |
| SCENARIO 1 | AM | F | F | F | F | F |
| SCENARIO 1 | PM | F | F | F | F | F |
| SCENARIO 2&3 | AM | F | F | F | F | F |
| SCENARIO 2&3 | PM | F | F | F | F | F |
| 2015 Mitigated Geometry and Traffic Control | | | | | | |
| SCENARIO 1 | AM | B | B | C | C | C |
| SCENARIO 1 | PM | C | C | C | C | C |
| SCENARIO 2&3 | AM | B | B | C | C | C |
| SCENARIO 2&3 | PM | B | C | C | C | C |
| 2030 Mitigated Geometry and Traffic Control | | | | | | |
| SCENARIO 1 | AM | C | D | D | D | C |
| SCENARIO 1 | PM | D | D | E | E | C |
| SCENARIO 3 | AM | C | C | C | D | C |
| SCENARIO 3 | PM | C | D | E | E | C |
| SCENARIO 2 | AM | C | C | C | D | E |
| SCENARIO 2 | PM | B | D | C | D | C |

Under Scenario Two, the Interstate 94 interchange is identified to occur north of the intersection of County Road 116 and County Road 101.

In Scenario Three, the interchange would not occur and the south fork of Territorial Road would simply loop the commercial area. If this Scenario were to proceed, it is anticipated by the Stone's Throw Development Team that the commercial area would be reduced by approximately 50% based on the reduction of customer accessibility from the interstate and converted to residential uses.

In both Scenarios, the overall road design will be similar within the study area. County Road 116 (Territorial Road) will be forked to create a northerly and southerly extension of the road. The south fork would dissect the project area before intersecting with County Road 101 (Brockton Ave.). This new extension would provide the connectivity and needed circulation to the proposed commercial and central residential components internal to the site. However, the external traffic system will be dramatically different. Under Scenario Two residents and customers to this area would have direct access from the new interchange into the study area while Scenario Three would require the use of existing roads and their improvements to provide access into the study area. The traffic impacts between the two Scenarios are identified in the traffic report located in appendix G.

The Fletcher Bypass is proposed to be constructed per county standards for a 50 mile per hour roadway unless deemed otherwise through the review process.

The residential components located on the southern edge of the study area would receive access through existing roads. The southwest component would have access to County Road 116 (Fletcher Lane), and the southeastern component would have access to County Road 101 (Brockton Ave.).

The option of creating an east west connection from CR 117 to CR 101 was considered, but was ultimately deemed unwarranted based on the following reasons:

- The connection will become an arterial connection that would be incompatible with the existing and proposed single family development in this area.
- With Corcoran proposing commercial/industrial land use on the east side of this connection, commercial traffic may be introduced through the residential neighborhood on the western end.
- The connection would bisect an environmentally sensitive area requiring the disturbance of the large stand of trees on the south end of the AUAR.
- Moving the east/west connection north of Rush Creek and adjacent wetlands would place the connection near the proposed east/west connection through the Stones Throw project site. The new connection is designed to accommodate the expected traffic volumes. There is no need to have two such connections so close to each other.
- The improved street connection through the Stone's Throw Development and the existing CR 30 connection just south of the AUAR study area provide ample east west connectivity to the area.

The new roadway systems will be designed and built to provide for safe and efficient flow of traffic within the development and surrounding areas. It is anticipated that the streets will include sufficient landscaping/streetscaping to enhance visual character and sidewalks\trails to encourage pedestrian access throughout the project. The final design of the proposed roadway improvements will be completed at the time of development.

- Sanitary:

  At this time, sanitary sewer is not provided to the study area. Under Scenarios Two and Three, it is estimated that 0.867 and 0.931 million gallons per day respectively are needed for full build-out of the master plan. It is anticipated that that the southern portion of the site will receive sanitary service from the Elm Creek Interceptor which will be available in 2009. The northern portion of the study area is anticipated to receive sanitary service from the City of Rogers. The existing Rogers wastewater treatment plant has available capacity to serve the northern portion of the project, but not the entire site. The City has the ability to expand their wastewater facility to provide additional capacity if necessary. It is anticipated that a lift station would be needed to serve the study area due to topographical constraints. The location of the lift station has not been finalized. Likewise, no connection locations have been determined from the north. However, the most likely connection points will be in the CR 81 and Fletcher Lane South Corridors (figure 33).

- Water:

  Currently, water services are not provided to the study area. It is anticipated that the study area will receive water service from the north through the City of Rogers. The water demands for both Scenarios Two and Three are estimated at 1.083 and 1.168 million gallons per day respectively. It is anticipated that a water tower will be located within the AUAR area to meet these demands. The location of the tower has not been finalized at this time.

  Connection points from the City's existing lines are currently being addressed and most likely located in the County Road 81 and Fletcher Lane South Corridors. Any additional wells that are required will likely be located within the City of Rogers' current well fields.

➢ Storm Water:

The entire AUAR study area is located within the Elm Creek Watershed Management Organization (ECWMO). The majority of the area drains to County Ditch 21 (north branch of Rush Creek). A negligible amount of water discharges to other off-site locations. The stormwater standards established by the ECWMO and the other regulatory agencies will guide the development of the stormwater management plan. As part of the permitting and approval process, it is required that developers identify what measures will be implemented to meet the water quality requirements that the ECWMO has in place at the time of development. Development within the AUAR boundary must comply with the MPCA's Construction Stormwater permit requirements.

The Stone's Throw project developer is proposing creative approaches to stormwater management by incorporating stormwater treatment and rate control as an amenity within the site. An environmental corridor is proposed that will incorporate a series of integrated linear stone weir storm ponds to control stormwater as it flows north to south prior to discharging into County Ditch 21 (See Figure 31).

In addition, an integrated system of surface swales and on-site piping systems will carry water to stormwater drainage ponds located throughout the site. This stormwater management approach will provide Best Management Practices (BMPs) in efforts to provide enhanced environmental amenities while offering high quality, rate, and water quality for the Stone's Throw site and the area of influence. The benefits of having a project stormwater management plan includes the following:

- Reduce the amount of agricultural pollutants and erosion into Rush Creek
- Provide treatment of all new stormwater before it enters the creek.
- Remove the direct pumping of water from the current sod field operations.

***Anticipated Staging Of Development***

The staging of development for the identified Scenarios is as follows:

- Scenario One

  Development of the area under Scenario One will occur over the next 20 years. The pace of development will depend on market conditions, individual property owner decisions regarding development or redevelopment, and the city's growth management plans. Infrastructure will be staged so that necessary sewer, water, roadway and other infrastructure are in place to accommodate future development.

Some roadway infrastructure development will depend on the plans and funding schedule of the Minnesota Department of Transportation and Hennepin County. Other infrastructure phasing will be determined by the Town of Hassan and the City of Rogers based on the infrastructure and utility staging components of their Comprehensive Plans. Under these plans, development and accompanying infrastructure will likely occur from the northwest and continue to the south and southwest portions of Hassan. With the connection of the Elm Creek Interceptor, development may simultaneously grow from the south and move northward.

- Scenario Two and Three

  Under Scenario Two and Three, a potential phasing plan has been outlined for the project over the next 7 years (see Figure 12 – Phasing Plan). The 409-acres of land within the area of influence is expecting to be developed concurrent with the proposed project, but is not included within the specific phasing plans. The northeast corner of the study area currently contains several businesses, and may experience additional businesses wanting to move into this area due to the proposed development. The agricultural area in the northwest portion of the study area would expect to see residential development occurring as individual property owners sell their land to prospective buyers. The infrastructure installed for each phase will be available for the properties within the area of influence.

  - Phase 1 – Start Construction 2007*
    - Area 1 & Area 2 & Area 3
    - Construction activities will consist of realigning Fletcher Lane South, north of Valley Drive to County Road 81, the relocation of Territorial Road to Brockton Lane/County Road 101, water/sanitary service extensions, and building construction. Building construction is projected to be phased out through 2010.

  - Phase 2 – Start Construction 2008*
    - Area 4 & Area 5 & Area 6 & Area 12
    - Construction activities will consist of minor modifications to Fletcher Lane South, water and sanitary service extensions, and building construction. Building construction is projected to be phased out through 2011.

- Phase 3 – Start Construction 2009*
  - Area 7 & Area 8
  - Construction activities will consist of mass grading, water and sanitary service extensions, and building construction. Building construction is projected to be phased out through 2012.

- Phase 4 – Start Construction 2010*
  - Area 9 (Urban High Density Residential)
  - Construction activities will consist of mass grading, water and sanitary service extensions, and building construction. Building construction is projected to be phased out through 2013.

- Phase 5 – Start Construction 2010*
  - Area 10 (Commercial) & 11
  - Construction activities will consist of mass grading, water and sanitary service extensions, and building construction. Building construction is projected to be phased out through 2015.

* Actual build-out is always dependent on market conditions.

It is anticipated that the development/reconstruction of the environmental corridor will begin in 2007 with an estimated completion date of 2010. Construction activities will include grading for wetland mitigation, creation of stormwater ponds, and wetland restoration. Construction of the environmental corridor amenities such as trails, environmental plantings, and amenity structures will be an ongoing process and will be timed in an appropriate manor throughout the environmental corridor construction process.

**MITIGATION SUMMARY**

No mitigation required for this section.

## 7. Project magnitude.

**Total Project Acreage: _____ acres**

- **Number of residential units: _____ unattached _____ attached**
- **Commercial, industrial or institutional building area (gross floor space): total square feet _____**

- **Indicate areas of specific uses (in gross square feet):**
  - **Office:** _____
  - **Manufacturing:** _____
  - **Retail:** _____
  - **Other Industrial:** _____
  - **Warehouse:** _____
  - **Institutional:** _____
  - **Light Industrial:** _____
  - **Agricultural:** _____
  - **Other Commercial (specify):** _____
  - **Building Height:** _____
    **If over two stories, compare to heights of nearby buildings.**

*AUAR Guidelines: The cumulative totals of the parameters called for should be given for each major development scenario, except that the information on manufacturing, other industrial, institutional, agricultural and building heights is optional:*

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Table 7-1 summarizes the proposed land use in number of units and square footage of commercial land for each development Scenario.

**Table 7-1: Scenario Magnitudes**

| *Stone's Throw Project Area (Units/S.F., in thousands)* | | | | | | | *Area of Influence* | |
|---|---|---|---|---|---|---|---|---|
| *Scenario :* | *Single Family (conservation)* | *Single Family (regular)* | *Medium Density* | *High Density* | *Mixed Use (Res/Com)* | *Commercial* | *Residential* | *Commercial* |
| One: | | 369 | | | | 2,771 | 204 | 2,702 |
| Two: | 74 | 156 | 450 | 150 | 407/300 | 1,389 | 204 | 2,702 |
| Three: | 74 | 156 | 450 | 150 | 820/580 | 780 | 204 | 2,702 |

| Total for Scenarios | Residential Units | Commercial Square Ft. |
|---|---|---|
| One | 573 | 5,473,000 |
| Two | 1,441 | 4,391,000 |
| Three | 1,854 | 4,062,000 |

## 8. Permits and approvals required.

**List all known local, state, and federal permits, approvals, and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance, including bond guarantees, Tax Increment Financing and infrastructure.**

*AUAR Guideline: 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 for each major development Scenario. This list will help orient reviewers to 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.*

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All required permits and approvals must be obtained for any future development. Any necessary permits or approvals that are not listed in the table below were unintentionally omitted, and some listed may not be necessary.

**Table 8-1: List of Permits and Approvals**

| *Unit of Government* | *Type of Application* | *Status* |
|---|---|---|
| **Federal** | | |
| • Army Corp of Engineers | - Section 404 Permit<br>- Letter of no wetland jurisdiction | Application Required |
| • FEMA | - Letter of Map Revision | Application Required |
| **State** | | |
| • Environmental Quality Board (EQB) | - AUAR | |
| • Pollution Control Agency (PCA) | - Section 401 Water Quality Certificate or Waiver<br>- NPDE SDS Stormwater Construction Permit<br>- Sanitary Sewer Extension<br>- Notice of Termination of Const. Activities | Applications Required |
| • MnDot | - Plat Review<br>- Access Permit | Application Required |

| *Unit of Government* | *Type of Application* | *Status* |
|---|---|---|
| • MnDNR | - Preliminary Plat Review<br>- Construction Dewatering Application | Application Required |
| • Mn Department of Health | - Watermain Extension<br>- Well Abandonment<br>- Water Supply | Applications Required |
| • State Historic Society | - None required | Application Required |
| • Board of Soil and Water Resources | - Wetland Conservation Act (WCA) Replacement Plan Approval | Application Required |
| • Utility Companies | - Easement permits | Application Required |
| **Regional** | | |
| • Elm Creek Water Management Organization (WMO) | - Erosion and Sediment Control Plan Approval<br>- Stormwater Management Plan Approval<br>- Wetland Delineation Boundary Confirmation<br>- Certificate of Wetland Exemption<br>- WCA Replacement Plan Approval (LGU)<br>- Drainage Authority Review | Applications Required |
| • Metropolitan Council | - Sanitary Sewer Connection Approval<br>- Comprehensive Plan Amendment(s)<br>- Water Supply Plan | Application Required |
| • Metro Transit | - Bus Stop Location Approval | Application Required |

| *Unit of Government* | *Type of Application* | *Status* |
|---|---|---|
| • Hennepin Conservation District | - WCA Replacement Plan Comment | |
| **County** | | |
| • Hennepin County | - Hazardous Waste<br>- County Road Access Permit<br>- County Road Improvement Plans | Application Required |
| **Local** | | |
| • Town of Hassan<br>• City of Rogers, after annexation | - Subdivision Approval<br>- Planned Unit Development Approval<br>- Site Plan Review<br>- Preliminary and Final Plat<br>- Construction Related Activity Permits<br>- Development Agreement<br>- Building Permits<br>- Comprehensive Plan Amendment(s)<br>- Zoning Code Amendments<br>- Utility Extensions (Sewer and Water) | Application Required |

Federal funding for interchange construction within the study area has not been pursued at this time. However, applications for Federal, State, or Metropolitan grants may be pursued at a later date.

Compliance with the extensive requirements imposed through these permits and approvals constitutes substantial mitigation of potential effects from the development.

## 9. Land use.

**Describe the current and recent past land use and development on the site and on adjacent lands. Discuss the compatibility of the project with adjacent and nearby land uses; indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazard due to past land uses, such as soil contamination or abandoned storage tanks.**

The AUAR Study area is primarily zoned agricultural with scattered small parcels zoned Rural Estate Lots. There is also a small section of commercial/industrial land in the northeast corner of the study area.

The historical use of the land is predominantly agriculture with a mixture of row crops and commercial sod fields.

The north portion also includes an active Burlington North Santa Fe Rail Line and a buried gas line. An Excel Energy overhead transmission lines (two double poles) crosses east to west on the southern portion of the site adjacent the county ditch corridor.

The AUAR study area also includes a large area of open space with a variety of natural resources. There is an expansive area of a floodplain which encompasses an existing wetland complex adjacent to County Ditch # 21 along with several small pockets of wetlands throughout the remainder of the Study Area. Two pockets of woods are also within the study area near the central and southern portions of the Stone's Throw site.

Most of the land surrounding the AUAR study area is undeveloped and is in agricultural production or open space (see figure 13) except for the following areas:

- A 36-lot, single-family development adjacent the southwest corner of the study area. This development is within the City of Corcoran;
- The Village of Fletcher – a small area of small residential lots and churches at the intersection of Fletcher Lane South and Territorial Road
- Residential and commercial development to the northeast in the City of Rogers; and
- Commercial and industrial uses on the south side of Interstate 94 and east of the Study Area.

***Compatible Land Use***

The Town of Hassan Comprehensive land use plan guides the study area for Urban Single Family development (0 to 3 units per acre for urban service extension between 2001 and 2005), and Urban Commercial/Industrial development (for urban service extension between 2016 and 2020). (See Figure 4)

The northern portion of the site (above County Road 116) currently falls within the orderly annexation agreement between the City of Rogers and the Town of Hassan (see Figures 14 & 15). The remaining project area is scheduled for annexation between 2010 and 2030 with sewer services phased between 2016-2020 per the Town of Hassan's sewer staging plans.

The Stone's Throw area is proposed to begin development in 2007 and continue construction through 2013. Development is expected in this area, and a mixed-use plan including the provision of urban services would be consistent with their development growth patterns.

There are four different governmental municipalities adjacent to the Town of Hassan that border the AUAR study area. North of the site is the City of Rogers where the land is guided for Industrial and Mid Density Residential (figure 16). The City of Dayton is located to the east with land guided for Commercial/ Industrial Park (figure 17). The City of Maple Grove is located to the southeast and has land guided for Mixed Low Medium Residential at a density of 0-3 units per acre (figure 18). The City of Corcoran is located to the south and has the adjoining land guided for Urban Residential with Commercial in its northeast corner (figure 19). The outlying area of Hassan, that borders the site to the west, is presently guided for Urban Reserve as a holding designation in anticipation of development requiring urban services.

The selected development scenarios for the Stone's Throw project and the area of influence are consistent with the vision for future land use and anticipated development growth in both Hassan and the adjacent municipalities. The study includes similar or compatible land uses along the perimeter of the study area.

- In the east and northeast, the commercial components match with the commercial and industrial activities existing and proposed along the I-94 corridor in the City of Rogers and Dayton.
- In the southeast, the high-density multi-family is matched with Corcoran's urban residential and business park/light industrial plans. All of these uses have higher traffic demand that are best accommodated by the close proximity to County Road 101.
- In the south and southwest, the proposed single-family matches the existing single-family development in Corcoran. To the west, the land is currently agricultural and guided urban reserve, which is harmonious to the extensive greenway corridor along the project's western edge.
- In the north and northwest, the study area will be developed single-family with a neighborhood commercial. Again, this will match the existing Fletcher neighborhood and the commercial and industrial development just north of the study area in Rogers.

The Stone's Throw study area is also compatible with the parks and trail system plans of Hassan and neighboring communities. A more in-depth analysis of the surrounding parks is provided under section 25c of the AUAR.

***Environmental Hazards***

A Phase 1 Environmental Assessment was prepared by Schoell Madson for six of the major land parcels within the Stone's Throw area (see Figure 40 and appendices B,C,J and K). Although some land within the AUAR study area

was not specifically identified for the Phase I Assessment, all land within the AUAR was studied as these reports require a search radius of 1 mile around the target parcels. Additional Phase 1 reports may be requested by future buyers in their entitlement review as individual parcels outside of the Stone's Throw area become considered for development.

There are two water supply wells on the Wicht Jr. property, and one on the Peterson parcel. The Fricke parcel also contains an irrigation well. The barn located on the Wicht Jr. parcel appears to have peeling paint which may contain lead contaminants. Two minor dumpsites were identified in the wooded area on the northwest corner of the Wicht Jr. site. Both dump areas contained scrap metal, glass, tires, paint cans, wood, and other household debris. An earth mound was also identified on the Peterson parcel. This mounded area appeared to have concrete construction material protruding from the earth mound. Drums, metal, and plastic tanks were also observed on the Fricke parcel. At this time it has not been determined if there are any Asbestos Containing Materials (ACM) located on the property site. However, the buildings located on the Wicht Jr. parcel may contain ACM due to the age of the buildings. Additionally, a construction debris disposal area was discovered on the property located at 11900 Fletcher Lane. A Phase I and II Environmental Site Assessment was completed on this site with the conclusion that no hazardous materials were present within and surrounding the disposal area.

An underground gas line is located north and parallel to Territorial Road. The gasline is owned by Center Point Energy and is under a utility easement and is not proposed to be removed or relocated as part of the Stones throw development.

## MITIGATION SUMMARY

The Town of Hassan and developers intend to implement the following strategies to address development within the AUAR study area:

- The Stone's Throw project area will be reguided for the proposed land uses within the Town of Hassan's Comprehensive Plan, and the local zoning ordinances will be updated accordingly.
- The AUAR Study area is part of the orderly annexation agreement between the City of Rogers and the Town of Hassan.
- Developments within the study area will be integrated with the future land use plans of the surrounding communities.
- As noted under the Environmental Hazards section, a Phase I site assessment was completed for parcels making up the Stone's Throw development. As part of the Phase I assessment and conclusions, several potential areas of concern have been identified. Areas of concern included water supply wells, lead paint, possible asbestos, and dump sites.

- In order to mitigate potential conflict between new residents, businesses, industrial owners and nearby farming operations; brochures and information about moving into agricultural areas will be provided to the new homeowners and business owners.
- Mitigation measures for each of these areas are proposed to include abandonment of water supply wells by a certified well driller in accordance with the Minnesota Department of Health requirements, proper disposal in a qualified landfill of any lead paint and asbestos containing materials as part of demolition debris.
- When proposed development within the identified dump sites occurs, the Town will work with the developer on an action plan including the proper disposal of contaminated and uncontaminated materials that may be found on these sites. A possible Phase II site assessment may be necessary for these areas.
- A Phase I and Phase II assessment was completed on the dumpsite at the parcel located at 11990 Fletcher Lane with the conclusion that no hazardous materials occurred within or surrounding the landfill area.

## 10. Cover types.

**Estimate the acreage of the site with each of the following cover types before and after development:**

| | **Before** | **After** |
|---|---|---|
| **Types 1 – 8 wetlands** | | |
| **Wooded/forest** | | |
| **Brush/Grassland** | | |
| **Cropland** | | |
| **Lawn/landscaping** | | |
| **Impervious surfaces** | | |
| **Other (describe)** | | |
| **Total:** | | |

*AUAR Guidelines: The following information should be provided instead:*

a. *Cover Type Map, at least at the scale of a USGS topographic map, depicting:*
   - *Wetlands-identified by type (Circular 39)*
   - *Watercourses – rivers, streams, creeks, and ditches*
   - *Lakes – identify protected waters status and shoreland management classification*
   - *Woodlands – breakdown by classes where possible*
   - *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.*

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The existing landscape for the study area is comprised of gently rolling moraine with areas of wetlands and drainage ways .

A majority of the site is used for agricultural purposes and there are two stands of forest considered remnants of the "Big Woods."

Cover types are general categories that represent the landcover found within the study area. Provided below are the calculations for the existing landcover (pre-project) and proposed development (post-project) conditions estimated for each Scenario. More specific physiognomic classifications (under the Minnesota Land Cover Classification System mapping) are also included (Figure 20).

Please refer to the following figures to see the illustrated cover types for both the existing land, and the proposed development Scenarios:

- Figure 21: Existing cover types
- Figure 22: Cover types under Scenario ONE
- Figure 23: Cover types under Scenarios TWO & THREE

Table 10-1 summarizes the percentages of the cover types displayed in each of the figures referenced above. The existing conditions were estimated from 2003 aerial photography, the wetland delineation completed by Schoell Madson, and the Natural Resource Inventory completed for the Town of Hassan by Hennepin County Environmental Services.

Summaries of each category are as follows:

- <u>Impervious/Hard Surface</u>

  Approximately 7% of the AUAR study area consists of impervious/hard surfaces. These hard surfaces include existing structures, roads, and railroad tracks. Existing houses, commercial buildings and farmstead buildings are located on several parcels and along the south side of County highway 81. There are several asphalt areas located within the study area including one on the Wicht Jr. parcel (by the farmstead buildings) and one to the east of the Talberg parcel in the northeast corner of the Study area. Additional hard surface areas are located on the Hassan portion of the study area south of County Highway 81. For the proposed Scenarios, the following assumed percent of impervious surface was used

| | |
|---|---|
| Single-family residential (conservation) | 20% |
| Single-family residential | 30% |
| Multi-family residential | 50% |
| Commercial | 80% |
| Right of Way | 90% |

**Table 10-1. Cover Types. (acres)**

| | Existing Conditions | Scenario ONE | Scenario TWO | Scenario THREE |
|---|---|---|---|---|
| Impervious/ Hardsurface | 77 (7%) | 476 (46%) | 459 (44%) | 447 (43%) |
| Wetlands (overall) | 243.5 (25%) | 233.5 (24%) | 233.5 (24%) | 233.5 (24%) |
| Type 1 | 59.3 (24.4 %) | 57.3 (24.5 %) | 57.3 (24.5 %) | 57.3 (24.5 %) |
| Type 1A | .17 (.09%) | 0 | 0 | 0 |
| Type 2 | 5.6 (2.3%) | 5.0 (2.1%) | 5.0 (2.1%) | 5.0 (2.1%) |
| Type 2, 1A complex | .09 (.05%) | 0 | 0 | 0 |
| Type 3 | 15.3 (6.3%) | 14.4 (6.0%) | 14.4 (6.0%) | 14.4 (6.0%) |
| Type 3,7 complex | .32 (.16%) | .17 (.07%) | .17(.07%) | .17(.07%) |
| Type 4 | N/A | N/A | N/A | N/A |
| Type 5 | N/A | N/A | N/A | N/A |
| Type 6 | 8.3 (3.42%) | 8.3 (3.4%) | 8.3 (3.4%) | 8.3 (3.4%) |
| Type 7 | 19.5 (8.1%) | 19.5 (8.1%) | 19.5 (8.1%) | 19.5 (8.1%) |
| Type 8 | N/A | N/A | N/A | N/A |
| Type 1, 2, 3 complex | 133.07 (70%) | 127.6 (52.8%) | 127.6 (52.8%) | 127.6 (52.8%) |
| Water Courses | 1 (<1%) | 1 (<1%) | 1 (<1%) | 1 (<1%) |
| Woodlands | 47 (4.9%) | 15 (1.5%) | 23 (2%) | 23 (2%) |
| Cropland/Open Space | 638 (61%) | 43 (4%) | 43 (4%) | 43 (4%) |
| Maintained Lawns/Landscaping | 20(2%) | 273(26%) | 267(25%) | 279(27%) |
| TOTAL: | 1043 (100%) | 1043 (100%) | 1043 (100%) | 1043 (100%) |

Under the proposed scenarios, the following percentages of impervious/hard surface cover types are anticipated:

Scenario 1: 46% Scenario 2: 44% Scenario 3: 43%

- Wetlands

  Approximately 260 acres of wetland occur throughout the AUAR study area. The majority of this wetland acreage is along County Ditch 21 with scattered isolated basins throughout the interior of the site. The wetland areas (with a few exceptions) have been degraded and most contain or are dominated by nonnative vegetation. The Circular 39 wetland types that occur on the site include Types 1, 2, 3, 6 and 7 (see delineation report in appendix F). The proposed wetland impacts range from 10--25 acres and decrease the current wetland coverage from 25 to 24 %.

- Watercourses

  There is a single watercourse that traverses the southern half of the study area from west to east. This watercourse, Rush Creek, has been historically straightened and ditched and is now considered County Ditch 21. Alterations to County Ditch 21 are not proposed.

- Woodlands

  Currently two large stands (approximately 15 and 30 acres respectively) of trees are located within the Stone's Throw area. Both stands are considered as remnants of the "Big Woods".

  Several smaller wooded areas occur on parcels scattered throughout the study area. The woodland areas comprise approximately 4.9 % of the existing land cover. Under Scenario 1 the woodland coverage wood be reduced to less then 1%. Under Scenarios 2 and 3, the wooded area would comprise 2% of the area coverage.

- Cropland

  A majority of the study area (approximately 61%) is covered by cropland/open space. Both row crops and sod fields are present along with some planted prairie areas. The prairie areas are located within the east central portion of the site (east of the north sod fields) and consist of a narrow diversity of prairie plants covering approximately 11.5% of the study area. Row crop farming is present over much of the eastern and southern part of the study area. Sod fields occur in the west and northwest sections of the property and make up approximately 9% of the vegetative cover. A portion (4%) of the western part of the study area also contains pastureland.

- Maintained Lawn/Landscaping

  Approximately 19.8 acres of maintained lawn/landscaping occurs within the study area (2%). The maintained lawn/landscaping areas occur around the existing residential homes and buildings within the study area. These areas may contain scattered trees, shrubs, and grasses. Under Scenario 1 there would be an increase in maintained lawn/landscaping to 26%. Scenarios 2 and 3 would increase to 25 and 27 % respectively.

Overlay maps are provided to show anticipated development, active recreational areas, and probable conservation/natural resource preservation areas in Figures 22 & 23. Development within the AUAR is expected to convert the majority of the area to developed residential and commercial land uses. The residential and commercial areas will have maintained/mowed lawns and landscaping. The noted overlay maps demonstrate an attempt to identify areas of relatively high natural resource diversity for probable preservation, enhancement, and protection.

## MITIGATION SUMMARY

The Town of Hassan and developers intend to implement the following strategies to avoid or minimize the impacts of proposed development on the natural communities in the AUAR area:

- The Township will enforce its provisions of their Zoning Ordinances to protect natural areas within the AUAR area. Additionally, no removal of trees located in wooded floodplains, wooded wetlands, stream corridors, or on slopes greater than 25% should occur. A reasonable attempt shall be made to preserve as many existing significant trees as is practical and to incorporate them into the site plan.
- The Elm Creek Water Management Organization administers the Minnesota Wetland Conservation Act (WCA) and will enforce its provisions to avoid, minimize, or mitigate impacts to wetlands that occur until the study area becomes part of the City of Rogers. After the study area becomes part of the City of Rogers, the City will become the LGU for enforcement of the WCA.
- The southern wooded area identified in the AUAR study area should be protected by utilizing low impact development techniques and possible conservation easements.
- Areas to focus on for preservation include the wetland complex adjacent to County Ditch 21 and the two larger wooded areas that are part of the Park, Trail and Open Space Plan.
- The development of the AUAR Study area will be completed to the extent feasible as recommended by the Town's Natural Resource Inventory to protect/conserve significant resources.

## 11. Fish, Wildlife, and Ecologically Sensitive Resources.

**a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts**

**b. Are any state (endangered or threatened) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial waterbird nesting colonies or regionally rare plant communities on or near the site?**

**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 20070024**

**Describe measures to minimize or avoid adverse impact.**

*AUAR Guidelines:*

*a. The description of wildlife and fish resources should be related to the habitat types depicted on the cover type maps (item 10). Any differences in impacts between development Scenarios should be highlighted in the discussion.*

*b. For an AUAR, prior consultation with the DNR Natural Heritage program for information about reports of rare plant and animal species in the vicinity is required. 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.*

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The following is a summary of the fish and wildlife resources identified within the AUAR study area.

- Fishery Resources

  The study area does not include any deepwater aquatic habitats or fishery resources. It is probable that there may be small fish such as minnows and sculpins within the Creek that provide some food resources for larger predatory animals. Section 17 of this AUAR entitled "Surface Water Runoff," analyzes the potential impacts to water resources downstream, and outlines the steps to manage the quantity and quality of surface water runoff that will protect fishery resources in the watershed downstream from the study area.

- Wildlife Resources

  Wildlife resources on and near the site are directly related to the composition, quality, size, and connectivity of natural communities

including open lands, woodlands, and wetlands. Wildlife species found on these various types of habitat include pheasant, meadowlark, field sparrow, cottontail, red fox, turkeys, coyote, field mice, hawks and white-tailed deer. These species are adapted to open lands, croplands, woodlots, wet meadows, shrub swamps, and emergent marsh wetlands. The open fields provide seasonal food and cover for these species.

The woodlands and wetlands also provide habitat and winter cover for these species as well as others such as woodpeckers, raccoon, and amphibians.

The wetland area along County Ditch 21 is used as a transient migratory waterfowl area in early spring with large concentrations utilizing the area. Several different species of waterfowl (mostly dabbling ducks) have been observed in the Rush Creek wetland complex/floodplain area (observed by Schoell Madson staff, Spring 2006).

The majority of the development within the study area is expected to convert most of the agricultural fields, grasslands and sod fields into residential, institutional and commercial land uses. It is anticipated that some wooded and wetland areas will be impacted with the development. Expected improvements include streets, buildings, parking areas, lawns, recreational areas, and stormwater features.

Some local decline in wildlife abundance is expected to result from development within the study area. Species that depend on large agricultural habitats with interspersed woodlands and wetlands will likely to decline or move. Migratory birds are expected to respond to the development by locating alternative nesting sites upon their return from wintering habitats. Some songbirds that readily adapt to fragmented and suburban habitats may become more numerous. Non-migratory species with small home ranges, such as small mammals, will experience more adverse effects. These species will compete with other individuals of the same species to claim territories in neighboring habitats.

There are a number of methods proposed to mitigate impacts of development on the existing ecological systems within the designated greenway corridor. Such methods include the preservation of approximately 90 percent of the wetland areas, implementation of stormwater ponds, establishment of bioswales, and creation/restoration of wetland areas. It is also anticipated that 25 to 50 percent of the upland wooded areas will be preserved.

Preservation of the wetlands and upland woodlands plus the creation of stormwater ponds, bioswales, and new wetlands is proposed to mitigate adverse effects of development on the existing ecological systems within the designated greenway corridor. The protection of existing remnant habitats, combined with potential restoration of these areas and improving connectivity among habitats in the study area, will be used to mitigate the impacts. The possibility of improving habitat for several species of waterfowl and wetland wildlife that currently use this area would be a

significant upgrade to the site's currently degraded condition. For example, restoring wetland basins with native vegetation would not only benefit wetland wildlife but also improve the watershed. In addition, enhancing adjacent upland areas would provide quality nesting habitat for waterfowl species.

The woodland to the south is of particularly high quality based on the diversity of tree species and the size of the trees present in the woodland. In addition, it was registered in the State of Minnesota's Tree Farm program and has been actively managed. The State of Minnesota recognizes the woodland areas to be remnants of the "Big Woods" plant community. There are a limited number of remnant stands of the "Big Woods" remaining in Hennepin County, and the numbers of these areas continue to dwindle as development pressures increase.

The woodland area to the north would be eliminated under Scenario 1. Scenarios 2 and 3 contemplate a conservation easement covering the woodland areas.

- Rare Plants and Animals

  A Minnesota Natural Heritage database search request was sent to the MnDNR for the study area. The MnDNR reviewed the Minnesota Natural Heritage database, and a response was received in September 2006 on rare plant or animal species or rare plant communities known to occur within an approximate 1 mile radius of the study area (see Appendix E).

  The DNR identified four records of rare species or communities that occur *near* the study area. There were no records that occurred *within* the study area. None of the database search records represent animals or communities observed within the study area, and no other evidence of threatened, endangered, or special concern plant or wildlife species was observed during field reviews of the study area. Habitat on the site indicates moderate to high levels of disturbance through agricultural activities, ditching, and timber cutting amongst others. Little undisturbed area is present within the AUAR Study Area. As a result, there is little opportunity for threatened and endangered species to be present.

## MITIGATION SUMMARY

The Town of Hassan and developers intend to implement the following strategies to protect the natural areas and habitat connections in the AUAR area and vicinity as development occurs. Note that strategies identified in Section 10 above (Cover Types) and Section 17 (Surface Water Management) will also be important in protecting natural areas and habitat connection.

- Implement stormwater BMP's as identified in Section 17 to prevent erosion and sedimentation from new development, and to protect the wetland resources in the AUAR area from stormwater impacts.
- Consider options to maintain habitat connections to protect the remaining high quality wildlife habitat in the AUAR area with conservation easements.
- Educate homeowners regarding maintenance of buffer areas and prevention of erosion
- Identify grant program opportunities to support restoration activities as available.
- Maintain connectivity between habitats within the AUAR area and nearby areas.
- Restoration of degraded wetland habitat areas as part of the wetland mitigation plan including greater diversity of wetland habitat types.
- Improve nesting habitat for waterfowl though wetland mitigation plan.
- The Town of Hassan will encourage the use of preservation and conservation design as well as low impact development (LID) techniques to protect the uplands and "Big Woods" within the study area.

## 12. Physical Impacts on Water Resources.

**Will the project involve the physical or hydrologic alteration (dredging, filling, stream diversion, outfall structure, diking, impoundment) of any surface water such as a lake, pond, wetland, stream, drainage ditch?**

**If yes, identify water resource affected and give the DNR Protected Waters Inventory number(s) if the water resources affected are on the PWI:_____.**

**Describe alternatives considered and proposed mitigation measures to minimize impacts.**

*AUAR Guidelines: 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 residential or commercial 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 developments, the AUAR should cover the possible impacts through a "worst case Scenario" or else prevent impacts through the provision of the mitigation plan.*

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Development within the study area warrants the need to fill and excavate some of the wetland areas for road construction and development encroachments (figure 41). The wetland areas and Rush Creek have all had some type of previous disturbance occur within their boundaries as a result of agricultural

activities including ditching and plowing. The proposed development of the study area could involve between 10-25 acres of wetland impact. A wetland restoration conservancy area is proposed for incorporation into the Stone's Throw development area.

***Existing Wetlands***

A wetland delineation conducted by Schoell Madson was completed for the 630 acres comprising the Stone's Throw site (Appendix F). Approximately 188 acres within the Stone's Throw site were identified as wetland. No delineation was completed for the 413 acres within the remainder of the study area. However, based on aerial photographic review and National Wetlands Inventory (NWI) mapping, approximately 20-25% of the 413 acres could meet wetland criteria (see Figure 24). Combining both known and approximated wetland totals, it is estimated that 260 acres of wetlands are present in the AUAR study area. There were no DNR protected waters found within the study area as determined from reviewing the State's Protected Waters Inventory map for the county.

Wetlands within the study area have been degraded to different extents as a result of past agricultural activities including intensive farming and extensive ditching and pumping.

An extensive ditch system occurs within the sod farms in the southwest portion of the study area. Water is periodically and systematically pumped from the ditch system into County Ditch 21 (typically in spring), or used for irrigation of the sod fields (summer).

In addition to partial and/or complete drainage effects related to the ditch and tile systems, many of the small wetlands in the study area have been partially drained through ditching or tiling, or have been tilled and farmed on an intermittent basis for decades. The agricultural history of the study area has compromised the plant diversity of the Type 1, 2, and 3 wetlands.

Most wetlands in the study area are Type I (Seasonally flooded basins and flats), Type 2 (Wet meadows), and Type 3 (Shallow marshes). These wetland types account for between 75 and 95 percent of the wetlands in the study area. Remaining wetlands are predominantly Type 6 or 7 (shrub swamps and forested swamps). Major wetland complexes are located in the north-central and south-central parts of the study area.

Predominant vegetation in the Type 1 and 2 wetlands includes reed canary grass with smaller amounts of smartweed, barnyard grass, and other plants such as dandelion and clovers. Sedges and other wetland plants indicative of low disturbance levels are present in very few areas. Most Type 3 wetlands are dominated by cattails. Canopies of Type 6 and 7 wetlands are dominated by species such as willows, box elder, elm, and green ash.

A Minnesota Routine Assessment Method (MnRAM) 3.0 analysis was completed on wetlands within the Stone's Throw development area of the AUAR. The results indicated that wetlands were generally of low-medium values. Specific information for a particular wetland can be found in the MNRAM summary report information in Appendix F.

Wetlands in the study area fall under the jurisdiction of the Federal Clean Water Act and the Minnesota Wetland Conservation Act (WCA), which are administered in this area by the St. Paul District of the U.S. Army Corps of Engineers (USACE) and the Elm Creek WMO respectively. There are no DNR jurisdictional wetlands in the study area.

***Effects on wetlands***

Although the majority of the wetland acreage in the study area will be avoided, development will impact some wetlands. Detailed wetland impact and replacement plans are not yet available for developments within the study area, but will be generated with the creation of site specific development plans. Given the locations of existing wetlands, it is estimated that development of the study area could involve the fill and excavation of between 10 to 25 acres of primarily Types 1 and 2 wetlands. This range is roughly equivalent to 4 to 9.6 percent of the wetlands in the study area. The majority of wetland impacts are anticipated to occur in the central part of the study area. However, the exact wetlands, type, and area of impact again would be determined with specific site design in conjunction with and as allowed by appropriate permitting. The actual wetland impacts will be dependant of the final development plans that are designed for projects within the AUAR boundary. These impacts will be reviewed as part of the permitting process for the projects. Wetland impacts will need to be mitigated in accordance with applicable regulations.

Isolated and partially drained (or farmed) Type 1 and 2 wetlands or fringe wetlands may be indirectly drained by development activities even if they are avoided. These types of wetlands are the most likely to be filled or excavated in conjunction with development in the study area. Even if development physically avoids these wetlands, it could drain them by diverting their watershed drainage areas elsewhere. Some of these wetlands may need to be excavated or lowered for the purpose of sustaining wetland hydrology after development of the surrounding area. If excavation in existing wetlands is necessary to maintain hydrology, the excavation may be included in the impacts during the permitting process.

***Regulatory Compliance***

The areas outside of the Stone's Throw area may be required to complete wetland delineations prior to project construction. Delineations will need to be performed in accordance with the U.S. Army Corps of Engineers (USACE)

Wetlands Delineation Manual (Environmental Laboratory, Waterways Experiment Station. 1987), and wetlands must be classified according to Wetlands of the United States (US Fish and Wildlife Service Circular 39; Shaw and Fredine, 1971).

Discussions have been held with both the Elm Creek WMO and the USACE staff on potential credits for proposed wetland restoration and creation to be completed as part of developing the Stone's Throw area. Credit can be acquired as a result of wetland restoration of sod field areas, preservation of wooded areas, and incorporation of buffers surrounding restored or created wetlands.

Individual projects within the study area will need to be designed with an effort to avoid adverse effects on existing wetlands to the extent practicable.

Developers will be required to follow the sequencing process of wetland avoidance, minimization, mitigation and replacement as outlined in the Minnesota WCA. Wetland losses will need to be replaced under plans approved by the Elm Creek WMO and the USACE.

Prior to project construction, wetland permit applications must be prepared and submitted to the Elm Creek WMO and the USACE to obtain authorization for wetland alterations under the WCA and Section 404 of the Federal Clean Water Act. Wetland applications and designs will undergo additional review and comment by the Minnesota Board of Water and Soil Resources and the Hennepin Conservation District. Wetland impacts will be replaced in compliance with the Minnesota WCA and the Federal Clean Water Act.

## MITIGATION SUMMARY

The Town of Hassan and developers intend to implement the following strategies to avoid or minimize the impacts of proposed development on wetlands within the AUAR study area:

- The Town of Hassan will enforce provisions of its zoning ordinance to protect wetland areas within the AUAR area including standards for management of stormwater quality and quantity.
- Construction of streets to provide access to the study area and the necessary neighborhood transportation network is anticipated to require filling some wetlands. Proper permitting shall seek to limit such impacts, and/or result in wetland restorations and creations to benefit the area.
- Wetland sequencing will be required for future impacts to ensure adequate avoidance and minimization. Wetland impacts will be replaced in compliance with the Minnesota Wetland Conservation Act (WCA) and the Federal Clean Water Act (Section 404 and 401).
- Wetland replacement will be designed to include the restoration of onsite wetlands that have been impacted from drainage and pumping. The wetland restoration would be contiguous with existing wetland areas along Rush

Creek and are proposed to not only increase the amount of wetland along the Creek but to create higher quality and greater diversity of wetland habitats within the area. Although wetland enhancement could include excavating in order to restore design hydrology, the enhancements could also be limited to vegetative restoration. If wetland enhancement plans include excavation of soils, alterations must be included at the time of wetland permitting. The exact acreage and location of possible wetland enhancements are project specific and must be outlined as part of any future permit request. It has also not been determined whether existing wetlands may need to be excavated in order to maintain hydrology.

- Existing on-site wetland areas not proposed to be impacted will be protected under conservation easements particularly those along County Ditch 21 that serve several important functions chiefly flood storage, water quality buffer, and wildlife corridor and habitat.
- Include and record wetland buffers, and appropriate restrictions, covenants, and protective easements on a project by project basis, as appropriate.
- It is anticipated that the largest, most ecologically intact wetlands will be mostly avoided, with the exception of certain peripheral impacts necessary to accommodate infrastructure and other development features.
- The development plans will emphasize preserving a majority of the higher quality natural areas such as large wetlands and woodlands. Some wetland areas associated with forested areas will be avoided.
- The removal of the extensive ditching system and pumping will be addressed.

## 13. Water Use.

**Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply or appropriation of any ground or surface water (including dewatering)?**

**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 Guidelines: If the area requires new water supply wells, specific 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.*

The study area is currently not serviced by municipal water, and it was estimated that all homes are served with private water supply wells. Currently there are six (6) private water supply wells (Figure 25) identified within the project area of the AUAR boundary based on Minnesota Department of Health Well Records. Several of these wells may be impacted by the proposed development Scenarios and may need to be abandoned according to Minnesota Department of Health requirements. A search of the Minnesota Geological Survey's County Well Index was also performed to identify wells within the study area. The locations of these wells were verified using the address and the Public Land Survey System data provided in the database.

**Table 13-1. Existing wells identified in the Minnesota Geological Survey CWI database.**

| Unique ID | Address | PID | Casing Depth (ft) | Well Depth (ft) | Aquifer* |
|---|---|---|---|---|---|
| 27W0007340 | NA | NA | NA | NA | NA |
| 179019 | 11900 Fletcher La. | 25-120-23-33-0001 | 111 | 116 | QBAA |
| 187991 | 11700 CR 116 | 25-120-23-33-0006 | 202 | 257 | Franconia |
| 119105 | CR 116 | NA | 162 | 204 | Franconia |
| 148135 | CR 116 | NA | 150 | 160 | Franconia |
| 401401 | 11215 Brockton La. | 36-120-23-14-0002 | 103 | 108 | QBAA |
| 561594 | 20181 Territorial Rd | 25-120-23-33-0002 | 162 | 174 | QBAA |
| 504323 | 20295 Territorial Rd | 25-120-23-34-0001 | NA | 222 | NA |
| 656602 | 11900 Fletcher La | 25-120-23-33-0001 | 91 | 95 | NA |
| 119105 | CR 116 | NA | 162 | 204 | Franconia |
| 518658 | 19615 Territorial Rd | 36-120-23-12-0005 | NA | 94 | NA |

* *NA = Not available; QBAA = Quat. Buried Artesian Aquifer*

Recent aerial photos were used to identify other home sites in the study area. At least 12 other properties not found in the CWI database were identified that are presumed to contain a private water supply well. There is an irrigation well located at the northern end of the proposed Stone's Throw development that is currently used to irrigate the northern sod fields' area. This well is not identified on the Minnesota Geological Survey CWI database.

Because the study area has historically been used for farming and rural residences, it is possible that other undocumented wells may exist. There is a possibility of encountering unsealed and/or abandoned wells once construction begins. Any such wells encountered must be properly sealed by a licensed well driller in accordance with codes administered by the Minnesota Department of Health

***Groundwater Levels***

Approximately 28 soil borings were completed in the Stone's Throw portion of the study area (see Appendix H – Subsurface Exploration and Geotechnical Engineering Analysis).

An analysis of these soil borings identified a number of soils that consist of organic silt, silty clay with roots, sandy clay, sands and trace gravels. The soil analysis also identified several areas of peat with depths ranging from 3.5 feet to 39 feet. Fifteen of the twenty-eight soil borings had piezometers installed in an effort to identify current groundwater levels. An analysis of the piezometer reports indicated no groundwater in 19 of the 28 soil borings. However, in areas of peat, the groundwater elevations ranged from 2.5 feet to 10.1 feet below the ground surface.

***Dewatering***

According to the Subsurface exploration by STS consultants (see Appendix H – Subsurface Exploration and Geotechnical Engineering Analysis), groundwater elevations ranging from 2.5-feet to 10.1-feet below the ground surface exist in areas consisting of peat soils. Dewatering will be necessary during construction to install sanitary sewer, municipal water, and storm sewer where ground water is reached. It is anticipated that soil correction and dewatering would most likely occur in various locations within the FEMA Floodplain Corridor (Figure 26) and southern portion of the site where higher groundwater levels were identified.

***Water Supply/Changes/Connections***

It is anticipated that the Stone's Throw site will be part of the City of Rogers Municipal Water System (Figure 27). Initially, water supply to development within the Stone's Throw area will be through an onsite water tower (Figure 28). It is anticipated that the water infrastructure established for the Stone's Throw site will connect to the City of Rogers water infrastructure system to create water looping and equalization for the regional area. Points of connection have not been finalized at this time; however, the most likely connection point will be to the existing 12" watermain located within the County Road 81 corridor. It is anticipated that additional connection points will be provided in the future as development occurs around the AUAR study area.

Analysis of the water distribution system for each area as it develops will be needed to determine the appropriate watermain size and appropriate looping for the site.

***Water Demand Calculations***

Residential average daily demand is estimated at 350 gallons per day per unit (140 gallons per person per day.) Commercial average daily demand is estimated at 0.10 gallons per day per square foot of commercial building. The full extent of the commercial uses under existing zoning has not been fully determined.

The average daily demand will vary depending on the type of uses within the commercial area, but it is estimated that the overall average for all of the potential uses within the commercial area will be the 0.10 gallons per day per square foot of building.

The peak demand is based upon a 3.0 peaking factor.

**Table 13-2: Total & Peak Water Demands (mgd)**

| *Stone's Throw Project Area (ADD in mgd)* | | | *Area of Influence (ADD in mgd)* | | *Total Average Daily Demand (in mgd)* | *Peak Daily Demand (in mgd)* |
|---|---|---|---|---|---|---|
| *Scenario #:* | *Residential* | *Commercial* | *Residential* | *Commercial* | | |
| One: | 0.129 | 0.277 | 0.071 | 0.270 | 0.747 | 2.241 |
| Two: | 0.433 | 0.169 | 0.071 | 0.270 | 0.943 | 2.829 |
| Three: | 0.578 | 0.136 | 0.071 | 0.270 | 1.055 | 3.165 |

## MITIGATION SUMMARY

The Town of Hassan and developers intend to implement the following strategies to avoid or minimize impact to municipal wells in the AUAR area:

- Unsealed and/or abandoned wells must be properly sealed in accordance with Minnesota rules (Chapter 4725) administered by the Minnesota Department of Health (MDH). It is the responsibility of the landowner to have abandoned wells properly sealed, and MDH has sole authority over regulation and enforcement of well construction and sealing codes and rules.
- Dewatering will be a temporary condition and will comply with the MNDNR requirements.

- The Town of Hassan will work with developers in the area to require measures to conserve the use of groundwater, particularly for non-essential uses. For example, this will include options such as landscape plans that require minimal irrigation. The City of Rogers has experienced peak factors in the range of 5.0-6.0 over areas of the City, but it is anticipated that the peaking factors in this area will be controlled by watering restrictions and proper irrigation system controls.
- Municipal water will be supplied by the City of Rogers as guided by the city's comprehensive water plan. Any additional public water supply will be accomplished by installation of wells in the current city's well field.
- Existing water appropriations in the north sod field will require abandonment.

## 14. Water-Related Land Use Management Districts.

**Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district? .. Yes .. No If yes, identify the district and discuss project compatibility with district land use restrictions.**

*AUAR Guidelines: 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.*

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As indicated in the previous sections, most of the site is in agricultural land use (i.e. row crops and sod farms). Water-related land use management districts are located within the study area.

A portion of the southern study area is located within County Ditch 21, formally known as the North Branch of Rush Creek. The setback requirement for structures along streams is 50 feet. No variances or deviations from these requirements are anticipated within the Stone's Throw area under the proposed Scenarios. Any development occurring under a given scenario must occur in the floodplain fringe area and not within the floodway. Elevations of structures must be in compliance with FEMA's requirements to be above the 100 year flood elevation.

The study area also contains a 100-year floodplain surrounding County Ditch 21. Land use and potential development in the floodplain areas must be in compliance with the Town's Floodplain Overlay District. The Overlay District requirements regulate permitted and conditional land uses, lot standards, setbacks, regulatory flood protection elevation and other regulatory requirements within the floodplain areas. The Town will enforce the floodplain ordinance requirements within the AUAR area.

**MITIGATION SUMMARY**

- The Town of Hassan will enforce its Floodplain Overlay Zone Ordinances in the AUAR area as development is planned and implemented.
- Revisions to the 100-year floodplain elevation shall be completed according to FEMA standards.

## 15. Water Surface Use.

**Will the project change the number or type of watercraft on any water body? .. Yes .. No If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.**

*AUAR Guidelines: This item need only be addressed if the AUAR area would include or adjoin recreational water bodies.*

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The study area does not include or adjoin recreational water bodies.

**MITIGATION SUMMARY**

- There is no mitigation required for this section.

## 16. Erosion and sedimentation.

**Give the acreage to be graded or excavated and the cubic yards of soil to be moved: NA acres _NA_ 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 Guidelines: 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.*

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It is anticipated that the majority of the buildable land within the study area will be graded for development. Grading operations are expected to include clearing & grubbing of areas prior to excavation using cut-fill methods to correct building pad and roadway elevations. Grading activities may require moving, importing, or hauling material offsite.

Grading and excavation processes will have minimal environmental impacts to areas within the County Ditch 21 corridor or adjacent areas. The Hennepin

County soils map for the area indicates a few locations of highly erodible soils within the study area (see Figure 29). Available topographic information for the area does not indicate any steep slopes that cannot be stabilized using standard vegetative establishment measures.

All grading operations must utilize *Best Management Practices* (BMPs) suitable for individual areas to ensure soil erosion or sedimentation will not occur. Construction activity permits (NPDES) will be required, along with permits from the Town of Hassan and the Elm Creek WMO for all land disturbance activities.

**MITIGATION SUMMARY**

The Town of Hassan and developers intend to implement the following strategies to reduce and minimize soil erosion and sedimentation in the AUAR area:

- The Town of Hassan will enforce its Zoning Ordinances, including erosion and sediment control standards, buffer standards, and other performance standards within the AUAR area.
- Manage disturbance in protected areas such as steep slopes through provisions of the Town of Hassan Zoning Ordinance and compliance with Elm Creek WMO.
- Developers will be required to submit plans for soil erosion and sediment control during construction and after development. The town will require the use, management, and enforcement of BMP's to control erosion and sedimentation during and after construction as required by the NPDES construction permit and it requirements.
- Portions of the AUAR may require further review by the Minnesota Pollution Control Agency (MPCA). Necessary plans and documents will be provided.
- Comply with Elm Creek WMO erosion and sediment control requirements.

## 17. Water Quality – Surface Water Runoff

- **Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.**
- **Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.**

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

- *it is expected that an AUAR will have a detailed analysis of stormwater issues;*
- *a map of the proposed stormwater management system and of the water bodies that will receive stormwater should be provided;*
- *the description of the stormwater system should identify on-site and regional detention ponding and also indicate whether the various ponds will be new water bodies or converted existing ponds or wetlands. Where on-site ponds will be used but 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 analysis:*
  a. *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 (1990) or contact the Council staff. Outside of the metro area, lakes needing a nutrient budget analysis must be determined by consultation with the MPCA and DNR staffs;*
- *Trout streams: if stormwater 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;*

***Stormwater/Runoff Review***

The Stone's Throw project area is located in the Elm Creek WMO. The Watershed District regulates impacts on water resources and mitigation measures. The study area is predominantly in agricultural uses, so the majority of current stormwater is infiltrated into the existing soils. During heavy rainfall events, the stormwater that is not infiltrated into the existing soils generally drains into the Rush Creek Floodway Corridor (see Figure 26). It is anticipated the large wetland basins (see Figure 24) that are located in the Rush Creek Corridor will retain and treat the existing stormwater runoff for existing agricultural fields.

- Pre Development Runoff:

  The farming practices historically used in this area included the use of pesticides, herbicides, and fertilizers. Residues from these materials can be carried by stormwater runoff and transported to wetlands and water ways.

  A review of 100-year Frequency Discharge data received from the Elm Creek WMO identified approximately 15.4 square miles of contributing upstream drainage area from the AUAR boundary with approximately 540

C.F.S. peak discharge into the Rush creek drainage area. Approximately 6.31 square miles of additional drainage area from the AUAR boundary and surrounding properties is also draining into the Rush Creek Corridor. The upstream drainage coupled with the anticipated AUAR/surrounding property contribution totals approximately 21.85 square miles with a peak discharge of 550 C.F.S. It has also been determined that the section of flood plain between Fletcher Lane South/County Road 116 and Brockton Lane/ County Road 101 is at an approximate 913.2 elevation.

- Post Development Runoff:

  The Stone's Throw area is proposed to provide an alternative environmental approach to stormwater management by utilizing existing low land, floodway areas, wetland areas, and the County Ditch 21 corridor. An environmental corridor is proposed to incorporate a series of integrated linear stone weir storm ponds, wetland mitigation areas, and techniques to preserve Rush Creek elements of County Ditch 21. The Stone's Throw site must utilize the established and appropriate BMP's within the stormwater management design for volume and quality control.

  Examples of BMP's to be used include but are not limited to stormwater ponds, rainwater gardens, grassed swales, linear stone weir ponds, and catch basins. Post development runoff rates must meet the National Pollution Discharge Elimination System (NPDES) requirements. When development plans are finalized, they must comply with all stormwater regulations enforced by appropriate regulatory agencies.

  The goal will be to design the stormwater management system so that post development surface water runoff rates and volumes are equal to or lower than the existing surface runoff rates and volumes.

## ***Stormwater Management System Map***

A map of the existing and proposed stormwater management systems for the Stone's Throw area has been included (see Figures 30 & 31). The proposed stormwater management areas will control stormwater runoff by providing rate and water quality treatment control measures. Treated stormwater from the proposed development will ultimately discharge into County Ditch 21.

## ***Description of Stormwater Systems***

The stormwater system will consist of localized ponds for specific development areas and a project area stormwater system. A project area system is needed to effectively drain the existing sod fields and control water entering the county ditch corridor due to the current drainage patterns and large hydric areas. A system of weirs is proposed along the western side of the project area that will catch and control runoff during heavy rain events. These stepped weirs will

pond and treat the water in a controlled system as it flows toward County Ditch 21. In addition, treatment ponds will be created along the wetland edge to catch and treat stormwater before entering the large wetland complex. These ponds will be constructed primarily outside of the wetlands; however, some ponds may include a portion of a wetland basin. Standard pond design methods will be used throughout the site to ensure the stormwater ponds are sized correctly and ensure safe slope for vegetation growth.

### MITIGATION SUMMARY

The Town of Hassan and developers intend to implement the following strategies to mitigate for stormwater impacts related to development within the AUAR study area. The following mitigation efforts seek to protect water resources in the project area and downstream and meet all applicable water quality and quantity requirements:

- The Town of Hassan will work with developers to identify opportunities to include Conservation Design practices to protect downstream receiving waters.
- The stormwater management system goal will be to design the system so that post development runoff rates and volumes are equal to or lower than existing runoff rates and volumes.
- The Town of Hassan will work with developers to manage water runoff volumes and pollutant loads to meet infiltration and water quality requirements.
- The Town of Hassan will require the use, management, and enforcement of BMP's to control erosion and sedimentation during and after construction as required by the NPDES construction permit such as linear stone weir ponds, grass swales, and rainwater gardens.
- The Town of Hassan will require protection of wetlands from stormwater impacts, based on wetland policies included in the Town's Zoning Ordinance.
- Removal of agricultural non-point sources of pollution will be implemented within the Stone's Throw portion of the study area.

## 18. Water Quality – Wastewater

- **Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.**
- **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 on-site**

**sewage systems, discuss the suitability of site conditions for such systems.**

**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 Guidelines: Observe the following points of guidance in an 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 subareas 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 and (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; any necessary improvements should be described if on-site systems will serve part of the AUAR the guidance in EAW Guidelines (pages 16-17) should be followed.*

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***Summary of Wastewater***

Only normal domestic wastewater production is currently occurring on-site. The existing residents are served by individual septic systems. All wastewater containing human wastes, nutrients, and other contaminants are collected and delivered to the septic tank and spread through the drain field for primary treatment. The final treatment of the wastewater occurs in the soil where disease-causing organisms are destroyed and nutrients are removed.

It is anticipated that development of the Stone's Throw site will create additional wastewater that will need to be treated. Only domestic wastewater production is expected from both residential and commercial uses. Sanitary wastewater production will use methods consistent with the Service Availability Charge (SAC) Procedures Manual. SAC is assessed based upon maximum potential daily wastewater flow that is based on each residential and commercial property. One SAC unit is generally based on 274 gallons of daily wastewater flow, which is widely accepted as the typical amount of wastewater generated by a residential unit on a daily basis. Commercial properties are assessed SAC units based on maximum daily flow. The flow rate assumption for commercial

property is based on 0.082 gallons of daily wastewater flow per one square foot of commercial building. Figures 32 & 33 illustrate the existing and proposed sanitary system in the area.

**Table 18-1: Total and Peak Sewer Demands**

| *Stone's Throw Project Area (ADD in mgd)* | | | *Area of Influence (ADD in mgd)* | | *Total Average Daily Demand (in mgd)* | | | *Peak Daily Demand (in mgd)* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Scenario #:* | *Residential* | *Commercial* | *Residential* | *Commercial* | *Flow to Rogers WWTP* | *Flow to ECI* | *Total* | *Flow to Rogers WWTP* | *Flow to ECI* | *Total* |
| One: | 0.101 | 0.227 | 0.056 | 0.222 | 0.386 | 0.218 | 0.604 | 1.313 | 0.741 | 2.054 |
| Two: | 0.339 | 0.138 | 0.056 | 0.222 | 0.459 | 0.296 | 0.755 | 1.515 | 0.977 | 2.492 |
| Three: | 0.452 | 0.111 | 0.056 | 0.222 | 0.459 | 0.382 | 0.841 | 1.469 | 1.222 | 2.691 |

All of the above-anticipated demands are average daily demands based upon the level of anticipated development as specified in Table 7-1. It is anticipated that sanitary sewer conveyance systems—including any required lift stations—will be designed using MCES standard peak flow factors in order to insure enough capacity during peak demand periods.

***Major Sewer System Features and Expected Flows***

At this time, it is anticipated that the north half of the site will use wastewater services from the City of Rogers. It is also anticipated that the southern half of the site will utilize wastewater services from the Elm Creek Interceptor.

It has not been determined at this time where the division line between the two service areas will exist within the Stone's Throw project area (Figure 33). This division line will most likely be determined by what areas can be served by gravity to each system in order to limit the need for lift stations.

Temporary connections to the Rogers system may provide service until the Elm Creek interceptor is constructed.

***Sewer Improvement Staging***

Question 6 in this AUAR describes the staging of the sanitary sewer construction. Sewer service lines will be installed as necessary prior to construction for each building area.

***Relation to the RGU comprehensive sewer plan***

The proposed sanitary sewer system expansion to allow development of the Stone's Throw site is consistent with the future expansion requirements and staging from the City of Rogers and the Elm Creek Interceptor lines.

Hassan has been allocated 0.87 mgd of flow into the Elm Creek Interceptor. The amount of flow that is anticipated to be discharged from the Elm Creek Interceptor from the AUAR study area is consistent with this allocation.

The City of Rogers sanitary treatment plant currently has enough reserve capacity to treat the anticipated flows from the AUAR study area. As additional growth occurs within the City of Rogers, it is likely that their current treatment plant will need to be expanded in the future (see Appendix M). The site of Rogers's current treatment plant has the ability to expand and double its capacity in the future.

***On-Site Wastewater Treatment Systems***

At this time, it is not anticipated that any on-site wastewater systems will be utilized as part of developing the Stone's Throw site. The existing septic systems associated with houses on the properties to be developed will be removed in conformance with the Town of Hassan and Minnesota Department of Health (MDH) standards.

**MITIGATION SUMMARY**

- Existing septic systems will be abandoned and removed in conformance with the Town of Hassan and MDH requirements.
- Extension of urban services will be provided through the Elm Creek interceptor and the City of Rogers wastewater treatment facility. If future development in the AUAR area occurs, the City's treatment plant is capable of doubling its current capacity.

## 19. Geologic Hazards & Soil Conditions.

**b. Approximate depth (in feet) to…**

- **groundwater: _10___ minimum; _25___ average;**

- **bedrock: 100 minimum; 125 average;**

**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**

c. **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 Guidelines: A map should be included to show groundwater hazards identified. A standard soils map for the area should be included.*

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***Geologic Hazards***

The first aquifer to be encountered in the area of the site is the shallow water table (Quaternary) aquifer. Groundwater is reported to be found at approximately 880 feet above mean sea level (approximately 40 feet below ground surface but can range from 10 to 30 feet) and reported to be flowing north toward the Crow River (Kanivetsky, 1989). The St. Lawrence and Franconia siltstone and shale formation make up the bedrock in the area. Bedrock is expected to be encountered between 100 and 150 feet below ground surface. The Franconia-Ironton-Galesville aquifer is the primary water supply source in the area. There are no karst formations known to occur within the study area. There are no known geologic hazards that exist in the study area.

***Soils***

The Soil Survey of Hennepin County, Minnesota, identifies the major soil series within the AUAR Study Area (see Table 19-1 and Figure 34):

Many of the soils on the property are loam, silt loam, or silty clay loam. These soils have lower permeability rates then sandy soils as indicated in the above table. Muck soils have high permeability rates and typically high water tables (unless drained). Additionally, the soils listed that have hydric conditions either pond water or have high water tables. Field observations indicated loam, silty clay loam, silt loam, and muck soils depending on the site location.

Additionally, approximately 28 soil borings were completed throughout the Stone's Throw portion of the study area (see Appendix H – Subsurface Exploration and Geotechnical Engineering Analysis). An analysis of these soil borings identified a number of soils that consist of organic silt, silty clay with roots, sandy clay, sands and trace gravels. The soil analysis also identified several areas of peat with depths ranging from 3.5 feet to 39 feet. Fifteen of the twenty-eight soil borings had piezometers installed in effort to identify current

groundwater levels. An analysis of the piezometer reports indicated no groundwater in 19 of the 28 soil borings.

However, in areas of peat, the groundwater elevations ranged from 2.5 feet to 10.1 feet below the ground surface.

**Table 19-1: Identified soil types**

| Soil Series* | Soil Texture | Permeability (In/Hr) | Hydric | Total Acreage |
|---|---|---|---|---|
| L41 - Lester-Kilkenny | loam | 0.6-2.0/0.2-2.0 | no | 59.8 |
| L9A - Minnetonka | silty clay loam | 0.06-2.0 | yes | 69.4 |
| L14A - Houghton | muck | 0.2-6.0 | yes | 165.0 |
| L50A - Houghton and Muskego | muck | 0.2-6.0/0.06-6.0 | yes | 32.1 |
| L26 - Shorewood | Silty clay loam | 0.2-2.0 | no | 27.6 |
| L40B -Angus-Kilkenny | loam | 0.6-2.0/0.2-2.0 | no | 100.0 |
| L13A - Klossner | muck | 0.2-6.0 | yes | 19.3 |
| L44A - Nessel | loam | 0.6-2.0 | no | 93.7 |
| L24A - Glencoe | loam | 0.2-2.0 | yes | 79.8 |
| L25A - LeSueur | loam | 0.6-2.0 | no | 82.5 |
| L23A - Cordova | loam | 0.2-2.0 | yes | 136.5 |
| GP - Gravel pits | variable | variable | no | 6.5 |
| L70 - Lester-Malardi | Loam/sandy loam | 0.6-2.0/2.0-20.0 | no | 1.8 |
| L36A - Hamel | loam | 0.2-2.0 | yes | 11.8 |
| L22 - Lester | loam | 0.6-2.0 | no | 26.7 |
| L37B - Angus | loam | 0.6-2.0/0.2-2.0 | no | 48.8 |
| L45A - Dundas-Cordova | loam | 0.6-2.0 | no | 60.2 |
| L60B - Angus-Moon | complex | 6.0-0.6 | no | 12.7 |
| L35A - Lerdal | loam | 0.06-0.2 | no | 6.5 |
| L18A - Shields | Silty clay loam | 0.06-0.2 | no | 2.5 |

* Soil series designations without a letter have more than one slope

**MITIGATION SUMMARY**

There is no mitigation required for this section.

## 20. Solid Wastes; Hazardous Wastes; Storage Tanks.

**a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify 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 recycling. 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 Guidelines: For question "a," generally only the estimated total quantity of municipal solid waste generated and information about any recycling or source separation programs of the RGU need to be included. No response is necessary for item "b." And for item "c," potential locations of storage tanks associated with commercial uses in the AUAR should be identified (e.g., gasoline tanks or service stations).*

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***Solid Waste Generation***

According to Hennepin County, the average amount of municipal solid waste generated per household for the year 2003 was 1.5 tons, the average amount of municipal solid waste recycled per household is 0.1 tons, and municipal solid waste generated per employee for the year 2003 was 2.0 tons.

The Town of Hassan currently provides curb side recycling which, according to their information, averages 0.0163 tons of recycled materials per household for a period of eleven months.

It is estimated that on average, there will be 1 employee per 700 sq. ft. of commercial building.

The total quantity of municipal solid waste generated and recycled under each Scenario is shown in Tables 20-1 and 20-2.

**Table 20-1. Estimated Residential Solid Waste Generation (all Scenarios)**

| | *Total* | *Solid Waste (Tons/HH)* | *Total Solid Waste Generation (Tons/HH/yr)* | *Recycled (Tons/HH)* | *Total Amount Recycled (Tons/HH/yr)* |
|---|---|---|---|---|---|
| Scenario 1 | 573 | **1.5** | 860 | **0.1** | 57 |
| Scenario 2 | 1441 | **1.5** | 2,162 | **0.1** | 144 |
| Scenario 3 | 1854 | **1.5** | 2,781 | **0.1** | 185 |

**Table 20-2. Estimated Non-Residential Solid Waste Generation (all Scenarios)**

| | **Total Employees** | **Solid Waste (Tons/Emp)** | **Total Solid Waste Generation (Tons/Emp/yr)** |
|---|---|---|---|
| Scenario 1 | 7,820 | 2.0 | 15,640 |
| Scenario 2 | 6,273 | 2.0 | 12,546 |
| Scenario 3 | 5,803 | 2.0 | 11,606 |

***Above & Below Ground Tanks***

Gasoline stations are anticipated within the commercial area of the Stone's Throw site under development Scenarios Two and Three. Gas stations must comply with state law and regulations regarding such facilities. According to the MPCA files records (Records search Phase I, Appendix B), there are 8 storage tanks (5 Underground and 3 Above Ground Storage Tanks) listed as being on or adjacent to the study area. See Appendices A for locations of existing tanks.

## MITIGATION SUMMARY

The Town of Hassan and developers intend to implement the following strategies to mitigate and potential pollutants in the AUAR area:

- The commercial area will likely contain service stations with either below ground and/or above ground storage tanks. The installations of these tanks will be in compliance with MPCA requirements for such tanks to minimize leakage and spills potential.
- Encourage the Town of Hassan to provide information on curbside recycling and removal of household hazardous waste.

## 21. Traffic.

- **Parking spaces added: _____**
- **Existing spaces (if project involves expansion): _____**
- **Estimated total average daily traffic generated: _____**
- **Estimated maximum peak hour traffic generated (if known) and time of occurrence: _____**
- **Provide an estimate of the impact on traffic congestion on affected roads and describe any traffic improvements necessary. If the project is within the Twin Cities metropolitan area, discuss its impact on the regional transportation system.**

*AUAR Guidelines: For most AUAR reviews a relatively detailed traffic analysis will be needed, especially if there is to be much commercial development in the AUAR area or if there are major congested roadways in the vicinity. The results of the traffic analysis must be used in the responses to item 22 and to the noise aspect of item 24.*

*Instead of responding to the information called for in item 21, the following information should be provided:*

- *A description and map of the existing and proposed roadway system, including state, regional, and local roads to be affected by the development of the AUAR area. This information should include existing and proposed roadway capacities and existing and projected background (i.e., without the AUAR development) traffic volumes;*
- *Trip generation data -- trip generation rates and trip totals -- for each major development Scenario broken down by land use zones and/or other relevant subdivisions of the area. The projected distributions onto the roadway system must be included;*
- *analysis of impacts of the traffic generated by the AUAR area on the roadway system, including: comparison of peak period total flows to capacities and analysis of Levels of Service and delay times at critical points (if any)*
- *a discussion of structural and non-structural improvements and traffic management measures that are proposed to mitigate problems;*

*Note: in the above analyses the geographical scope must extend outward as far as the traffic to be generated would have a significant effect on the roadway system and traffic measurements and projections should include peak days and peak hours, or other appropriate measures related to identifying congestion problems, as well as ADTs.*

An in-depth traffic study for the three Scenarios studied by the AUAR was completed by URS, and can be found in Appendix G. All figures and tables associated with the traffic study are contained in Appendix G.

## 22. Vehicle-Related Air Emissions.

**Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult EAW Guidelines about whether a detailed air quality analysis is needed.**

*AUAR Guidelines: The guidance provided in EAW Guidelines should also be followed for an AUAR. Mitigation proposed to eliminate any potential problems may be presented under item 21 and merely referenced here.*

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Typical of most developments, the Project will generate air pollution as a result of increased motor vehicle activity. Motor vehicles emit a variety of air pollutants including carbon monoxide (CO), hydrocarbons, nitrogen oxides and particulates. The primary pollutant of concern is CO, which is a byproduct of the combustion process of motor vehicles. CO concentrations are highest where vehicles idle for extended periods of time. For this reason, CO concentrations are generally highest in the vicinity of signalized intersections where vehicles are delayed and emitting CO. Generally, concentrations approaching state air quality standards are found within about 100 feet of a roadway source. Further from the road, the CO in the air is dispersed by the wind such that concentrations fall off rapidly.

The Indirect Source Permit (ISP) rule 7023.9010 was terminated in 2001; therefore an ISP is not required for the project.

A hot spot air quality screening was conducted, and is described as follows. The U.S. Environmental Protection Agency (EPA) has approved a screening method to determine which intersections need analysis for potential hot spot air quality impacts. The screening analysis consists of two criterions. If either criterion were met, then an intersection analysis would be required. The first criterion is to check if the total daily approach volume of the project area exceeds 77,200 ADT. If it does, then an analysis would be required. The approach volumes at all of the signalized intersections near the project site are well below this threshold.

The second criterion compares the project location to the locations of ten intersections that the Minnesota Pollution Control Agency (MPCA) has identified as having the highest volumes in the metro area. If any of these ten intersections were affected by this proposed project, then analysis would be

required. The nearest of these intersections is over 10 miles away[3]—at the intersection of TH 169 and CSAH 81—and would not be impacted by the proposed project. Therefore the second criterion is not met. No hot spot analysis is therefore needed, and no air quality impacts are anticipated as part of the project.

**MITIGATION SUMMARY**

There is no mitigation required for this section.

## 23. Stationary Source Air Emissions.

**Describe the type, sources, quantities and compositions of any emissions 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 ozonedepleting chemicals (chloro-fluorocarbons, hydrofluorocarbons, perfluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.**

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

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According to the EQB, it is not necessary for AUAR purposes to study stationary source air emissions. Any stationary source air emissions source large enough to merit environmental review would require individual review.

**MITIGATION SUMMARY**

There is no mitigation required for this section.

## 24. Dust, Odors and Noise Impacts.

**Will the project generate odors, noise or dust during construction or during operation? .. Yes .. No If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or**

[3] http://www.dot.state.mn.us/tecsup/xyz/plu/hpdp/book2sg/air/aira5.html

**quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here.)**

*AUAR Guidelines: 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 as 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 determined if any noise levels in excess of standards would occur, and 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.*

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***Dust:***

The existing site conditions generate dust due to agricultural activities. Once development of the site is completed, significant reductions in dust generation are expected over the existing conditions due to the resulting limited exposure of soils. Proposed development within the AUAR study area will generate dust during construction activities. Existing soils will become exposed due to construction operations and may become airborne. Dust must be controlled through BMP's, and by exposing soils in only those areas under active development.

***Odors:***

At this time there have not been any significant odors identified. The existing property has been primarily managed with agricultural practices which may generate odors periodically. Typical odors may be created through construction activities, but are not expected to be problematic or significant.

***Noise:***

The eastern side of the Study Area is currently impacted by traffic noise originating from Interstate 94. It is expected that the noise from the interstate will not change and is considered a constant element of this development. It is anticipated that some additional noise may be generated from Fletcher Lane South, Territorial Road, and Brockton Lane/CR 101 traffic corridors. Construction activities on-site will increase noise levels for an interim period. Such activities will be required to meet state standards regulating late and early equipment and truck noise during construction. The Town of Hassan has a maximum noise level of 55 decibels on any octave band frequency measured at the property line for commercial districts.

There is a commercial rail line within the northern section of the study area that has periodic but infrequent trip generation that generates noise. The rail line is proposed for the Northwest Corridor passenger line according to various studies by the Metropolitan Council. If the Northwest Corridor line is approved and funded, additional trip generation would occur and therefore possibly increase noise levels within this part of the study area. It is difficult to determine the level of increase that may occur since the schedule and type of trains proposed to use the rail line for passenger service are still uncertain.

**MITIGATION SUMMARY**

The Town of Hassan and developers intend to implement the following protection strategies to minimize or mitigate for dusts, odors, and noise impacts in the AUAR area:

- Buffer Zones

  One potential strategy for mitigating the impact is to buffer the areas between the residences and the roadways with nonresidential uses.

- Noise Barriers

  Noise barriers (walls or berms) between the roadways and the residential areas could also be constructed to reduce noise impacts. The effectiveness of the barriers depends on the height and extent of the barriers and specific location of the barriers relative to the roadways and the residential areas.

- Strategic Building Placement

  Buildings can act as barriers if located to protect areas for outdoor use or to protect residences.

- Building Construction requirements

  Specifying noise mitigating construction materials and techniques can reduce the impact of traffic on indoor noise levels.

## 25. Sensitive Resources.

**Are any of the following resources on or in proximity to the site:**

- **archeological, historical, or architectural resources?**
- **Prime or unique farmlands or land within an agricultural preserve?**
- **Designated parks, recreation areas or trails?**
- **Scenic Views and Vistas?**
- **Other Unique Resources?**

**If yes, describe the resource and identify any project-related impacts on the resource. Describe any measures to minimize or avoid adverse impacts.**

*AUAR Guidelines:*

*Archeological, historic, and architectural resources. For an AUAR, contact with the State Historic Preservation Office (SHPO) 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 issue in more detail. The mitigation plan must include mitigation for any impacts identified.*

*Prime or unique farmlands. 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.*

*Designated parks, recreation areas, or trails. If development of the AUAR will interfere or change the use of any existing such resource, 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*

*Scenic views and vistas. Any impacts on such resources present 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 (page 20).*

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***Archaeological, historical, or architectural resources.***

Archaeological Research Services (ARS) was contracted to complete a cultural resources inventory survey as partial fulfillment of the requirements for the Southeast Town of Hassan AUAR. The investigation was completed under the direction of Christina Harrison. The field review was conducted between September 25 and December 4, 2006, according to a schedule dictated by the need to secure property owner permission and to respect concerns about crop damage. It involved archaeological survey as well as a review of historic structures, and was conducted in a manner that meets both state and federal requirements for reconnaissance level investigations.

Native American heritage sites tend to occupy higher ground adjacent to water. Therefore, the archaeological survey focused on uplands north and south of County Ditch 21, formally known as the North Branch of Rush Creek, which flows through the southern portion of the study area. As most of those uplands have been farmed for many decades (some since the late 1800s) one can assume that past plow disturbance—aggravated by topsoil erosion—would have brought to the surface enough cultural evidence to indicate the presence or absence of an archaeological deposit. As most of the fields also had been planted this year and all provided excellent ground exposure, systematic visual inspection was considered to provide sufficient survey coverage. Less

disturbed, wooded or otherwise vegetation-covered terrain was inspected for any surface evidence of past cultural activity, and was also systematically shovel tested. All results proved negative. More detailed discussion of methodology and results is attached as Appendix D.

Within the 1043-acre AUAR study area, a main focus of the review is the 630 acres Stone's Throw site which includes most of Sections 25 and 36 as well as a part of SW 1/4 Section 24 in the township. Proposed by the Hassan Mainstreet, LLC. as a diverse mix of housing types and densities, commercial areas, and green space preservation corridors, this project includes all the areas subjected to archaeological survey. It also includes one property which is listed in the Minnesota Architecture-History Inventory. Known by its historic name as the John Hagel Farm and listed as HE-HAT-020, it is located at Fletcher Lane 11900, in NW/4 NW/4 SW/4 SW/4 Section 25, and features an 1895 residence and a gable roof horse and cattle barn. Should future developments within the Stone's Throw project area involve federal funding and/or permitting, the John Hagel Farm would need further evaluation in order to determine National Register eligibility as required by the Secretary of the Interior's Standards for Identification and Evaluation and in compliance with Section 106 of the National Historic Preservation Act of 1966 and 36FR800, procedures of the Advisory Council on Historic Preservation for the protection of historic properties.

As protection under Section 106 also includes historic properties that could be visually impacted by new construction, the area of potential effect (APE) for the Stone's Throw project would include the following historic properties west of Fletcher Lane and west/northwest of the John Hagel Farm:

- HE-HAT-021, Fletcher Hall, 11925 Fletcher Lane;
- HE-HAT-022, Matthew and Teresa Hamm House, 11945 Fletcher Lane;
- HE-HAT-029, garage south of the Hamm House;
- HE-HAT-028, Michael Junesis House, 20720 Valley View Terrace.

Even though these properties all are listed in the Minnesota Architecture-History Inventory, they have not yet been evaluated for National Register eligibility.

To the immediate north of HE-HAT-020, 021 and 022 is the core of the hamlet of Fletcher (HE-HAT-016) which surrounds the intersection of Fletcher Lane and Territorial Road and which, in 1992, was determined eligible for the National Register as a historic district. Eleven properties were originally included within its boundary. One of them, the historic Stenglein Farm (HE-HAT-025) to the southeast of the intersection, has since been razed. The other ten have largely remained unaltered:

- HE-HAT-004 and 005, the St. Walburga Church and Rectory on the northeast side of the intersection;

- HE-HAT-006 and 027, the St. Walburga School and Cemetery to its northwest side of the intersection;
- and on the southwest side of the intersection, HE-HAT-007, 017, 018, 023, 024 and 026: the Fletcher Store, two Nelles family residences, the original St. Walburga Rectory, an unnamed residence and the Frank and Lenore Stenglein House.

Although only the eastern half of Fletcher falls within the AUAR boundary, its National Register eligibility as a district will need to be taken into account should Section 106 review be needed for future development within the AUAR boundary.

Approximately a quarter mile north of the Fletcher Historic District, on the east side of Fletcher Lane, is an older home that once belonged to another member of the Hagel family. On the south side of old Territorial Road, between Fletcher and I-94, is another old Stenglein residence as well as the historic Jacob Weber farmstead and another cluster of farm buildings. None of these four properties are listed in the Minnesota Architecture-History Inventory. Although they generally appear to have lost some integrity due to remodeling, the loss of older buildings, and/or the intrusion of newer construction; they still appear to warrant further study and evaluation.

The northernmost segment of the AUAR parcel (i.e. the area between the railroad and I-94) has been largely developed for commercial use and does not retain any structures of historic significance.

***Prime or unique farmlands***

An estimated 75% of the AUAR contains soils identified as prime farmland (figure 35). Within the noted areas of prime farmland, some areas are *all* prime farmland while others only contain prime farmland in drained locations. All of the areas identified as prime farmland are proposed to be converted to either future residential, commercial, or industrial development. The extent of prime farmland conversion would be similar under each of the proposed development Scenarios.

***Designated parks, recreation areas, or trails***

- Parks

  No existing parks currently occur within the Study Area, however, the Town of Hassan has recently completed a Park, Trail and Open Space Plan that identifies the overall vision and guidance for future public parks, trails, and open space (see Figure 36). The Park Plan has identified a future Urban Neighborhood Park within the proposed project area. The Urban Neighborhood Park would consist of playgrounds, play fields, sports courts,

and natural areas. It is anticipated that the Urban Neighborhood Park would be connected to a future community wide trail system.

The open space system within the AUAR Study Area will include an extensive greenway corridor along the North Branch of Rush Creek with the proposed community and neighborhood parks. The greenway corridor will be linked by pedestrian trails to the central and northern parks. A proposed community park is centrally located in the study area that will provide passive and active recreational uses. Smaller neighborhood parks are also proposed in the residential components of the Stone's Throw site. It is expected that neighborhood parks will also be a part of any future residential developments within the AUAR study area (outside of the Stone's Throw site). All of the above noted parks will be connected by a project wide trail and street sidewalk system.

- Trails

The existing Study Area does not currently contain trails. However, Hennepin County has identified County Roads 116, 153 and 81 as transportation trails which are presently unimproved beyond the shoulder of the road. Pedestrian trails within the AUAR study area will be connected to these transportation trails providing connectivity to the local and regional systems. Linking the study area to the regional trail system would provide trail access to the Crow-Hassan Regional Park (located on the eastern boundary of Hassan) and the Elm Creek Park Reserve (located in Maple Grove) plus many other surrounding local parks. Furthermore, neighboring communities are also linked to the transportation trail system, thereby providing additional access to nearby local parks and trail systems (see figure 37).

The City of Rogers, Dayton and Corcoran all show County Road 101 as a future trail corridor. The City of Corcoran also indicates trail systems along County Road 116 and 117, as well as a trail along their northern border adjacent this study area. The County Road 81 corridor is also noted as a future trail connection extending through the City of Rogers.

The Town of Hassan has also identified a future independent trail corridor within the project area in its Park, Trails, and Open Space Plan. This future trail corridor will run from the northern edge of the study area and continue south through the site with a connection to an east/west trail joining Maple Grove, Dayton, and Corcoran.

The corridor along the creek will be kept natural with the opportunity to restore wetland and foster new habitats and native plantings within the corridor. An interpretative pedestrian trail system is being considered within the corridor.

- Greenways

  The Hassan Park, Trail, and Open Space Plan incorporates a Greenway Opportunity Plan which identifies high and medium quality natural resources and how these resources could be connected within a defined corridor. Portions of the AUAR study area fall within the Township's Greenway Area (see Figure 38). The natural resources identified within the greenway include wetlands along County Ditch 21, and two remnant stands of "Big Woods" trees. The plan identifies a 300-foot wide wildlife habitat corridor between the southern wetlands and the central woods, plus a 100-foot wide corridor from the woods to areas north of County Road 81. The purpose of the Greenway is to protect high quality natural areas and to provide wildlife and pedestrian corridors between these features.

  The City of Dayton has also identified a greenway corridor within its Natural Resource Inventory Plan. This plan integrates with the Hassan plan to provide a continuous corridor of open space through each community along the creek.

  The area within the greenway along the County Ditch 21 holds potential for establishment of a wetland conservation area that could cover up to 200 acres. This potential conservation area holds several noteworthy qualities including:

  1. It is continuous with the east-west greenway corridor established by Hassan and the City of Dayton,
  2. It includes substantial floodplains and wet meadow, shrub swamp, forested swamp, and shallow marsh wetlands, and
  3. It is located adjacent to woodland areas that is considered a remnant of the "Big Woods."

  Although this potential conservation and restoration area includes a diversity of plant and wildlife communities, much of the wet meadow wetlands are dominated by reed canary grass. Consequently, the ecological system has limited diversity.

  The proposed development within the AUAR area has considered the potential for combining ecological restoration and wetland creation in this area. With appropriate planning, management, and stewardship; potential ecological enhancements could increase wetland functions associated with wildlife habitat, aesthetics, recreation, education, and vegetative diversity/integrity. The project could result in a contiguous complex of wetlands and uplands that could possibly be protected and maintained in perpetuity. The goal of such a project would be to encourage, establish, and maintain plant communities that reflect the diversity of ecological systems that occupied the area before intensive land use began. The restored natural area could be perpetuated, protected, and managed through easements and stewardship funding mechanisms, which could be created to help ensure long-term success and maintenance of ecological diversity.

***Scenic views & vistas***

The existing property has varied elevation ranges and rolling topography that provide views overlooking vast open spaces and wetlands. Although it is anticipated that the higher elevation areas will be graded, greenway corridors will be provided to maintain views of the large wetland complex.

Under all of the proposed development scenarios, the landscape of the site will change from that of rural character to that of suburban/residential/commercial. This is consistent with the Comprehensive Land Use Plan which identifies the study area as guided for urban residential and urban commercial/industrial development.

***Other Unique Resources***

There are two wooded areas that would have visual significance because of the age of the trees, overall tree density, and the fact that the majority of the site is open cropland. The wooded areas known as the Fricke Woods (north) and the Steig Woods (south) are proposed to be under conservation development practices in the proposed Scenarios. It is anticipated that minimal development will occur in these areas and trees will be selectively cut out for building pads and streets.

**MITIGATION SUMMARY**

The Town of Hassan and developers will implement the following strategies to mitigate for Nearby and/or Unique Resources in the AUAR area:

- The Town of Hassan will work with SHPO to assess if or how properties designated as having historic value may be impacted by proposed development of the study area and if necessary, will appropriate mitigation with SHPO as development is proposed.
- The Town of Hassan will work with the SHPO to determine if additional investigation of the area is warranted prior to development.
- The Town of Hassan will cooperate and coordinate efforts with the Three Rivers Park District and the City of Rogers in identifying and developing a multi-use paved trail corridor between Crow-Hassan Park Reserve and Elm Creek Park Reserve.

## 26. Adverse Visual Impacts.

**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.**

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

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Development within the AUAR area will not create adverse visual impacts during or following the development process and will be similar to other adjacent City developments.

**MITIGATION SUMMARY**

There is no mitigation is required for this section.

## 27. Compatibility with Plans.

**Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency?**

**If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved.**

**If no, explain.**

*AUAR Guidelines: 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.*

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Earlier sections of the AUAR identify the compatibility of the study area with the Town of Hassan's comprehensive plan and Greenway plan plus the comprehensive plans of the surrounding communities as noted in sections 6, 9, 18, 21 and other sections relating to utilities and transportation. Hassan has guided this area for residential (0-3 units per acre) and commercial/industrial uses. However, a comprehensive plan amendment will be required to alter the boundaries of these land uses to allow different uses and higher density in some areas.

The site currently falls within the orderly annexation agreement between the City of Rogers and the Town of Hassan. The northern portion of the Stone's Throw area (above County Road 116) is within the 2010 annexation agreement boundary. The remaining project area is not specifically noted in the annexation agreement, but is scheduled for sewer services between 2010-2030. The annexation of the entire site is possible since the annexation agreement provides flexibility for allowing annexation of *any* land after 2010 upon the agreement of both parties and meeting certain criteria in the orderly annexation agreement. The Stone's Throw area is proposed to begin development in 2007 and continue build out through 2013. Both communities acknowledge that urban development is expected in this area, and that a mixed-use plan would be consistent with their development growth patterns including the provision of urban services.

The construction of an interchange over I-94, as identified in Scenario Two, is noted in the comprehensive plans for Hassan, Rogers and Dayton. The plans do not share a common location nor do any of them note a specific timeframe for its construction.

**MITIGATION SUMMARY**

- Proposed land use categories and associated densities that are not consistent with the current comprehensive plan must be addressed through comprehensive plan updates or amendment requests.

## 28. Impact on Infrastructure and Public Services.

**Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project?**

**If yes, describe the new or additional infrastructure or services needed. (Note: any infrastructure that is a connected action with respect to the project must be assessed in the EAW; see EAW Guidelines for details.)**

*AUAR Guidelines: This item should first of all summarize information on physical infrastructure presented under other items (such as 6, 18, 19, and 22). 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. As noted above and in the "EAW Guidelines," the RGU must be careful to include project-associated infrastructure as an explicit part of the AUAR review if it is to be exempt from project-specific review in the future.*

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The proposed AUAR area for the southeast corner of Hassan Township is generally compatible with the Hassan Comprehensive Land Use Map and Urban

Services Staging Map. All proposed infrastructure improvements would be compatible with the Town of Hassan and City of Rogers standards.

It is anticipated that development of the Stone's Throw area will require additional City services to maintain health, safety and welfare standards as required by both the Town of Hassan and the City of Rogers. It is also anticipated that area of influence will also require additional City services. Some additional or expanded services would include both physical infrastructure and public services such as roads, sanitary sewer systems, municipal water systems, stormwater systems, police, fire, city transportation / maintenance and school district enhancements.

***Physical Infrastructure***

Infrastructure planned to serve the development within the AUAR area will follow the phasing schedule for development of both the Stone's Throw site and the Urban Services Staging Plan developed by Hassan. (See Figures 12 and 14) All improvements will be based on infrastructure planning by Hassan, the City of Rogers, Hennepin County and the Metropolitan Council.

- Roads

  All improvements will be based on infrastructure planning by the Town of Hassan and Hennepin County, and the needs identified by the AUAR and future regional traffic studies. Additional roadway improvements will be necessary as parcels with the project area and vicinity develop. Planning for these additional internal roadway systems will be based on each development. The phasing of improvements will be based on traffic and safety conditions along with available funding. The comprehensive list of mitigation measures identified in the traffic report and mitigation plan, will be implemented over time to respond to development proposals occurring within the AUAR area.

  Local roads within developed areas of the AUAR will be served by three main collector roads: Territorial Road (County Road 159), Fletcher Lane South (County Road 116), and Brockton Lane\CR 101. The following is a summary of each corridor. Please refer to the mitigation plan for specific improvements needed to accommodate the proposed development.

  - County Road 159 (Territorial Road): Currently, the Territorial Road corridor serves as one of Hassan's major east-west traffic routes. This route is adequate for current land and future growth patterns as identified in area Comprehensive Plans, but significant improvements may be needed to accommodate the anticipated growth in this area.
  - County Road 116 (Fletcher Lane South): Currently, the Fletcher Lane South corridor serves as the areas major north-south traffic route to the west of Interstate 94. The paved portion Fletcher Lane South presently

ends at Territorial Road where it converts to a gravel surface for local access. However, in efforts to accommodate anticipated growth to the north, a future connection to County Road 81 is proposed in the comprehensive plans for both Hassan and Rogers (Fletcher Bypass).

- County Road 101 (Brockton Lane): Currently, Brockton Lane serves as the predominant north-south traffic corridor for areas east of Interstate 94. Brockton Lane currently crosses Interstate 94 via an existing overpass, which does not accommodate access to the freeway. Hassan, Rogers and the City of Dayton have all identified a future interchange with Interstate 94 in this general area within their comprehensive plans. The Minnesota Department of Transportation (MnDOT) is continually reviewing the options for an interchange, but at this time has not identified a specific crossing. When constructed, the future interchange will become a major traffic access point to Interstate 94 for the study area.

***Sanitary Sewer System***

At this time sanitary sewer is not provided to the project area. It is anticipated that sanitary infrastructure improvements will be based on Hassan's Urban Services Staging Plan and Metropolitan Council infrastructure Improvements. The southern portion of the site will receive sanitary service from the Elm Creek Interceptor Line near the southeast corner of the site. The northern portion of the study area is anticipated to receive sanitary service from the City of Rogers. The added capacity to Rogers's treatment plant may require the expansion of the treatment plant or reallocating sewer services. No on-site treatment systems are proposed.

***Municipal Water System***

It is anticipated that the Stone's Throw site will be part of the City of Rogers Municipal Water System. Initially, water supply to the Stone's Throw area will be through an onsite water tower (see Figure 28). It is anticipated that the water infrastructure established for the Stone's Throw site will connect to the City of Rogers water infrastructure system to create water looping and equalization for the regional area. An analysis of water demand calculations for the proposed Stone's Throw development Scenarios is under review to determine the appropriate watermain size and appropriate looping for the site.

***Stormwater System***

The Stone's Throw area is predominantly under agricultural use at this time. The majority of the stormwater from this area is routed through agricultural

ditches that discharge into the County Ditch 21 Floodway Corridor. Development of the Stone's Throw area would provide an alternative environmental approach to stormwater management by utilizing existing low land, floodway areas, wetland areas, and the County Ditch 21 corridor. An Environmental Corridor is proposed to incorporate a series of integrated linear stone weir storm ponds and wetland mitigation areas. As other properties within the AUAR boundary area continue to develop, it is anticipated that these same types of techniques will be used to accommodate future stormwater management. All stormwater management systems must be designed and constructed to meet the requirements of the Elm Creek WMO. Areas that are annexed into the City of Rogers must follow the requirements of the approved City of Rogers Stormwater Management Plan.

The goal is to design the stormwater management system so that post development surface water runoff rates and volumes are equal to or lower than the existing surface runoff rates and volumes.

***Police***

Police services may need to be added or expanded to provide necessary safety control following development of the Stone's Throw area. As the other properties within the AUAR study area develop and infrastructure/roadways are expanded; further patrol and security may be needed. These services would help provide protection for residents and workers.

The City of Rogers will provide safety control to properties within the AUAR boundary. The City will monitor future development and continually re-assess the policing needs and add additional personnel when necessary. These services could also be contracted through the County or another adjoining community. It is not anticipated that Hassan will expand its current services to provide police service to the community.

***Fire***

Health, safety, and welfare are an integral part of a successful development. To provide necessary fire protection for residents and workers within the AUAR boundary, additional fire services for the general public may need to be added or expanded. It is anticipated the City of Rogers will provide fire control to properties within the AUAR boundary.

As properties continue to develop, the City of Rogers and the Town of Hassan will monitor and access the fire needs and add additional personnel when necessary. Other adjoining communities could also provide these services.

***Schools***

The AUAR study area is within three school districts; Elk River (#728) for the north half, Buffalo (#877) for the southern half and a very small section of Osseo (#279) on the eastern edge near the center of the site (see Figure 39). Based on the anticipated development under Scenarios Two & Three, the three school districts can anticipate approximately 1,441 and 1,854 dwelling respectively. In average, the household for each district are: the Elk River district can anticipate approximately 422 additional households, the Buffalo school district 828 additional households, and the Osseo district 350 additional households. While it is not possible to know exactly the number of children that will result from these numbers, it is important to note that Scenarios Two & Three include a life-cycle style component that will provide housing to a wide variety of homeowners, some with school age children.

***Hospitals***

The construction of a regional hospital (yet to be named) has been recently approved within the City of Maple Grove. This hospital will provide medical care for the AUAR study area, and is anticipated to be 80+ beds in size. It will be ideally positioned to serve residents of the study area.

**MITIGATION SUMMARY**

- Tax revenues and development fees will support the expansion of public services and infrastructure.
- The approved Town of Hassan 2020 Comprehensive Plan will need to be amended to update proposed land uses prior to sanitary sewer extensions.
- Areas scheduled for sewer services will be reconciled as part of the comprehensive plan update.

## 29. Cumulative Impacts.

**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 item(s) elsewhere on this form).**

*AUAR Guidelines: This item does not require a response for an AUAR with respect to cumulative impacts of potential developments within the AUAR boundaries, since the entire AUAR process is intended to deal with cumulative impacts from related developments within the AUAR area; it is presumed that the responses to all items on the EAW form encompass the impacts from all anticipated developments within the AUAR area*

*However, the questions of this item should be answered with respect to the cumulative impacts of development within the AUAR boundaries compared with past, present, and reasonably foreseeable future projects outside of the AUAR area, where such cumulative impacts may be potentially significant. (As stated on the EAW form, these cumulative impact descriptions may be provided as part of the responses to other appropriate EAW items, or in response to this item).*

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Cumulative impacts of the development outlined in the three Scenarios in relation to existing or future projects outside of the AUAR study area are difficult to define. This geographic section of the metropolitan area is considered to be one of the fastest growing corridors in the region. Development growth has been seen in the Cities of Rogers, Annandale, Monticello, Maple Grove, Otsego, and Elk River in the past few years. Development inside the study area, by itself, does not present a significant impact to the area and is consistent with expected growth patterns. However, the proposed study area and following developments may become integral to the following regional projects:

- **A new I-94 interchange.** An interchange over I-94 has been discussed for many years and is included in the comprehensive plans of several communities. Although there have been several studies and discussions, the development of the Stone's Throw project may accelerate the decision on the construction of this interchange. The location of an interchange will create a new traffic corridor and lead to changes to land use and traffic patterns—including the possible location of a new River crossing over the Crow River
- **Commuter Transportation** (Rapid Bus or Rail). There has been discussion of extending a rapid bus transit corridor within the County Road 81 corridor up to the City of Rogers, and the possibility of extending commuter rail within the railway which borders the northern edge of the AUAR study area. The proposed project may stimulate the need to move forward on one or both of these transit corridors. With the project area abutting corridors, a transit station or a larger scale transit oriented development could be created.
- **Regional Shopping Destinations.** Adding a significant amount of new commercial space to the northwest corridor may have an impact on regional shopping destinations. Existing retailers may see changes in shopping patterns. As a consequence, it may cause changes in land use patterns for some communities.

## 30. Other Potential Environmental Impacts.

**If the project may cause any adverse environmental impacts which were not addressed by items 1 to 28, identify them here, along with any proposed mitigation.**

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

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No other Potential Environmental Impacts have been identified for the study area beyond those discussed above.

### MITIGATION SUMMARY

There is no mitigation is required for this section.

## 31. Summary Of Issues.

**(This section need not be completed if the EAW is being done for EIS scoping; instead, address relevant issues in the draft Scoping Decision document which must accompany the EAW.) List any impacts and issues identified above that may require further investigation before the project is commenced. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.**

*AUAR Guidelines: 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.*

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An executive summary was provided at the front of this AUAR to address this question. Additionally, a separate document entitled Southeast Town of Hassan AUAR Mitigation Plan accompanies the AUAR for easy reference to required mitigation measures for future development.