DRAFT
ENVIRONMENTAL IMPACT STATEMENT

for the

Norman Pointe Office Development

July 24, 2000

Responsible Governmental Unit:
City of Bloomington

Proposer:
Duke-Weeks Ltd. Partnership

Table of Contents

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1.0 EXECUTIVE SUMMARY

1.1 PROJECT LOCATION AND DESCRIPTION

The proposed 20.2 acre redevelopment project is located at Green Valley Drive and Norman Center Drive in Bloomington (Figures 1-3). The proposed project consists of the demolition of two existing office buildings and 710 parking spaces in order to accommodate construction of two 9-story 282,800 sq. foot office buildings, a 14-story 423,646 sq. ft. office building, and a hotel of approximately 95,500 sq. ft. Structured parking would be provided for 3,776 cars, with an additional 38 spaces in surface lots (total 3,814 spaces).

1.2 OVERVIEW OF THE ENVIRONMENTAL REVIEW PROCESS

This Draft Environmental Impact Statement (DEIS) has been prepared in response to rules of the state Environmental Quality Board (EQB). These rules require environmental review of commercial development projects of a size that exceed mandatory thresholds. Under the State rules, the proposed development project requires the preparation of an EIS.

The EIS process requires the preparation of a Scoping Environmental Assessment Worksheet (EAW) to identify critical issues to be addressed in the EIS. An EAW for the proposed project was prepared and circulated for review in February 2000. Based on comments received during the EAW public comment period, the City of Bloomington adopted a Scoping Decision on April 3, 2000. The Scoping Decision documented the issues to be addressed in this EIS.

This DEIS will be circulated for review by the public, governmental jurisdictions and regulatory agencies in accordance with EQB rules. This review process will include a public meeting to be held at the Bloomington city offices on August 30, 2000 from 1:30 to 3:00 p.m. The public comment period will end on September 15, 2000. After the end of the public comment period, the City will prepare a final EIS containing additional information in response to the comments received on the DEIS. This final EIS will then be circulated for further review and comment. The City will then consider all of the documentation and comments received and make a determination on the adequacy of the EIS.

1.3 MAJOR ALTERNATIVES CONSIDERED

1.3.1 No-Build Alternative

The Minnesota EQB rules require the EIS to compare the potentially significant impacts of the proposal with those of other reasonable alternatives to the proposed project. The alternative of no action shall be addressed in the analysis. The No-Build Alternative assumes that nothing will be built on the site.

Insert Fig 1

Insert Fig 2

Insert Fig 3

1.3.2 Alternative 1 - Proposed Project

The proposed Norman Pointe Office Development is a redevelopment of the existing office area to a use that is consistent with Metropolitan Council redevelopment policies and City land use plans for higher intensity development. The project consists of demolition of the existing office buildings and removal of the surface parking area. Alternative 1 would include the construction of 989,246 sq. ft. office, 95,500 sq. ft. hotel, and 3,814 parking spaces.

1.3.3 Alternative 2 – Project Alternative

Alternative 2 uses the same site design as the proposed plan, with additional office space in order to maximize the potential development of the site. The additional office space would be incorporated into the proposed development plan by adding 3-stories to the office buildings and two to three levels on the parking structures. Alternative 2 includes the construction of 1,316,140 sq. ft. office, 95,500 sq. ft. hotel and 5,318 parking spaces.

1.4 SUMMARY OF ANTICIPATED ENVIRONMENTAL IMPACTS

1.4.1 Visual

A shadow cast study was conducted for the proposed project. The study indicated that the project will result in minimal off-site shadow cast during the spring and summer months, due to the high angle of the sun. Shadows cast on a small area of residential properties would occur in the early morning, primarily between 6:00 am and 9:00 am. Late fall and winter shadows would be cast, primarily, to the northern portion of the property and to I-494. Generally, most areas will be in shadow for only a few hours per day. The duration of off-site shadow cast is minimal. No mitigation is recommended or required for the proposed project.

1.4.2 Traffic

Table 1-1 provides a summary of the level of service for each of the scenarios analyzed. Generally, the existing and 2003 No-Build Alternatives have a range of deficiencies at five intersections, due to existing and future background traffic conditions; unrelated to project-generated traffic, mitigation measures are recommended to address those deficiencies. Building II construction would not change existing deficiencies in 2003, but would require traffic signal installation at Bridge Road and Norman Center Drive and improvements associated with access to the building through the project site. The construction of Buildings II and III would result in additional deficiencies at three intersections, in addition to those identified for the No- Build, and mitigating improvements are recommended to address those project-related impacts. Likewise, the 2005 background traffic conditions would have deficiencies that would require roadway improvements. The 2005 full build scenario would result in additional roadway deficiencies at three intersections. Mitigating improvements are identical recommendations for those scenarios.

Insert Table 1-1

1.4.3 Odors, Noise and Dust – Traffic Related Noise

The roadways impacted by the development are exempt from the Minnesota State Standards for noise. A detailed analysis was completed for the daytime p.m. peak hour traffic noise. The predicted noise levels at certain locations will increase by up to 5 decibels due to the project, but the resultant level complies with state standards.

1.4.4 Vehicle-Related Air Emissions

Predicted CO concentrations at the intersections modeled are in compliance with state and federal air quality standards for the traffic conditions evaluated. For all conditions modeled, the highest one-hour and eight-hour predicted concentrations will be 8.9 and 6.3 parts per million (ppm) respectively. These values are below the Minnesota State standards of 30 ppm for one-hour and 9 ppm for eight-hours.

1.4.5 Surface Water Quality

The proposed project will result in a 0.1 acre decrease in impervious surface area, as compared with existing conditions. Construction of the project will divide the site into three subwatershed drainage areas. Sheet flow from each of these drainage areas will be directed into storm water ponds, prior to discharge into the backwaters of Nine Mile Creek, which will ~~effect~~ result in an improvement over existing conditions.

1.4.6 Water Related Land Use Management District – City Shore Area Zone

A portion of the site is within the shore area zone established by Bloomington City Code. The proposed construction activities for Building IV will continue to be within the shore area, but not within the shore area impact zone. Project grading or construction will not occur within the shore area impact zone.

1.4.7 Infrastructure and Public Services – Roads

Impacts to road infrastructure are discussed under the traffic section.

1.4.8 Cumulative

Cumulative impacts, as a result of project construction, are discussed under the traffic; odors, noise and dust; and vehicle related air emissions sections.

1.5 MITIGATION PLAN SUMMARY

As documented in the DEIS, mitigation measures are proposed for Alternative 1-Proposed Project and Alternative 2- Project Alternative.

1.5.1 Visual

Mitigation measures for shade impacts include planting shade tolerant plants in heavy shade

areas adjacent to the proposed buildings and application of de-icing salts on roads and sidewalks, as required.

1.5.2 Traffic

Table 1-1 provides a summary of the recommended mitigation for each of the scenarios analyzed. The existing and 2003 No-Build Alternative requires roadway improvements at five intersections, which are a result of existing and future background traffic conditions. The construction of Buildings II and III would require additional roadway modifications at three intersections, in addition to those identified for the No-Build. Likewise, the 2005 background traffic conditions would require roadway improvements. The 2005 full build scenario would require additional roadway improvements at three intersections, in addition to the 2005 background traffic requirements.

1.5.3 Traffic Noise

Although a five-decibel increase in noise would be noticeable, the noise levels that would occur as a result of background traffic growth and project construction would still be below the daytime L_{10} State Standards (should they apply). No mitigation is proposed or required.

1.5.4 Vehicle-Related Air Emissions

No air quality mitigation measures are required or proposed as a part of the project as the results indicate State standards will not be exceeded.

1.5.5 Surface Water Quality

Surface water runoff will be treated by three storm water ponds constructed to meet National Urban Runoff Program (NURP) standards. Collection of the water in the NURP ponds before discharging into Nine Mile Creek backwaters will reduce the amount of sediment and associated phosphorous reaching the backwaters. This will improve the quality of runoff water from the existing condition, because treatment of runoff water currently does not exist onsite.

1.5.6 Water Related Land Use Management District – City Shore Area Zone

No mitigation is proposed or necessary, since construction will not occur within the shore area impact zone.

1.5.7 Infrastructure and Public Services – Roads

Mitigation for impacts to road infrastructure is discussed under the traffic section.

1.5.8 Cumulative

Mitigation for cumulative impacts is discussed under the traffic, traffic noise and vehicle related air emissions sections.

1.6 PERMITS AND APPROVALS

A number of permits will be required as part of the approval process for the proposed Norman Pointe Office Development. A list of the identified permits, the affected agency, and the permit status follows.

Table 1-2 Permits and Approvals.

Unit of government	Type of application	Status
Federal		
Army Corps of Engineers	Wetland Alteration Permit	To be applied for
State		
Minnesota Pollution Control Agency (MPCA)	National Pollution Discharge Elimination System Permit Indirect Source Permit	To be applied for To be applied for
Minnesota Department of Natural Resources	Groundwater Appropriation Permit (Dewatering)	To be determined
Minnesota Department of Health	Abandonment of Water Well	To be determined
Environmental Quality Board	EIS Decision	Pending with RGU
Regional		
Nine Mile Creek Watershed District	Grading and Drainage Approval	To be applied for
	Wetland Alteration Permit	To be applied for
	Floodplain Permit	To be applied for
Local		
City of Bloomington	Plat Approval	To be applied for
	Demolition Permit	To be applied for
	Shore Area Management Zone	To be applied for
	Planned Development Rezoning	To be applied for
	Preliminary Development Plan	To be applied for
	Final Development Plan	To be applied for
	Grading, Excavation, and Foundation Permits	To be applied for
	Building Permits	To be applied for
	Utility Permits	To be applied for
	Conditional Use Permit	To be applied for

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed project will be located at 5501, 5503 and 5701 Green Valley Drive in Bloomington, Minnesota. The redevelopment project site is located in the southwest quadrant of Normandale Boulevard and Interstate 494, between Green Valley Drive and Norman Center Drive.

County: Hennepin City/Township: Bloomington
North ½ of Section 16, Township 116 North, Range 21 West

The project location and existing conditions are illustrated in Figures 1- 4.

2.2 PROJECT PURPOSE AND NEED

The purpose of the project is the private redevelopment of the site to provide office space to meet the needs of individual private users in the metropolitan area. The project is not being undertaken by the City of Bloomington or any other public entity.

The project is located within Policy Area No. 4 of Bloomington's Northwest Area District Plan (1991), an adopted element of the City of Bloomington's Comprehensive Plan. The project site is in an area characterized as ~~a~~ "Mixed-use with a Mixed Focus". The site is in one of two "nodes" within the area covered by the District Plan that is designated specifically for high-density use. The Plan states "Although there are pockets of existing high intensity development in the mixed focus areas, there are still several vacant and underdeveloped lots that provide future development and redevelopment opportunities… Thus, the primary policy is to allow future development in the moderate to high intensity range." The project is consistent with the primary purpose of the District Plan because it results in high intensity use where such a use is planned. The development is consistent with the City of Bloomington's Comprehensive Plan and Metropolitan Council guidelines regarding development density for the project area.

The property is zoned CO-1, Commercial Office. Office use is a permitted principal use within the CO-1 District. The base Floor Area Ratio (FAR) within the CO-1 District is 1.0. A FAR greater than 1.0 (or up to 1.5 FAR) is allowable subject to an approved TDM. The proposed project is consistent with the use and intensity guidelines of the CO-1 zoning district.

2.3 ALTERNATIVE 1 - PROPOSED PROJECT (OFFICE REDEVELOPMENT AT 1.2 FAR)

The proposed Norman Pointe Office Development is a redevelopment of the existing office area to a use that is consistent with Metropolitan Council redevelopment policies and City land use plans for higher intensity development. The building space proposed for Alternative 1 is based

Insert Fig 4

on a 1.2 Floor Area Ratio (FAR). Construction of this project would require an approved trip reduction plan and development agreement.

The project consists of demolition of the existing office buildings and removal of the surface parking area. Alternative 1 is described in Table 2-1.

Table 2-1 Alternative 1 - Proposed Project, Description and Phasing

Building	Building Size (sq. ft.)	Parking Spaces	Building/Parking Height[1]	Construction Schedule [2]
II	282,800	1083	9-story office over 5-level parking (158 ft)	Fall 2000 – Fall 2002
III	282,800	1083	9-story office over 5-level parking (158 ft)	Fall 2000 – Fall 2002
IV	423,646	1610	14-story office over 7-level parking (242 ft)	Fall 2003 – Fall 2005
Hotel	95,500 (150 rooms)	Shared with Building II	5-story hotel over 5-level parking (117 ft)	Fall 2002 – Fall 2004
Surface Parking	NA	38	NA	W/building construction
Total	**989,246 sq. ft. office 95,500 sq. ft. hotel (1,084,746 sq. ft. total)**	**3814 spaces**	**NA**	**Fall 2000 – Fall 2005**
Existing Development (Removed)	95,936 sq. ft.	710 spaces	2-story	NA
Net New Development	**988,810 sq. ft.**	**3104 spaces**	**NA**	**NA**

[1]All parking facilities will be constructed with one level below the existing grade.
[2]Approximate schedule is provided, with actual dates to be determined based on market analysis and highway and street improvement project completion.

The new buildings will be constructed with steel structure, architectural precast and glass curtainwall. The design of the buildings will be similar to the Norman Center Redevelopment project currently under construction. Buildings II and III will be connected by a common entry element one or two stories in height. All buildings will be constructed on top of 5 to 7 level structured parking, with one level below grade. Parking structures associated with the hotel and Building IV will have fill placed adjacent to the structure, giving the appearance of more than one level below grade.

Access to Office Buildings II and III will be from Normandale Lake Boulevard extended, which will become a private road through the middle of the site. Access to Office Building IV will be from Norman Center Drive. Access to the hotel will be from Green Valley Drive (Frontage Road) or from the adjacent parking structure. The proposed access to the new buildings is separated in order to efficiently distribute circulation of traffic into and out of the site.

Demolition of the existing buildings will commence upon final approval of the building plans and environmental documents. Demolition is expected to take approximately six to nine months. Project phasing is shown in Table 2-1 under the construction schedule column. This phasing schedule is dependent upon market analysis and coordination with related highway facility improvements.

2.4 RESPONSIBLE GOVERNMENTAL UNIT

The Responsible Governmental Unit for this project is the City of Bloomington. The contact person for the project is:

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2.5 PURPOSE OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Final Scoping Decision, adopted April 3, 2000, identified the following issues to be addressed in this draft EIS:

- Water-related Land Use Management Districts – Shore Areas (abbreviated discussion)
- Surface Water Quality
- Traffic
- Vehicle-Related Air Emissions
- Odors, Noise and Dust -Traffic Related Noise
- Impact on Infrastructure and Public Services – Roads
- Visual
- Cumulative

3.0 ALTERNATIVES

3.1 NO-BUILD ALTERNATIVE

Under the No Build Alternative, the existing buildings at 5503 and 5701 Green Valley Drive would remain in-place. These 2-story buildings currently provide 95,936 sq. ft. of office space and surface parking for 710 vehicles. The space is currently leased to 2 tenants, with leases through 2002 and 2006. One tenant is a school with 300 to 500 students. The other tenant employs approximately 325 people. The existing site has a high percentage of impervious surface due to the extensive surface parking provided.

3.2 ALTERNATIVE 1 - PROPOSED PROJECT (OFFICE REDEVELOPMENT AT 1.2 FAR)

The proposed Norman Pointe Office Development is a redevelopment of the existing office area to a use that is consistent with Metropolitan Council redevelopment policies and City land use plans for higher intensity development. The project consists of demolition of the existing office buildings and removal of the surface parking area. Alternative 1 would include the construction of 989,246 sq. ft. office, 95,500 sq. ft. hotel, and 3,814 parking spaces.

3.3 ALTERNATIVE 2– PROJECT ALTERNATIVE (OFFICE REDEVELOPMENT AT 1.5 FAR)

Alternative 2 incorporates additional office space in order to maximize the potential development of the site. The additional office space would be incorporated into the proposed development plan by adding 3-stories to the office buildings and two to three levels on the parking structures. Alternative 2 would include the elements described in Table 3-1.

Alternative 2 would be in compliance with the City of Bloomington's Comprehensive Plan and would result in a 1.5 FAR. At 1.5 FAR, City Code would require an approved trip reduction plan and development agreement. The total permitted building area for the 1.5 FAR was determined using the entire property holding at the site, including the building space and acreage of the Norman Center Redevelopment parcel.

Table 3-1 Alternative 2, Description and Phasing

Building	Building Size (sq. ft.)	Parking Spaces	Building/Parking Height[1]	Construction Schedule [2]
II	408,846	1,643	12-story office over 8-level parking (177 ft)	Fall 2000 – Fall 2002
III	408,846	1,643	12-story office over 8-level parking (177 ft)	Fall 2000 – Fall 2002
IV	498,448	1,994	16-story office over 9-level parking (288 ft)	Fall 2003 – Fall 2005
Hotel	95,500 (150 rooms)	Shared with Building II	5-story hotel over 5-level parking (117 ft)	Fall 2002 – Fall 2004
Surface Parking	NA	38	NA	W/Building construction
Total	**1,316,140 sq. ft. office 95,500 sq. ft. hotel (1,411,640 sq. ft. total)**	**5318 spaces**	**NA**	**Fall 2000 – Fall 2005**
Existing Development (Removed)	95,936 sq. ft.	710 spaces	2-story	NA
Net New Development	**1,315,704 sq. ft.**	**4608 spaces**	**NA**	**NA**

[1] All parking facilities will be constructed with one level below the existing grade.
[2] Approximate schedule is provided, with actual dates to be determined based on market analysis and related highway improvement project completion.

3.4 OTHER TYPES OF ALTERNATIVES CONSIDERED BUT NOT INCLUDED IN THE DRAFT EIS

3.4.1 Alternative Sites

The DEIS does not address environmental impacts of alternative sites because this type of alternative would not meet the underlying need for or purpose of the project. The project is located within Policy Area No. 4 of Bloomington's Northwest Area District Plan (1991), an adopted element of the City of Bloomington's Comprehensive Plan. The project site is in an area characterized as a "Mixed-use with a Mixed Focus". The site is in one of two "nodes" within the area covered by the District Plan that is designated specifically for high-density use. The Plan states "Although there are pockets of existing high intensity development in the mixed focus areas, there are still several vacant and underdeveloped lots that provide future development and redevelopment opportunities… Thus, the primary policy is to allow future development in the moderate to high intensity range." The project is consistent with the primary purpose of the District Plan because it results in high intensity use precisely where such a use is planned and desired.

The District Plan states that the "maximum average density of nonresidential development within each Mixed-use with a Mixed Focus policy area is 1.0 FAR". It further states, "Maximum density for individual parcels can be determined by zoning and stipulations of development agreements for Transportation Demand Management (TDM), as long as the average density for each policy area as a whole does not exceed the aforementioned maximums". The project complies in all respects with these requirements. Construction of the project site at 1.2 or 1.5 FAR will not result in a FAR greater than 1.0 within the Mixed-use with a Mixed Focus policy area.

Finally, the proposed development is consistent with regional policies supporting infill and redevelopment in the fully developed regions of the Metropolitan area. The Metropolitan Council's Regional Blueprint, Action Step 5B(3) is supportive of redevelopment inside the urban area. Action Step 5B(3) identifies the I-494/I-694 freeway beltway as a focus for regional investment, services and incentives on job and economic development activities.

From the City's perspective, the primary project purpose is to implement the policies, goals and objectives of the Comprehensive Plan. Therefore, alternative sites are not included in the environmental impact statement because they would not meet underlying project purposes.

3.4.2 Alternative Technologies

The DEIS does not address environmental impacts of alternative technologies because they would not have significant environmental benefit compared to the proposed project. The proposed project is an office development. Technology, as distinct from modified project design, is generally not a factor in assessing environmental impacts of this type of land use on the issues included within the scope of the EIS (e.g. traffic and surface water runoff). Therefore, this alternative is not included in the EIS.

3.4.3 Modified Designs or Layouts

The proposed project has evolved and changed since it was originally presented. These changes have been made to address market forces, environmental conditions, development concerns of the City and engineering design refinements.

The evolution of the site design has included the following changes and modifications:

- Incorporation of stormwater ponds to control the quality and rate of storm water runoff.
- Expansion of floodplain storage to replace storage lost.
- Modification of the location of parking facilities to avoid the shore area impact zone adjacent to Nine Mile Creek.
- Refinement and separation of access and circulation improvements.

To the extent required by the City, additional documentation concerning comparative impacts of modified designs or layouts will be provided as part of future permit applications for the proposed project on the project site.

3.4.4 Modified Scale or Magnitude

Achievement of the project sponsor's and the City's development objectives for the project site requires a land use intensity generally consistent with the land use intensity of the proposed project. A significant reduction in scale or magnitude would not achieve the goals and objectives of the project sponsor, or be consistent with the City's and Metropolitan Council's policies on development intensity for the project area. In addition, a substantially reduced development would not provide the economic and employment benefits provided by the proposed project. Therefore, such an alternative is not included in the environmental impact statement.

3.4.5 Alternatives Incorporating Reasonable Mitigation Measures

The DEIS identifies mitigation measures that could reasonably eliminate or minimize potential adverse environmental effects of the proposed project. The discussion of mitigation measures appears in each chapter of the document, rather than as a separate section.

4.0 ENVIRONMENTAL ISSUES

The following provides a detailed evaluation of the issues identified through the scoping process. Each issue includes a discussion of the methods used for the evaluation, regulations, impact of the alternative and proposed mitigation.

4.1 VISUAL

4.1.1 Methods and Regulations

The shadow study was conducted at the request of the City of Bloomington. There are no specific federal, state or local regulations regarding the impacts of shadow on adjacent parcels. Rather, the study was conducted to identify potential shading impacts and mitigation as it relates to landscaping features, vegetation and residential properties adjacent to the project.

Using the site plan and building sections prepared by Pope Architects, a shadow study was completed to determine the length and location of shadows cast by the proposed structures. Shadow lengths for both Alternatives were plotted.

Coordinates for the site were established at 44.98 N (latitude) and 93.25 W (longitude), with an elevation of 800 ft. Sun angles were calculated for the hours of 10:00 AM and 2:00 PM on the winter solstice, December 21 (Central Standard Time) and on the summer solstice, June 21 (Central Daylight Savings Time).

4.1.2 Affected Environment

The structure heights within the surrounding area range from single story residential townhomes, to mid-rise and high-rise buildings. The townhomes are located on the southwest side of Norman Center Drive. Other buildings in the vicinity range from three to 24 stories in height, including a condominium (9-stories), high-rise office tower (24 stories) and mid-rise office tower on 84th Street; offices on the south side of Norman Center Drive; and offices, gas station and a hotel along Highway 100.

The existing site contains two 2-story buildings located on the east-central and northwestern portion of the property. A large pond is located in the center of the site. The existing buildings cast minimal shadows upon the site and only briefly on the frontage road to the north (Green Valley Drive).

4.1.3 No-Build Alternative

Environmental Impacts
There would be no visual environmental impacts to the site caused by the No-Build Alternative.

Mitigation
Mitigation would not be required, as there would be no impact by the No-Build Alternative.

Insert figure 5

Insert figure 6

Insert Figure 7

Insert figure 8

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insert figure 11

insert figure 12

insert figure 13

4.1.4 Alternative 1 - Proposed Project

Environmental Impacts
The proposed Norman Pointe Office Development will be compatible with the existing commercial building heights and would not affect the essential urban development character of the area (Fig. 5-9). The building heights are consistent with City of Bloomington Code regulations for the Commercial Office District and zoning performance standards for building or structure height (Section 19.40.08 and Section 19.47).

During the late spring, summer and early fall months, most shadows from the proposed structures will be cast upon adjacent parking structures, roadways, parking and entry areas (Figure 10-13). During these months shadow will be contained on site, with the exception of early morning, when shadow from Building IV will cross Norman Center Drive to cover the eastern portion of the multi-family housing site. Shadows cast on a small area of these residential properties would occur in the early morning, primarily between 6:00 am and 9:00 am. Most properties would be in continuous shade for one to three hours each morning.

The high angle of the sun during the spring and summer will prevent shadows from affecting aquatic life in the existing and proposed pond areas. Most planting areas (adjacent to pond and along roadways) will be free of shadows during the greater part of the day during the growing season. The exception will be the areas between building and roadway on the north sides of Buildings II and III, which will be shaded throughout the day.

The late fall, winter, and early spring months will see continuous shadow cast upon the on-site roadway north of Buildings II and III, resulting in slow ice and snow melt on these surfaces (Fig. 12 & 13). Shadow will also affect snowmelt and ice conditions on Green Valley Drive and both eastbound and westbound lanes of I-494. Early morning will see shadows cast by Buildings II and III cross I-494 to affect areas to the north of the site. These shadows will be moving west to east and will retract to the south of the freeway as the sun climbs higher, leaving these areas clear by 9:30 –11:00 AM. However, the shadow cast by Building IV during these months will affect areas just north of the freeway for the entire day, although shadow movement from west to east will prevent any one area from being shaded for more than a few hours.

Mitigation **–** The proposed project will not result in significant long-term shading on adjacent parcels. Within the project site, it is recommended that shade tolerant species be planted on the north sides of the proposed structures.

4.1.5 Alternative 2 – Project Alternative

Environmental Impacts
Alternative 2 proposes increasing the heights of Buildings II, III and IV by 3-stories, as compared with the Proposed Project. The proposed building heights are consistent with the other commercial buildings in the surrounding area and with City Code regulations.

The location and angle of impacts created by shadows will be similar to those for the Proposed Project (Fig. 10 - 13). The winter shadows would extend approximately 150 ft longer than those for the Proposed Project.

Mitigation
Recommendations for mitigation are the same as for the Proposed Project. (See Section 4.1.4)

4.2 TRAFFIC

4.2.1 Methods and Regulations

The traffic study was completed to analyze the potential changes in traffic volumes and patterns as a result of the Proposed Project, as compared to the existing and no-build conditions. The following provides a description of the base information used in the traffic modeling analysis.

Study Area
The site is located at the intersection of I-494 and TH 100, two principal arterials (Fig 14). West of TH 100, I-494 is a four-lane freeway and east of TH 100 it is a six-lane freeway. North of I-494, TH 100 is a six-lane freeway. South of I-494, TH 100 becomes Normandale Boulevard (CSAH 34) and has an at-grade intersection at 84th Street. Primary access to the site from the regional highway system is either from East Bush Lake Road (CSAH 28) or through the intersection of 84th Street and Normandale Boulevard. East Bush Lake Road provides access to and from the east on I-494. It is also possible to continue north on East Bush Lake Road to 77th Street, which has full access to TH 100. Several routes provide access to westbound I-494, but the most highly used would be 84th Street and northbound Normandale Boulevard to I-494. Other roadways to the west are 78th Street, just north of I-494, and 84th Street. Both of these routes would carry traffic as far west as TH 169 to access I-494. Access to the east is possible via Bridge Road and 84th Street. Normandale Boulevard and East Bush Lake Road provide access to the south.

Traffic related to the proposed development would likely use the following 11 intersections (Fig. 14**)**:

1. East Bush Lake Road and 78th Street
2. East Bush Lake Road and 84th Street
3. 84th Street and Normandale Lake Boulevard
4. 84th Street and Norman Center Drive
5. Normandale Boulevard and 84th Street
6. East Bush Lake Road and westbound I-494 Off-Ramp
7. East Bush Lake Road and eastbound I-494 On-Ramp (unsignalized)
8. East Bush Lake Road and Green Valley Drive (unsignalized)
9. Norman Center Drive and Bridge Road (unsignalized)
10. East Bush Lake Road and Highwood Drive
11. Norman Center Drive and Normandale Lake Boulevard (unsignalized)

Insert figure 14

Development Phasing

This study assumes the development of general office buildings and a hotel as presented in Section 2.0 for the Proposed Project. Actual phasing would be based on the market conditions.

Site Access

Access to and through the proposed site would be provided by a private thoroughfare, extending Normandale Lake Boulevard from Norman Center Drive to Green Valley Drive, as illustrated on the proposed site plan Figure 4. The roadway extension would be completed in association with the construction of Buildings II and III. Construction of this roadway would provide additional site access and internal circulation. Building IV will have direct access to Norman Center Drive.

Existing Volumes, Traffic Control and Geometric Layout

This study analyzed conditions for both the a.m. and p.m. weekday peak hours, typically from 7:15 a.m. to 8:15 a.m. and from 4:45 p.m. to 5:45 p.m. Traffic counts for the studied intersections have been provided by the City of Bloomington and Hennepin County, and supplemented by counts collected by BRW, Inc. in 2000. The intersection geometric layout and traffic control at each of the identified intersections is illustrated in Table 4-1 and Figure 15.

Table 4-1 Existing Intersection Geometry and Traffic Control

Intersection		Traffic Control	North Bound*			South Bound			East Bound			West Bound		
Major Street	**Minor Street**		**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**
E Bush Lake Rd	78th St	Signal	1	2	1	0	2	1	0	2	1	0	2	0
E Bush Lake Rd	84th St	Signal	0	1	0	0	1	1	0	2	0	1	1	1
84th St	Normandale Lake Blvd	Signal	x	x	x	2	x	1	1	2	x	x	3	1
84th St	Norman Center Dr	Signal	x	x	x	2	x	1	2	2	x	x	3	1
Normandale Blvd	84th St	Signal	2	3	1	2	2	1	2	2	1	2	3	1
E Bush Lake Rd	WB I-494 Ramp	Signal	x	2	x	x	2	x	x	x	x	1	x	1
E Bush Lake Rd	EB I-494 Ramp	Unsignalized	x	1	0	0	2	x	x	x	x	x	x	x
E Bush Lake Rd	Green Valley Dr	Stop	x	1	0	0	1	x	x	x	x	1	x	1
Norman Center Dr	Bridge Rd/Driveway	Stop	0	2	1	0	2	0	0	1	0	0	2	1
E Bush Lake Rd	Highwood Dr	Signal	x	x	x	1	x	1	1	1	x	x	1	1
Norman Center Dr	Normandale Lake Blvd	Stop	0	1	0	x	x	x	x	2	0	0	2	1

* L = left-turn lane, T = through lane and R = right-turn lane. An "x" indicates that the movement does not exist. A zero denotes shared lanes.

Insert figure 15

Future Roadway Network

Mn/DOT has programmed the construction of a third lane on I-494 between TH 100 and TH 169 for the year 2002. This improvement includes improvements to the interchanges at TH 100 and East Bush Lake Road. The improvement at East Bush Lake Road would provide access to westbound I-494 (slip on-ramp) and access from eastbound I-494 (loop off-ramp). The City of Bloomington has been evaluating the feasibility of building a single point interchange at Normandale Boulevard and 84th Street.

Other roadway improvements currently planned or proposed by state and local road authorities within the vicinity of the proposed project include:

- Mn/DOT intends to replace the I-494 bridges over TH 100 before year 2003 (both eastbound and westbound).

- Several other projects including median and safety improvements and transit-oriented projects are scheduled for I-494 in Bloomington during the next four years.

- Mn/DOT is reviewing preferential ramp and interchange projects within the I-494 corridor for construction in the short-term.

- The City of Edina, with Bloomington's cooperation and assistance, is reconstructing 78th Street between East Bush Lake Road and Gleason Road.

- Bloomington and Hennepin County have secured the property at 8101 East Bush Lake Road to provide sufficient right-of-way in reconstructing East Bush Lake Road between I-494 and 84th Street. Additional property at the I-494 ramp terminals on East Bush Lake Road has been dedicated for future improvements. This project would also entail the reconstruction of the East Bush Lake Road/Green Valley Drive intersection. The project would realign Green Valley Drive to the south to ensure sufficient room for the eastbound loop off-ramp. At this time, Mn/DOT is still developing the concept plans for the project. This analysis assumes that there would be sufficient turn lanes, intersection spacing and traffic control devices would be in place for this improvement, i.e. signalized intersections with the eastbound ramp terminal and Green Valley Drive on East Bush Lake Road.

- Minor modification to the East Bush Lake Road and 84th Street intersection can be completed under maintenance actions by the city and county, with cooperative assistance from local property owners, to provide interim operation improvements.

- Modification to the intersection of East Bush Lake Road and Highwood Drive intersection can be completed under actions by the city and county, with cooperative assistance from local property owners, to provide interim operation improvements.

The project sponsor has coordinated traffic-related issues with the City of Bloomington. As part of the Norman Center Redevelopment, Duke-Weeks Limited Partnership (Duke-Weeks) earlier committed funds to the City of Bloomington for future local roadway improvements.

Description of Scenarios Analyzed

The traffic analysis included a range of development and roadway network scenarios for the a.m. and p.m. peak hours, based on discussions with Duke-Weeks and City staff. The intent of the scenarios was to encompass the range of potential future conditions of site development and roadway network improvements.

1. ***Existing Conditions (Year 2000)*** – There are two office buildings on the site and one office building (210,000 sq. ft.) currently under construction. The building under construction (Building I) will be completed this year. An Environmental Assessment Worksheet (EAW) for Building I was previously completed and approved by the City finding the project does not have the potential for significant environmental effect.

2. ***2003 No Build*** – This scenario includes no roadway improvements or future development. Turning movement counts include only year 2000 volumes, background traffic growth and traffic generated by Building I (see Scenario 1) and a recently completed office building on an adjacent parcel.

3. ***2003 Building II + No Network Changes*** – This scenario includes 2003 No Build conditions and construction of proposed Building II (282,800 SF Office) and demolition of existing 48,010 SF Office building on site. This scenario assumes no changes in the existing roadway network.

4. ***2003 Buildings II and III + No Network Changes*** – This scenario includes 2003 No Build conditions and construction of proposed Buildings II and III (each 282,800 SF Office). As in Scenario 3, Scenario 4 assumes no changes in the existing roadway network. This scenario presents a worst case analysis for the build alternative since it has the highest traffic volume, including background and development traffic, with no roadway improvements.

5. ***2005 Buildings II and III + I-494/East Bush Lake Road Improvements*** – This scenario includes developments in Scenario 4, background traffic growth from 2003 to 2005 and completion of the improvements on I-494 between TH 100 and TH 169. These improvements include addition of an auxiliary lane in each direction of I-494 and reconstruction of the TH 100 and East Bush Lake Road interchanges.

6. ***2005 Buildings II and III + Normandale Boulevard/84th Street Interchange*** – This scenario is similar to Scenario 5 except that it assumes the completion of the single point interchange at Normandale Boulevard/84th Street as the only roadway network improvement.

7. ***2005 Full Development + I-494/East Bush Lake Road Improvement –*** This scenario includes completion of Buildings II, III and IV and the 150-room hotel. As the name indicates, the only roadway network change is the improvements on I-494 between TH 100 and TH 169. Scenario 7 results in the highest total traffic volume increase, overall.

8. ***2005 Full Development + All Roadway Improvements*** – This scenario includes assumptions in Scenario 7 and the single point interchange at Normandale Boulevard and 84th Street.

Functional Classification

Figure 15 also presents the existing functional classification of roadways in the study area. The source of this information is the Metropolitan Council's 1997 functional classification map. Interstate 494 and TH 100 are the principal arterial routes in the study area. The minor arterial classification is subdivided into four types: augmenter, reliever, expander and connector. Roadways within the study area are classified as reliever and expander routes. Reliever routes provide direct relief for metropolitan highway traffic (e.g. 78th Street and East Bush Lake Road between 84th Street and 78th Street). Expander routes connect areas outside the I-494/I-694 ring (e.g. Normandale Boulevard and France Avenue south of I-494).

Background Traffic and Redistribution

Background traffic is made up of vehicles that pass through the studied intersections, but is not site-generated traffic. Background traffic was assumed to increase each year to account for factors such as other development and increased population.

For purposes of this study, a background traffic growth rate of 3 percent per year has been assumed for the short-term period from year 2000 to 2005. This estimate is based on the average growth rates computed by comparing existing (2000) and historic (1994) daily traffic volumes with 2010 forecast volumes from the Hennepin County travel demand model. The 3 percent per year growth rate assumption represents a worst case condition for the short-term (five year) analysis documented in this DEIS. A lower average growth rate would be expected over the long-term planning horizon of 20-years. Mn/DOT Office of State Aid generally assumes an average annual growth rate of 1.5% per year for the City of Bloomington.

This study used the Hennepin County travel demand model to determine the impacts of the I-494/East Bush Lake Road interchange improvements. With new access to eastbound and westbound I-494 from East Bush Lake Road, existing and future traffic would be redistributed from other locations including the intersection of Normandale Boulevard and 84th Street.

The result of this modeling suggests that the interchange improvements at I-494 and East Bush Lake Road would result in a net reduction of traffic at Normandale Boulevard and 84th Street by approximately 6 percent. In other words, there would not appear to be a significant change in intersection level of service at Normandale Boulevard and 84th Street when the new ramps at I-494 and East Bush Lake Road are completed. This result is consistent with the fact that the model is a gravity model. Any capacity at Normandale Boulevard/84th Street that is "freed" up by the additional ramps at I-494/East Bush Lake Road would be used by trips that previously used other routes.

The redistribution of background trips because of the I-494/East Bush Lake Road interchange improvements are accounted for in Scenarios 5, 7 and 8.

For the intersection analysis, it is estimated that the construction of a single point interchange at Normandale Boulevard/84th Street would not result in a significant redistribution of existing background traffic. The preceding estimates based on the regional travel demand model appear consistent with current traffic operations.

Insert table 4-2

Trip Generation and Distribution

The industry standard reference for estimating trip generation for proposed development is the Sixth Edition of the Institute of Traffic Engineers (ITE) *Trip Generation Manual.* ITE has conducted numerous surveys for various uses over many decades. Based on the average rates listed in the ITE manual, the estimated trips generated (inbound and outbound) during the a.m. and p.m. peak hour were determined. The rates are based on total building area of the project. Note that the average rates represent an average value of trips generated from many different studies across the country made up of suburban facilities. Table 4-2 presents the trip generation calculated for each development phase.

The distribution of the site-generated traffic was determined using previous studies for the Normandale Lakes development area. The percentages in Figure 15 represent the amount of site-generated trips that would use that route for access to and from the site. These trips are then assigned to specific routes that would be used to travel between the approach route and the site. A significant number of site trips will use the intersection of Normandale Boulevard and 84th Street to travel to and from the proposed development because of the access it provides to I-494 and TH 100. Another route that will have a significant amount of site trips is East Bush Lake Road and I-494 ramp terminals.

Capacity Analysis

The capacity of a roadway or intersection is a function of many criteria, including volume, geometric layout and traffic control. The traffic evaluation used the 1997 *Highway Capacity Manual*, software and Synchro version 4 to establish the various levels of service. Existing signal timing plans were provided by the City of Bloomington and Hennepin County

The output from a capacity analysis is most easily stated as a letter grade "A" through "F" called Level of Service (LOS). LOS A represents a condition where motorists experience little or no delay or queuing. LOS F represents over-capacity conditions where motorists experience significant delays and longer queues. Table 4-3 provides the level of service criteria for intersections from the 1997 *Highway Capacity Manual*. The criterion are based on delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. Specifically, LOS criteria are stated in terms of the average stopped delay per vehicle for an analysis period. In this case, the analysis period is for the a.m. and p.m. peak hours.

Table 4-3 Level of Service Criteria for Intersections

Level of Service	Delay per Vehicle (seconds)[1]	
	Signalized	Unsignalized[2]
A	10 or fewer	5 or fewer
B	11 to 20	6 to 10
C	21 to 35	11 to 20
D	36 to 55	21 to 30
E	56 to 80	31 to 45
F	Over 80	Over 45

[1] Source: 1997 *Highway Capacity Manual*.

[2] This applies to two-way stop intersections.

For most metropolitan areas, such as Bloomington, LOS D is usually identified as a lower boundary of acceptability. For this analysis, LOS D has been used as a minimum level of operation.

Based on the traffic volumes computed, the level of service for each of the eight key intersections was determined. If an intersection operated below the LOS D threshold (i.e. LOS E or F) in any given development phase, various mitigation measures were considered to improve the intersection operation above the LOS D boundary. These measures were tested in order of cost to determine the lowest cost alternative that could be applied to the intersection. Measures considered in this study include:

a. Change Traffic Signal Phasing/Timing – If a traffic signal exists at the intersection, changing the phasing (such as adding a left turn phase or a right turn overlap) or timing can mitigate capacity deficiencies.

b. Install Traffic Signal – At unsignalized intersections, installing a traffic signal at an intersection operating at or near capacity can often improve operation.

c. Add Auxiliary Lanes – Auxiliary lanes refer to turn lanes, acceleration and deceleration lanes or other non-through lanes. The installation of these lanes can improve capacity and safety.

d. Add Through Lanes – A through lane does not terminate at or near the intersection. To be effective, the lane should be continuous for a long segment of roadway and not just at one approach to an intersection (typically carried through to an adjacent intersection).

e. Undertake Major Geometric Changes – Such changes could include the installation of an interchange or additional ramp terminals.

f. Add New Roadways – New roadways should be consistent with the transportation plan for the area. To be effective in resolving capacity deficiencies, new roadways should be classified as major collectors or minor/major arterials.

g. Transportation Demand Management (TDM) – A condition of approval for this project would include the creation and implementation of a TDM Plan. The building manager would coordinate expansion of transit service and facilities and encourage ridesharing as an alternate means of transportation. The success of a transportation demand management plan for this development would depend on the type of building tenant(s), which at this time has not been determined.

The I-494/East Bush Lake Road interchange is planned and programmed by MnDOT and is the only roadway improvement included in this traffic study. Measures (e), (f) and (g) are not analyzed for this study, but are listed as possibilities for the future. Thus, this analysis results in a worst case evaluation of traffic conditions in the project area.

The options presented only address capacity. For example, the addition of auxiliary lanes at or between intersections may improve safety and may be warranted at any of the key intersections. An analysis that includes safety issues is beyond the scope of this study.

The geometric layout and traffic control recommendations presented in this report represent the minimum improvements needed to keep traffic operation at or above LOS D**.** It should be noted that for each development scenario, an additional amount of roadway improvement is necessary. The implementation of individual roadway improvements should be coordinated to minimize disruptions associated with roadway construction.

Additionally, a distinction was made between improvements that need to be made to accommodate increases in background traffic versus improvements that need to be made for site-generated traffic. For each development scenario year, the distinction has been made; however, caution should be used in the application of this information. In certain cases, for example, the improvements needed to accommodate the growth in background traffic would also accommodate site generated traffic. However, there may be little or no additional capacity available to accommodate future growth.

4.2.2 Affected Environment/Existing Conditions – Scenario 1 (Year 2000)

Table 4-4 summarizes the intersection levels of service and required mitigation for each scenario analyzed. The following sections describe in detail the findings from each analysis. Appendix A includes the a.m. and p.m. peak hour volumes developed and used to analyze each scenario.

The following describes existing deficiencies within the study area for current traffic volumes.

1. East Bush Lake Road / 78th Street – This intersection operates at LOS E in the a.m. peak hour because the northbound left turn volume exceeds the current turn lane capacity (541 vehicles in the a.m. peak hour). The estimated queues are 325 feet after two cycles. The p.m. peak hour for this intersection has LOS C.

2. Normandale Boulevard / 84th Street – Although the overall a.m. level of service is LOS D, the eastbound and northbound left turn movements operate at LOS F. Based on field observations, there is disproportionate use of eastbound left turn lanes that would contribute to the low level of service at the intersection and for the movement. Because of the high percentage of trips that need access to the regional highway system, particularly I-494, the right-most eastbound left turn lane is more heavily used than the northerly left turn lane. The heavy volumes in the peak hours present some difficulty in weaving between lanes on northbound Normandale Boulevard to gain access to I-494.

3. East Bush Lake Road / Green Valley Drive – Heavy volumes on southbound East Bush Lake Road provide few gaps for westbound left turning traffic. This intersection currently has a LOS F for the p.m. peak hour.

4. East Bush Lake Road / Highwood Drive – The southbound left turn and eastbound and westbound through movements currently operate at LOS F or worse, with associated queuing

deficiencies. Because of the high eastbound and westbound through volumes and only one lane per direction, the majority of the green time is allotted to these movements. For example, in the a.m. peak hour, 63 seconds of the 95 seconds per cycle are for the eastbound through movement. Overall, this intersection is currently operating at LOS D (a.m.) and E (p.m.).

4.2.3 No Build Alternative (Year 2003) - Scenario 2

This scenario includes growth in background traffic from 2000 to 2003 and the current development projects, including Building I of the Norman Center Redevelopment. The p.m. peak hour trip generation associated with Building I is based on the *Norman Center Redevelopment Environmental Assessment Worksheet* (May 3, 1999).

Environmental Impacts

Under Scenario 2, intersections with existing deficiencies (Scenario 1 – Year 2000) would continue to operate poorly since no road improvements are currently programmed. Those intersections that are currently approaching capacity could worsen with growth in background traffic.

Table 4-4 presents the intersection levels of service. The following describes the predicted deficiencies for the 2003 No-Build Alternative. Intersections 1-3 and 5 have the same or worse levels of service as compared to the existing conditions (Scenario 1).

1. East Bush Lake Road / 78th Street – This intersection operates at LOS E in the a.m. peak hour because the northbound left turn volume exceeds the current turn lane capacity (541 vehicles in the a.m. peak hour). The estimated queues are 325 feet after two cycles. The p.m. peak hour for this intersection has LOS C.

2. Normandale Boulevard / 84th Street – Although the overall a.m. level of service is LOS D, the eastbound and northbound left turn movements operate at LOS F. Based on field observations, there is disproportionate use of eastbound left turn lanes that would contribute to the low level of service at the intersection and for the movement. Because of the high percentage of trips that need access to the regional highway system, particularly I-494, the right-most eastbound left turn lane is more heavily used than the northerly left turn lane. The heavy volumes in the peak hours present some difficulty in weaving between lanes on northbound Normandale Boulevard to gain access to I-494.

3. East Bush Lake Road / Green Valley Drive – Heavy volumes on southbound East Bush Lake Road provide few gaps for westbound left turning traffic. The westbound left turn movement would continue to operate at a LOS F for the p.m. peak hour and drop to LOS E for a.m.

4. East Bush Lake Road / 84th Street – Overall, the intersection would operate at LOS E, with the eastbound through, westbound through and southbound through operating at LOS E or

Insert Table 4-4

LOS F. The drop in level of service at this intersection is a result of increases in background traffic.

5. East Bush Lake Road / Highwood Drive – The southbound left turn and eastbound and westbound through movements currently operate at LOS E or worse, with associated queuing deficiencies. Because of the high eastbound and westbound through volumes and only one lane per direction, the majority of the green time is allotted to these movements. For example, in the a.m. peak hour, 63 seconds of the 95 seconds per cycle are for the eastbound through lane.

Mitigation

The below listed improvements would correct to acceptable levels of service all identified deficiencies predicted for the 2003 No-Build Alternative.

1. East Bush Lake Road / 78th Street - The addition of a second northbound left turn lane would improve the overall intersection and northbound left turn operations to LOS C. Each left turn lane should have at least 225 feet of storage. The existing signal timing and phasing should also be modified for consistency with the new geometric layout.

2. Normandale Boulevard / 84th Street - Relatively low cost improvements to address these deficiencies appear infeasible at this point since dual left turn lanes, two or three through lanes and free right turn lanes already exist for all approaches. Grade-separation of Normandale Boulevard and 84th Street is recommended. With this improvement, the intersection would operate at LOS C or better.

3. East Bush Lake Road / Green Valley Drive - The following improvements are suggested to improve traffic operations to LOS C or better:

   - Install a traffic signal.
   - Add a southbound left turn lane. The southbound left turn lane should include at least 125 feet of storage.
   - Add a second southbound through lane.

   These improvements may be part of the reconstruction of the I-494/East Bush Lake Road interchange.

4. East Bush Lake Road / 84th Street - Adding a southbound free right turn lane (no stop required) and a second southbound through lane would improve overall intersection operations to LOS D.

5. East Bush Lake Road / Highwood Drive - A second southbound left turn lane should be installed, with at least 275 feet of storage. Additionally, a second through lane should be provided for both eastbound and westbound traffic. Accounting for the appropriate taper and queuing distances, these lanes should begin and end approximately 700 feet east and west of the intersection. This analysis recognizes the limited right-of-way in the area attributable to Hyland Lake Park and residences in close proximity.

4.2.4 Alternative 1 - Proposed Project , Scenarios 3 through 8

There are several scenarios associated with the proposed project, based on amount of development and roadway improvements assumed to be in place. This section addresses the environmental impacts of each of the following build scenarios and the recommended roadway improvements to meet anticipated travel needs.

Note that the analyses for the following build scenarios do not include any of the suggested roadway improvements recommended for the 2003 No-Build Alternative (Scenario 2). The levels of service for those intersections with identified deficiencies in 2003 No-Build Alternative do not change if Buildings II and III are constructed. All build scenarios are also compared against the No Build Scenario to provide a realistic perspective on the traffic impacts that are directly related to the proposed project, as compared to those impacts that are related to predicted increases in background traffic. Intersections with existing deficiencies would continue to operate poorly and those approaching capacity could worsen with either additional traffic from background traffic growth and/or site-generated traffic. It should be noted that the roadway improvements recommended for the No-Build Scenario (2003) would also be recommended for the following build scenarios.

2003 Building II + No Network Changes - Scenario 3

Environmental Impacts
The predicted deficiencies in the levels of service would be, essentially, the same as those for the No-Build Alternative (2003). In addition, the following intersection would have a reduced level of service.

1. Norman Center Drive / Bridge Road – In the p.m. peak hour, the westbound left turn would operate at LOS F because of few gaps in traffic on Norman Center Drive.

Mitigation
Measures recommended for the No-Build Alternative (2003) would be recommended for this scenario, plus:

1. Norman Center Drive / Bridge Road - Installing a traffic signal would improve intersection operations to LOS A.

2003 Buildings II and III + No Network Changes - Scenario 4

Environmental Impacts
Measures recommended for the No-Build Alternative (2003) would be recommended for this scenario, plus:

1. Norman Center Drive / Bridge Road – In the p.m. peak hour, the westbound left turn would operate at LOS F because of few gaps in traffic on Norman Center Drive.

2. Norman Center Drive / Normandale Lake Boulevard – In Scenario 4, the northbound movements would operate at LOS E.

3. 84th Street / Normandale Lake Boulevard – In Scenario 4, the eastbound through movement would operate at LOS E.

Mitigation
Measures recommended for the No-Build Alternative (2003) would be recommended for this scenario, plus:

1. Norman Center Drive / Bridge Road - Install a traffic signal to improve intersection operations to LOS A.

2. Norman Center Drive / Normandale Lake Boulevard - Install a traffic signal to improve intersection operations to LOS A. The intersection should also be reconstructed to have the following geometric layout:

    - Northbound: Shared left, through and right lane. No additional lanes are recommended because of adjacent properties.
    - Southbound (Proposed Norman Pointe Driveway): Exclusive left turn, through lane and right turn lane.
    - Eastbound: Dual left turn lanes, one through lane, one shared through/right turn lane.
    - Westbound: Shared left/through lane, through lane, exclusive right turn lane.

3. 84th Street / Normandale Lake Boulevard - Modify the signal timing to improve operations to LOS C or better.

2005 Buildings II and III + I-494/East Bush Lake Road Improvements - Scenario 5

Environmental Impacts and Mitigation Recommended for Background Traffic Growth
In year 2005, background traffic is predicted to increase such that additional improvements would be recommended, regardless of whether the proposed project would be constructed. The following improvement is identified:

1. East Bush Lake Road / Green Valley Drive – Install second northbound through lane. This improvement may be part of the improvements at the I-494/East Bush Lake Road interchange.

The traffic modeling indicates that the interchange improvements at I-494/East Bush Lake Road have no significant impact on the traffic operations at Normandale Boulevard/84th Street. The travel demand model is used to determine these impacts.

Environmental Impacts for Project -Generated Traffic
In addition to the improvement recommended for increased background traffic, the level of service deficiencies and recommended mitigation would be the same as described for the 2003 Buildings II and III – Scenario 4.

1. Norman Center Drive / Bridge Road – As in Scenario 4, in the p.m. peak hour the westbound left turn would operate at LOS F because of few gaps in traffic on Norman Center Drive.

2. Norman Center Drive / Normandale Lake Boulevard – As in Scenario 4, the northbound movements would operate at LOS E.

3. 84th Street / Normandale Lake Boulevard – As in Scenario 4, the eastbound through movement would operate at LOS E.

Mitigation Recommended for Site-Generated Traffic

Measures recommended for the No-Build Alternative (2003) would be applicable to this scenario. The additional recommended improvements are the same as those identified for the 2003 Buildings II and III – Scenario 4, namely:

1. Norman Center Drive / Bridge Road - Install a traffic signal to improve intersection operations to LOS A.

2. Norman Center Drive / Normandale Lake Boulevard - Install a traffic signal to improve intersection operations to LOS A. The intersection should also be reconstructed to have the following geometric layout:

    - Northbound: Shared left, through and right lane. No additional lanes are recommended because of adjacent properties.
    - Southbound (Proposed Norman Pointe Driveway): Exclusive left turn, through lane and right turn lane.
    - Eastbound: Dual left turn lanes, one through lane, one shared through/right turn lane.
    - Westbound: Shared left/through lane, through lane, exclusive right turn lane.

3. 84th Street / Normandale Lake Boulevard - Modify the signal timing to improve operations to LOS C or better.

2005 Buildings II and III + Normandale Boulevard/84th Street Interchange - Scenario 6

Environmental Impacts and Mitigation

This scenario results in the same impacts and mitigation as Scenario 5.

2005 Full Development + I-494/East Bush Lake Road Improvement - Scenario 7

Environmental Impacts and Mitigation

This scenario results in the same impacts and mitigation as Scenario 5.

2005 Full Development + All Roadway Improvements - Scenario 8

Environmental Impacts and Mitigation

This scenario results in the same impacts and mitigation as Scenario 5.

4.2.5 Alternative 2 – Project Alternative

This scenario assumes that the higher development density would not result in additional vehicular trips during the peak hours. Selection of this alternative would require implementation of a travel demand management plan such that additional person trips would be accommodated during peak hours by transit, carpool/vanpool, pedestrian and bicycle facilities or would be scheduled for off-peak hours. Therefore, no additional traffic analysis is performed for Alternative 2. It is assumed that the levels of service and queuing issues described for the Proposed Project would apply to Alternative 2.

Note that the additional parking spaces under this alternative are provided to comply with the City of Bloomington's Code regarding the number of vehicle spaces per office space. These additional spaces would be associated with off-peak travel periods. Therefore, no additional a.m. and p.m. peak hour trips are expected due to these spaces.

4.2.6 Regional Traffic Impacts

The Hennepin County travel demand model was run to determine the impacts of full site development on I-494 and TH 100. The full development of the Norman Pointe site (includes Buildings II, III, IV and the hotel) would yield the following net new trips:

- 11,600 daily trips
- 1,550 a.m. peak hour trips
- 1,500 p.m. peak hour trips.

These are based on the trip generation rates from the Sixth Edition of *Trip Generation* (ITE, 1997). The model was run to determine the number of peak hour trips to and from the site as a percentage of p.m. peak hour trips in the regional network, between TH 100 and I-494. The model results suggested that peak hour trips due to the proposed development would comprise approximately five percent (or less) of all peak hour trips.

4.3 TRAFFIC NOISE

4.3.1 Methods and Regulations

Projected noise levels were calculated using the Stamina 2.0 noise prediction model developed by the FHWA and modified by Mn/DOT to reflect the sound energy coefficients for heavy truck noise in Minnesota. The noise model uses traffic volumes, vehicle type mix, vehicle speed and receptor locations to calculate noise levels.

City and County roads are exempt from State standards. Minnesota statutes (1996), Section 116.07, subdivision 2a was amended in Minnesota Session Laws – 1997, Chapter 143-S.F. No. 724, which states:

> *No standards adopted by any state agency for limiting levels of noise in terms of sound pressure which may occur in the outdoor atmosphere shall apply to … (3) except for the cities of Minneapolis and St. Paul, an existing or newly constructed segment of a road, street, or highway under the jurisdiction of a road authority of a town, statutory or home rule charter city, or county, except for roadways for which full control of access has been acquired…*

(Copied from http://www.revisor.leg.state.mn.us/slaws/1997/c143.html)

Traffic noise levels are measured in units of A-weighted decibels to represent the response of the human ear to sound energy. On this logarithmic scale, a doubling of sound energy (due to a doubling of traffic, for example) increases nearby noise levels approximately three decibels, and a tenfold sound energy increase raises noise levels approximately ten decibels. However, humans do not perceive noise variations in direct proportion to the change in sound energy. An average person cannot perceive traffic noise changes of less than three decibels, and a ten decibel traffic/noise increase sounds to the average person as the noise has become about twice as loud. The L_{10} is the decibel level that is exceeded during ten percent of the analysis period.

As a means to compare noise level changes due to the project, the p.m. peak hour L_{10} A-weighted noise levels have been predicted.

4.3.2 Affected Environment

Two existing residential locations were chosen as the worst case location for noise impacts because of the large increase of traffic from the year 2000 (existing conditions) to year 2005 background and project-related traffic volumes. The detailed analysis included receptors at residential locations nearest to Norman Center Drive and Normandale Lake Boulevard (Figure 16).

The noise analysis evaluated the worst case scenario with respect to increased traffic volume. During the p.m. peak hour at all roadways in the development area, the maximum increase in traffic volume due to the project near any sensitive noise receiver will be approximately 2.4 times the No-Build volume in the Year 2005. This increase occurs at the south leg of the intersection of Normandale Lake Boulevard at Norman Center Drive. Noise receptors for this immediate area have been included in a detailed noise analysis. Most other roadway segments that are near sensitive noise receivers in the project area will experience much smaller increases during the weekday p.m. peak hour. The road system east of Normandale Boulevard would experience an increase in p.m. peak hour traffic of approximately 3%, which will result in nearly no change in noise levels.

4.3.3 No-Build Alternative

Environmental Impacts

Table 4-5 shows the predicted Year 2005 No-Build daytime L_{10} noise levels. The detailed analysis included receptors at residential locations nearest to Norman Center Drive and Normandale Lake Boulevard. This area was chosen as the worst case location for noise impacts

because it has the highest increase in traffic volumes. The Daytime L_{10} State Standard is shown for comparison purposes. Neither receptor would experience noise levels that exceed state noise standards.

Table 4-5 Predicted Noise Levels for the No-Build Alternative

Receptor	Predicted Daytime L_{10} Noise Level (dBA)
	Year 2005 No-Build (Background)
1	59
2	61
Daytime L_{10} State Standard[1]	**65**

[1] Daytime L_{10} State Standard is shown for reference only: the streets analyzed are exempt from the State Standards.

Mitigation

As there would be no noise related impacts as a result of the No-Build Alternative, no mitigation would be required.

4.3.4 Alternative 1 - Proposed Project

Traffic Related Noise

Environmental Impacts

Table 4-6 shows the Year 2005 daytime L_{10} noise levels predicted for the fully built Proposed Project. The Daytime L_{10} State Standard is shown for comparison purposes. Based on the modeling results, the 2005 noise levels will have a negligible increase due to traffic from the new development. Though the roadways are exempt from the State Standards, the predicted levels are below the daytime L_{10} State Standard of 65 dBA.

Mitigation

Based on the proposed development's traffic patterns, the completed project will not result in significant traffic noise impacts and no noise mitigation is proposed as a part of the project.

Table 4-6 Predicted Noise Levels for the Proposed Project

Receptor	Predicted Daytime L_{10} Noise Level (dBA)
	Year 2005 Alternative 1 –Proposed Project
1	64
2	64
Daytime L_{10} State Standard[1]	**65**

[1] Daytime L_{10} State Standard is shown for reference only: the streets analyzed are exempt from the State Standards.

Insert Figure 16

Construction Noise

Environmental Impact
Construction of the project will generate noise from construction equipment and activities. Construction noise impacts will be temporary and short-term, lasting only during project construction. Construction noise will be controlled by limiting noise generating activities to daylight working hours and assuring that construction equipment is properly muffled. Construction related noise will be regulated by and in compliance with City noise ordinances.

Mitigation
The following measures to minimize noise and dust emissions will be incorporated into the construction procedures of the project:

- All internal combustion motors will be fitted with mufflers and other noise control equipment as specified by the manufacturer.
- Minnesota Rules 7005.0050 on the control of fugitive particulate matter from construction and hauling activities will be complied with so as to minimize adverse air quality impacts.

4.3.5 Alternative 2 – Project Alternative

The traffic related noise and construction related noise for the project alternative would be the same as that described for the proposed project.

4.4 VEHICLE-RELATED AIR EMISSIONS

4.4.1 Methods and Regulations

Typical of most developments, even residential, the proposed 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. CO is a byproduct of the combustion process of motor vehicles. CO concentrations are highest where idling vehicles are located 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 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.

Five intersections were chosen for analysis based on signalized intersection level of service (LOS) during the p.m. peak hour. These intersections include:

- 84th Street at East Bush Lake Road
- 84th Street at Norman Center Drive
- Normandale Lake Boulevard at 84th Street (Scenario 7 only)
- Normandale Boulevard at 84th Street (Scenario 4 only)
- East Bush Lake Road at Highwood Drive.

Scenarios 4 and 7 were included in this analysis. Normandale Lake Boulevard at 84th operates better than LOS D, and is therefore not analyzed for Scenario 4. Likewise, with improvements, Normandale Boulevard at 84th operates better than LOS D, and is therefore not analyzed for Scenario 7.

Scenario 4 results in the highest possible traffic volume increase without roadway improvements. Scenario 7 results in the highest total traffic volume increase, overall. Of all the scenarios with full development, Scenario 7 provides the fewest roadway improvements and provides the worst case analysis for the traffic-related air quality evaluation. Thus, any intersection improvements that would reduce delays would also reduce CO concentrations. See the traffic section of this document for a full description of all scenarios.

The sidewalk averaging method, recommended by the U.S. EPA, was used for the intersections. In this method, the receptors are located along each sidewalk or side of the intersecting streets at approximately 10 meters and 50 meters from the edge of the intersecting roadway. The CO concentration at each of the receptors was modeled. The highest or worst case, average CO concentrations for each receptor site was then calculated. The sidewalk averaging method results in higher predicted CO concentrations than would be expected at nearby receptors.

State Ambient Air Quality Standards

The state ambient air quality standards for CO are 30 ppm (parts per million) for a one-hour period and 9 ppm for an eight-hour period. These standards are set at levels to protect the most sensitive members of the population and are not to be exceeded more than once per year.

Air Quality Modeling Assumptions

The weekday p.m. peak hour was analyzed because it has the highest traffic volumes. The modeling assumptions used in this analysis were as follows:

Cold Start Percentage: 20.6 percent for intersection traffic
30 mph Cruise Speed on:

- E. Bush Lake Road between Highwood Drive and 84th St., and east of Normandale Blvd.
- E. Bush Lake Road north and south of 84th St. (Chalet Road south of 84th St.)
- Norman Center Drive north of 84th St.
- Normandale Blvd. Southbound approach to 84th Street

35 mph Cruise Speed on:

- East Bush Lake Road west of Highwood Drive
- 84th Street between E. Bush Lake Road and Normandale Blvd.
- Highwood Drive North of E. Bush Lake Road

45 mph Cruise Speed on:

- Normandale Blvd. South of 84th St.

45 mph Cruise Speed on:

- Normandale Blvd. Northbound, north of 84th St. (until after I-494)

Analysis Year: 2003 and 2005
Traffic Mix: National default values
Wind Speed: 1 meter/second
Temperature: 20 degrees F

Surface Roughness: 108 centimeters
Stability Class: D
Inspection Maintenance: No
Oxygenated Fuel: Yes
Eight Hour Persistence Factor: 0.7
Wind Direction: 36 directions at 10 degree increments

4.4.2 Affected Environment

Background CO concentrations were added to the predicted future concentrations based on levels derived from CO monitoring performed by Mn/DOT. The Mn/DOT monitoring site was located in the Poplar Bridge Elementary School, 8401 Palmer Avenue South, Bloomington. The site is immediately south of 84th Street, and less than one mile east of Normandale Blvd. The monitoring was conducted between March 22, 2000 and April 9, 2000.

4.4.3 No-Build Alternative

Environmental Impacts
The maximum monitored concentrations of 0.9 ppm one-hour average and 0.7 ppm eight-hour average can be considered to be worst case background CO concentrations for the spring of the Year 2000. For purposes of this analysis, these background concentrations were adjusted for traffic volume (factor for traffic growth between 2000, 2003 and 2005), vehicle emissions (factor to adjust for anticipated decreases in carbon monoxide emissions from motor vehicles due to emission controls), and seasonal variation (Holzworth correction factor). The results are summarized in Table 4-7.

Mitigation
No mitigation is necessary since there would be no impact to air quality as a result of the No-Build Alternative.

Table 4-7 Calculated Background CO Concentrations –No Build Alternative

Parameter	**2003 Background CO Concentration (ppm)**		**2005 Background CO Concentration (ppm)**	
	One-Hour	**Eight-Hour**	**One-Hour**	**Eight-Hour**
Maximum 2000 Monitored Concentration (ppm)	0.9	0.7	0.9	0.7
Background Traffic Volume Adjustment Factor (3% per year)	1.09	1.09	1.16	1.16
Emission Adjustment Factor from Mobile 5A	0.86	0.86	0.86	0.86
Holzworth Correction Factor	1.17	1.17	1.17	1.17
Worst-Case 2005 Background Concentration (ppm)	1.0	0.8	1.1	0.8
State Standards	**30 ppm (34 mg/m^3)**	**9 ppm (10 mg/m^3)**	**30 ppm (34 mg/m^3)**	**9 ppm (10 mg/m^3)**

4.4.4 Alternative 1 - Proposed Project

Environmental Impacts
Year 2003 and 2005 air quality conditions for CO were determined using the MOBILE5a emissions model and the CAL3QHC traffic flow and dispersion model. Table 4-8 summarizes the results of the Year 2003 and 2005 microscale air quality analysis for the project.

Mitigation
The results of the air quality analyses indicate that the proposed Norman Pointe project is well below the State of Minnesota's ambient air quality standards and therefore is in compliance. No mitigation is proposed

4.4.5 Alternative 2 – Project Alternative

According to City Code, a.m. and p.m. peak hour traffic volumes would need to be equal to or less than that evaluated for the Proposed Project. The additional users of the larger development project would utilize alternative modes of transport or times of travel. Local travel patterns would be coordinated and evaluated using a comprehensive transportation demand management plan. Thus, Alternative 2 would result in the same air quality impacts as the Proposed Project.

Table 4-8 Modeled Carbon Monoxide Concentrations[1] (2003 and 2005 Build PM Peak Hour Conditions)

Intersection	Proposed Project 2003 (Scenario 4)		Proposed Project 2005 (Scenario 7)	
	1-Hour Average[2]	8-Hour Average[2]	1-Hour Average[3]	8-Hour Average[3]
84th St at E Bush Lk Rd	5.0	3.6	4.9	3.5
84th St at Norman Center Dr	6.3	4.5	5.6	4.0
Normandale Lk Blvd at 84th St.	NA[4]	NA[4]	5.2	3.7
Normandale Blvd at 84th St	8.9	6.3	NA[5]	NA[5]
E Bush Lk Rd at Highwood Dr.	5.2	3.7	4.5	3.2
State Standards	**30 ppm**	**9 ppm**	**30 ppm**	**9 ppm**

[1]CO concentrations are in parts per million.
[2]Includes Year 2003 CO background for 1- and 8-hour averages of 1.0 ppm and 0.8 ppm, respectively
[3]Includes Year 2005 CO background for 1- and 8-hour averages of 1.1 ppm and 0.8 ppm, respectively
[4]Note that during the year 2003, Normandale Lake Blvd at 84th Street operates at a LOS better than D, but not in 2005.
[5]Note that during the year 2005, Normandale Blvd at 84th Street operates at a LOS better than D, but not in 2003.

4.5 SURFACE WATER QUALITY

4.5.1 Methods and Regulations

Surface drainage will be routed to three on-site ponds allowing for storage and pretreatment of water prior to discharge into Nine Mile Creek backwaters. Each pond corresponds to a specific

drainage area and will collect surface water runoff from that area. For water quality purposes, the ponds are required to hold a permanent pool volume (cubic feet) of runoff from a 2-1/2 inch rainfall over the drainage area for that pond. Surface water in the drainage area will flow directly to the pond or will be collected by roof drains on buildings and catch basins in roadways, and be piped to the pond. Once the amount of water in the pond exceeds the permanent pool volume of the pond, an outlet pipe will transfer pond water to Nine Mile Creek backwaters.

The stormwater pond outlets will be sized to provide rate control for site drainage, although this is not a requirement for the project. The outlet will be on the opposite side of the pond from the inlet. This allows sediment in the water entering the pond to drop to the bottom of the pond before it gets to the outlet and into Nine Mile Creek backwaters. The ponds will be designed to meet NURP standards, with a removal efficiency of at least 60% for phosphorus (80% removal of total suspended solids results in approx. 60% removal of total phosphorous).

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The above method is consistent with the requirements of the City of Bloomington, Nine Mile Creek Watershed District, and the Minnesota Pollution Control Agency. In addition to pond construction, the proposed project would incorporate MPCA's Best Management Practices (BMPs) into the site design to minimize construction related water quality impacts. BMPs to be implemented prior to initial grading include silt fence and rock construction entrances. Bare soils will be promptly revegetated using sod and/or special plantings upon completion of final grading activities. Additional BMPs would be incorporated as necessary, in cooperation with regulating agencies.

4.5.2 Affected Environment

There are two existing buildings on the site, 5503 Green Valley Drive and 5701 Green Valley Drive (Figure 17). Both buildings have large bituminous parking lots adjacent to the buildings. The existing site has approximately 8.3 acres of impervious surface. No storm water ponding facilities or other treatment facilities presently exist on the site.

The parking lot on the southeast side of the 5503 building drains to a series of catch basins that pipe the water to the storm sewer system under Norman Center Drive. It is then piped back across the property in a 24-inch reinforced concrete pipe and into the backwaters of Nine Mile Creek.

A catch basin in the driveway on the southwest corner of the 5503 building collects water from that corner of the building and pipes it directly into Nine Mile Creek backwaters. The large parking lot southwest of the 5503 building sheet drains from Norman Center Drive across the parking lot into Nine Mile Creek backwaters.

The large parking lot south of the 5701 building sheet drains from Norman Center Drive northeast where it is picked up in two catch basins and piped in a 15 inch reinforced concrete pipe to Nine Mile Creek backwaters.

The small parking lot to the northwest of the 5701 building appears to sheet drain southeast into Nine Mile Creek.

Insert Fig 17

4.5.3 No-Build Alternative

Environmental Impacts

Currently, runoff from the site is either piped or sheet drained directly into Nine Mile Creek and its backwaters. No storm water treatment is currently provided. The large amount of impervious surface on the site contributes increased storm water discharge and pollutants to Nine Mile Creek, as compared to the pre-developed conditions.

Mitigation

No mitigation would be required if changes to the site do not take place.

4.5.4 Alternative 1 - Proposed Project

Environmental Impacts

The proposed redevelopment of three office buildings, a hotel and parking garages will result in three drainage areas to three separate ponds (Figure 18**)**. Model inputs and pond size calculations are proved in Appendix B. Ponding is expected to provide 60% removal efficiency for sediment and associated phosphorous pollutants. Additionally, the ponding discharge rates will be controlled by pipe outlets to the backwaters, as compared to the uncontrolled rates on the existing site. The proposed site plan will result in a slight decrease (0.1 ac) in impervious surface cover, as compared with existing conditions. All outlets will be above the DNR ordinary high water elevations, such that a DNR permit will not be required.

Drainage Area 1 – Located on the northeast side of the site, the area includes the north half of the parking garage, the hotel, Office Building II, parking on the north side of the hotel, the driveway on the west side of the parking garage from Green Valley Drive to the approximate center of the parking garage, and the northern most pond to the west of the driveway. The drainage area is 4.01 acres and requires approximately 30,600 cubic feet of permanent pool volume. The pond is designed for 32,600 cubic feet of permanent pool volume, therefore the pond capacity exceeds the water quality storage requirement. Water from the drainage area will sheet drain directly to the pond or flow to roof drains and catch basins where it will be piped directly to the pond. An outlet on the west side of the pond will drain treated water into Nine Mile Creek backwaters.

Drainage Area 2 - Located on the southeast corner of the site, this area includes the south half of the parking garage with Office Building III, the driveway on the west side of the parking garage from Norman Center Drive to the approximate center of the parking garage, and the southern most pond on the west side of the driveway. The drainage area is 3.34 acres and requires approximately 24,800 cubic feet of permanent pool volume. The pond is designed for 28,800 cubic feet of permanent pool volume, therefore the pond capacity exceeds the water quality storage requirement. Water from the drainage area will sheet drain directly to the pond or flow to roof drains and catch basins where it will be piped directly to the pond. An outlet on the west side of the pond will drain treated water into Nine Mile Creek backwaters.

Drainage Area 3- Located on the west side of the site, this area includes the parking garage with Office Building IV, the driveway off of Norman Center Drive to the south and southeast corner

Insert Fig 18 (need from HTPO?)

of the parking garage, and the east side of the parking garage including the pond. The drainage area is 2.92 acres and requires approximately 23,600 cubic feet of permanent pool volume. The pond is designed for 29,900 cubic feet of permanent pool volume, therefore the pond capacity exceeds the water quality storage requirement. Water from the drainage area will sheet drain directly to the pond or flow to roof drains and catch basins where it will be piped directly to the pond. An outlet on the east side of the pond will drain treated water into Nine Mile Creek backwaters.

Collection of the water in the ponds before discharging into Nine Mile Creek backwaters will reduce the amount of sediment and associated phosphorous reaching the backwaters. This will improve the quality of runoff water from the existing condition since no treatment of onsite runoff water currently exists.

Mitigation
Water quality impacts would be mitigated through the construction of on-site storm water ponds, as previously described. Ponding and storm water management have been coordinated with and will need to be approved by the Nine Mile Creek Watershed District and the City of Bloomington.

4.5.5 Alternative 2 – Project Alternative

Environmental Impacts
Additional office space is gained by adding levels to the buildings and parking structures, therefore the proposed footprint will not change from the office redevelopment at 1.2 FAR. Surface water drainage will be the same as described above for the proposed project.

Mitigation
Additional office space is gained by adding levels to the buildings and parking structures, therefore the proposed footprint will not change from the office redevelopment at 1.2 FAR. Mitigation will be the same as described above for the office redevelopment at 1.2 FAR.

4.6 WATER RELATED LAND USE MANAGEMENT DISTRICTS – SHORE AREA

The scoping decision document identified the need to briefly discuss the City's Shore Area regulations in relation to the proposed project. The following provides a summary of the regulations and an evaluation of how the project fits within the shore area associated with Nine Mile Creek (Figure 19).

The Shore Area Regulations (Article IX of City Code) regulate development adjacent to with Nine Mile Creek. The regulations designate two zones that are related to the ordinary high water level (OHWL) or top of bank of Nine Mile Creek. The two zones include the shore area zone, identified as a 50 foot zone parallel to the top of bank (approx. 812 foot elevation), and the shore area impact zone, identified as a 25 foot area parallel to the top of bank.

The City regulations restrict the types of activities that can occur within these two zones.

Insert figure 19 (need from HTPO?)

Specifically, a shore area alteration permit is required for the removal or alteration of vegetation within the shore area. Building structures except those identified in Section 19.87.04(c)(2)(A)(I)-(vi) can not be constructed within the shore area impact zone and must maintain a 50 foot setback from the ordinary high water level (OHWL).

The shore area zone is currently impacted by the existing facilities on the site. The proposed construction activities for Building IV have been adjusted in order to avoid impacts within the shore area. Project grading or construction would not occur within the shore area impact zone. Grading within the shore area would require a Shore Area Alteration permit from the City of Bloomington. Erosion control best management practices would be implemented prior to initial grading, with timely revegetation post-grading.

4.7 INFRASTRUCTURE AND PUBLIC SERVICES – ROADS

The approved scoping document identified the need to discuss infrastructure impacts, specifically those related to roads. Detailed discussion regarding impacts and mitigation for infrastructure impacts is provided in the Traffic Section (4.2). See Table 4-4 for a list of the recommended roadway improvements for each alternative.

4.8 CUMULATIVE IMPACTS

The approved scoping document identified the need to discuss cumulative impacts, specifically those related to traffic, noise and air quality impacts for the local existing and planned development. Future increases in local/regional traffic volumes were included by assuming a 3% annual growth rate for background traffic, used for the traffic modeling. Discussion regarding impacts and mitigation for cumulative impacts is provided in the Traffic Section (4.2)**,** Traffic Noise Section (4.3) and Vehicle Related Air Emissions Section (4.4)**.**

5.0 ENVIRONMENTAL REVIEW PROCESS/SCHEDULE

The preliminary schedule for the completion of the EIS for the Proposed Project is outlined below:

Table 5.1 Environmental Review Schedule

Event/Activity	Date	Comments
Start EIS Scoping Period	February 21, 2000	EQB Monitor publication
Scoping Meeting	March 9, 2000	At least 15 working days after EQB Monitor publication
End Scoping Period	March 22, 2000	
Scoping Decision	April 3, 2000	Must be issued within 15 working days of end of scoping period
EIS Preparation Notice in EQB Monitor	April 10, 2000	Must be issued within 45 days of the Scoping Decision. Maximum 280-day EIS Process starts here.
City Council Approval DEIS Publication Notice in EQB Monitor	July 24, 2000	One week prior to publication
Publish DEIS Start Public Comment Period	August 7, 2000	EQB Monitor publication
Public Meeting	August 30, 2000	At least 15 working days after EQB Monitor publication
End DEIS Comment Period	September 15, 2000	At least 10 working days after public meeting
City Council Approval	October 2, 2000	
FEIS Preparation Notice in EQB Monitor	October 9, 2000	One week prior to publication
Publish FEIS Start Public Comment Period	October 16, 2000	EQB Monitor publication
End of Comment Period	November 1, 2000	At least 10 working days after EQB Monitor publication
EIS Adequacy Decision	November 20, 2000	At least 5 working days after end of comment period City Council Meeting

6.0 LIST OF PREPARERS

Name	Education	Experience	Responsibility
City of Bloomington			
Jim Gates	B.S. Civil Engineering	20 years	Public Works Coordinator Professional Engineer
Bob Hawbaker	M.A. Urban & Regional Planning	30 years	Planning Division Coordinator and Contact Person
Shelly Pederson	B.S. Civil Engineering	9 years	Project Review
Rebecca Robertson	M.A. Urban & Regional Planning B.S. Economics & Pol. Science	3 years	Project Review and Coordination
Robert M. Sharlin	B.A. Geography	27 Years	Project Review and Coordination
BRW, Inc.			
Richard Nau, AICP	B.S. Forest Sciences	20 Years	Project Manager, QA/QC
April Manlapaz	B.S. Civil Engineering	9 Years	Traffic Study
John Crawford	B.S. Civil Engineering	8 Years	Noise and Air Quality
Lydia Nelson	B.S. Biology B.S. Soil Science	14 Years	EIS Preparation
Kathe Flynn	M.S. Landscape Archit. B.A. Art	12 Years	Shadow Cast Study
Elizabeth Colburn	B.A. Communications	11 Years	Traffic Management
Inskip Thomas	M.S. Trans. & Civil Engin. B.S. Civil Engineering	37 Years	Traffic Study
Frederikson & Byron, P.A.			
David Sellergren	B.A. History J.D. Law L.L.M. Environmental Law	28 Years	EIS Preparation
Pope Associates			
Steve Irwin	B.S. Environmental Design B..S. Architecture	20 Years	Site Planning & Design
HTPO			
Tim McNaboe	B.S. Civil Enineering	3 Years	Surface Water Quality Shore Area

7.0 AGENCIES AND ORGANIZATIONS RECEIVING COPIES OF THE DEIS

7.1 FEDERAL AGENCIES

U.S. Department of the Army, Corps of Engineers
U.S. Environmental Protection Agency
U.S. Department of the Interior, U.S. Fish and Wildlife Service

7.2 STATE AGENCIES

Minnesota Department of Agriculture
Minnesota Pollution Control Agency
Minnesota Department of Health
Minnesota Department of Natural Resources
Minnesota Department of Transportation
Board of Water and Soil Resources
Minnesota Historical Society
Minnesota Environmental Quality Board
Department of Public Service

7.3 REGIONAL AGENCIES

Metropolitan Council
Nine Mile Creek Watershed District

7.4 COUNTY AGENCIES

Hennepin County Public Works
Hennepin County

7.5 LOCAL GOVERNMENT/AGENCIES

City of Bloomington

7.6 LIBRARIES

Environmental Conservation Library
Minnesota Legislative Reference Library
Hennepin County Library: Penn Lake Library

Appendix A: Traffic Study Tables

Appendix B: Surface Water Calculations