FINAL ALTERNATIVE URBAN AREAWIDE REVIEW

This Alternative Urban Areawide Review (AUAR) follows the format of an Environmental Assessment Worksheet (EAW). Where the AUAR guidance provided by the Minnesota Environmental Quality Board (EQB) on how AUAR responses should differ notably from those required for an EAW, the guidance is noted for those sections in *italics*.

The Final AUAR and Mitigation Plan reflect comments received on the Draft AUAR (see **Appendix A**).

1. Project Title: Downtown East Development

Note: The project title has changed since the AUAR Order was issued. The Study Area is no longer referred to as the East Village (that name has been used elsewhere); rather, the new title is Downtown East. This document therefore uses the Downtown East reference throughout.

2. Proposer: Ryan Companies US, Inc.

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4. Reason for EAW Preparation

AUAR Guidance: Not applicable to AUAR.

5. Project Location

County: Hennepin **City/Township:** Minneapolis

NW ¼ Section 26 and SW ¼ Section 23, Township 29N, Range 24W

Attach each of the following to the EAW:

- **County map showing the general location of the project;** (see **Figure 5-1**)
- **U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable);** (see **Figure 5-1**)
- **Site plan showing all significant project and natural features.** (see **Figure 5-2**)
- **Land use plans (**see **Appendix B)**

6. Description

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

- *Anticipated types and intensity (density) of residential and commercial/warehouse/light industrial development throughout the AUAR area;*
- *Infrastructure planned to serve development (roads, sewers, water, stormwater system, etc.) Roadways intended primarily to serve as adjoining land uses within an AUAR area are normally expected to be reviewed as part of an AUAR. More "arterial" types of roadways that would cross an AUAR area are an optional inclusion in the AUAR analysis; if they are included, a more intensive level of review, generally including an analysis of alternative routes, is necessary;*
- *Information about the anticipated staging of various developments, to the extent known, and of the infrastructure, and how the infrastructure staging will influence the development schedule.*

The AUAR Order approved by the City of Minneapolis (City) defines two scenarios to be evaluated in the AUAR, with the AUAR Study Area boundary covering five city blocks on the east side of downtown. For reference, the blocks in the AUAR Study Area have been numbered one through five (see **Figure 5-2**). The magnitude of potential development in the Study Area, for each scenario, is provided in **Table 7-1**. The two scenarios represent the anticipated minimum development density (Scenario 1, referred to as the Minimum Development Scenario) and the maximum development density (Scenario 2, referred to as the Maximum Development Scenario) that would be considered on these blocks by the current developer/owner.[1] Both scenarios are consistent with the City's current Comprehensive Plan (*Minneapolis Plan for Sustainable Growth*, 2009) as required by Minnesota Rule 4410. 473.858. Both scenarios, including the Maximum Development Scenario, are well below the maximum density allowed under the Comprehensive Plan given that two of the blocks are proposed as open park space and as a public plaza for use in conjunction with the adjacent Multi-Purpose Stadium project. No new City infrastructure is required for either Development Scenario based on the existing grid network of roads and utilities; however, modifications to existing utilities (new connections) and roadways (turn lanes, signal modification, etc.) will be required as described in the following sections.

Under both Development Scenarios, a public plaza/park, to be controlled by a yet-to-be-determined public entity, is being proposed on Blocks 4 and 5. In the Draft AUAR, four road closure options were analyzed that would have created a more continuous public plaza/park space. However, due to City and Hennepin County concerns regarding traffic, access, and emergency access to the Hennepin County Medical Center, all road closure options (Options 1-4) have been dropped from further consideration as part of the Development Scenarios (refer to the *Downtown East Draft AUAR* (August 2013) for information on these options). The roadway option being carried forward in the Final AUAR

[1] Ryan Companies US, Inc. has a purchase agreement with the Star Tribune to acquire all five blocks.

includes no road closures on Park or Portland Avenue (Baseline Roadway Network Option). The traffic-related data and analysis from Roadway Option 4 has been renamed as the Baseline Roadway Network Option for this Final AUAR document. The Baseline Roadway Network Option would make no physical design changes to the existing Park or Portland Avenues whereas Option 4 had only minor changes, as described below (see **Figure 6-1**):

- Option 4: Both Park and Portland remain open during the peak hours only and are modified to two-lane segments between 4th and 5th Streets and have no on-street parking.
- Baseline Roadway Network Option: Park and Portland remain in current configurations, with no closures or traffic restrictions.

Since Option 4 has the same roadway network and analysis assumptions as the Baseline Roadway Network Option, except the Baseline Roadway Network has no modifications to Park and Portland Avenues between 4th and 5th Streets, most of the analysis results are the same. Where differences occur that result in changes in mitigation requirements, they are noted in the analysis.

Construction completion dates for each of the blocks is estimated as shown below:

- Block 1 - 4th quarter 2015
- Block 2 - 4th quarter 2015
- Block 3 - 1st quarter of 2016
- Block 4 - 2nd quarter of 2016
- Block 5 - 2nd quarter of 2016

Skyways are anticipated to connect the office development across 5th Avenue to the existing downtown skyway network; between Blocks 1, 2 and 3; and to the new Minnesota Multi-Purpose Stadium.

7. Project Magnitude Data

For a summary of the two Development Scenarios, see **Table 7-1**.

Total project acreage

Number of residential units: unattached attached maximum units per building

Commercial, industrial, or institutional building area (gross floor space): total square feet

Indicate areas of specific uses (in square feet):

Office:	**Manufacturing:**
Retail:	**Other industrial:**
Warehouse:	**Institutional:**
Light industrial:	**Agricultural:**

Other commercial (specify):

Building height: If over 2 stories, compare to heights of nearby buildings:

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

Table 7-1. Scenario Component Totals

Component Totals	Minimum Development Scenario	Maximum Development Scenario
Parking Spaces	1,925	2,675
Residential Units	410 (or 350 with a 150 room / 110,000 square foot hotel)	335 (or 275 with a 150 room / 110,000 square foot hotel)
Office (square feet)	1,400,000	2,580,000 (1,400,000 base and 1,180,000 expansion)
Retail (square feet)	80,000	105,000
Public Plaza/Park (blocks)	2	Approximately 1 $^{2}/_{3}$
Acreage*	12.4	12.4
Building Height	18 stories / 310 feet	20 stories / 360 feet

* This area does not include any street or right-of-way area. In addition to the 12.4 acres, there is a 0.3 acre areaway under 4th Street.

See Section 26 for a comparison of building heights with nearby buildings.

8. Permits and Approvals Required

List all known local, state, and federal permits, approvals, and financial assistance for the project. Include modifications of any existing permits, governmental review of plans, and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing, and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.

Permits and approvals potentially required for the project Study Area are listed by governmental unit in **Table 8-1**.

Table 8-1. Permits and Approvals

Unit of Government	Type of Application	Status
Federal		
Federal Aviation Administration	Airspace hazard permit (for any structures more than 200 feet above ground level)	To be applied for
State		
Minnesota Department of Health	Abandonment of Water Wells	To be applied for
	Water Main Installation Permit	To be applied for, if needed
	Drainage Permit	To be applied for, if needed
Minnesota Department of Natural Resources	Groundwater Appropriation Permit (construction)	To be applied for, if needed
Minnesota Historical Society	Minnesota Historic Sites Act Minnesota Field Archaeology Act	Provisions will be met during construction, as applicable
Minnesota Pollution Control Agency	NPDES/SDS Construction Stormwater Permit	To be applied for
	Sanitary Sewer Extension Permit	To be applied for, if needed
	Soil and Groundwater Investigation and Remediation Plan Approvals	To be applied for, if needed
	Storage Tank Registration	To be applied for, if needed
	Intent to Perform a Demolition	Notification
	Asbestos Related Work	Notification, if needed

Unit of Government	Type of Application	Status
Regional		
Metropolitan Council	Sanitary Sewer Extension Permit	To be applied for, if needed
Middle Mississippi River Watershed Districted (defers to the City of Minneapolis for permitting)	No formal review process	N/A
Local		
City of Minneapolis	Building permits	To be applied for
	Demolition permit	To be applied for
	Emergency Generator Fuel Storage Permit	To be applied for
	Erosion and Sedimentation Control Plan Approval and Permit	To be applied for
	Stormwater Management Plan Approval	To be applied for
	Planned Unit Development Review and Approval	To be applied for
	Land Subdivision	To be applied for
	Temporary Water Discharge Permit	To be applied for, if needed
	After Hours Work Permit	To be applied for, if needed
	Lane Obstruction Permit	To be applied for, if needed
	Right-of-Way Excavation Permit	To be applied for, if needed
	Encroachment Permit	To be applied for, if needed
	Utility Repair Permit	To be applied for, if needed
	Utility Connection Permits	To be applied for, if needed
	Sidewalk Construction Permit	To be applied for, if needed
	Testing & Inspection Agreement	To be applied for, if needed
	General Obligation Bonds for Blocks 4 and 5	To be applied for
	Department of Employment and Economic Development grants for redevelopment, and for demolition and clean up	To be applied for
	Final AUAR and Mitigation Plan	In process

9. Land Use

Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.

Land Use

Current land use within the AUAR boundary consists of three office buildings, surface parking totaling approximately 1,200 spaces, and minimal landscaped areas (see **Table 9-1** and **Figure 5-2**). All of this would be removed as part of either Development Scenario under consideration and replaced with new mixed use development and public plaza/park space.

Table 9-1. Existing Land Use

Block Number	Use	Existing Building Square Footage	Parking Spaces
1	• Approximately ¾ of the block is surface parking • Approximately ¼ of the block is office building (on the corner of 4th Street and Park Avenue)	McClellan Building: 80,300 Gross Square Feet (GSF)	252
2	• Approximately ¾ of the block is surface parking • Approximately ¼ of the block is office building (on the corner of 4th Street and Portland Avenue)	Freeman Building: 95,900 GSF	275
3	Surface parking	--	324
4	• Approximately $^{7}/_{8}$ of the block is surface parking • Approximately $^{1}/_{8}$ of the block is landscaped space (on the corner of 5th Street and Portland Avenue)	--	328
5	• Approximately $^{4}/_{5}$ of the block is office building • Approximately $^{1}/_{5}$ of the block is parking	Star Tribune Building: 440,000 GSF	16

The blocks within the AUAR boundary are zoned as follows:

- Blocks 1, 2, and 5 – B4N (Downtown Neighborhood District)
- Blocks 3 and 4 – B4S-2 (Downtown Service District)

Land adjacent to the AUAR Study Area is zoned as B4N (Downtown Neighborhood District), B4S-2 (Downtown Service District), B4-1 (Downtown Business District), and I1 (Light Industrial District). Surrounding land uses are primarily commercial, office, and parking. The existing Metrodome lies immediately east of the site, and construction of a new Minnesota Multi-Purpose Stadium to replace the Metrodome will begin in early 2014 and be completed by summer 2016. Proposed development under either of the Development Scenarios is similar in use and would be compatible with adjacent and surrounding land uses.

Any zoning inconsistencies for either Development Scenario, such as floor area ratio or building height, will be addressed through the City of Minneapolis Planned Unit Development (PUD) process.

Blocks 4 and 5 of the Downtown East Project (**Figure 5-2)** are one of two alternatives under consideration by the Minnesota Sports Facility Authority (MSFA) for a public plaza and, therefore, may be considered by the MSFA as part of the "stadium infrastructure" within the meaning of the Minnesota Multi-Use Stadium Act (Laws 2012, Chapter 299).

According to the Phase I Environmental Site Assessment (ESA) conducted for the five block AUAR Study Area (Liesch Associates Inc., July 2013), past land uses have included commercial (industrial and retail), public, and residential (single and multi-unit) since at least 1885. The Study Area has been redeveloped multiple times. Adjoining land use has been commercial and residential since at least 1885 and is currently commercial. An executive summary of the report is provided in **Appendix D**.

Potential Environmental Hazards

The Phase I ESA found that 26 petroleum underground storage tanks (USTs) and six above ground storage tanks (ASTs) have been reported in the Study Area. All of the USTs have been listed as removed and all the ASTs are listed as out of service according to the Minnesota Pollution Control Agency (MPCA) registered tank files. Four releases from the USTs were reported, two on Block 3 and two on Block 5, and all four listings have been closed by the MPCA. There are also three listings reported as closed on the MPCA SPILLS database located on Blocks 3 and 4. These SPILLS listings are considered a historically recognized environmental condition (REC).[2]

According to the MPCA's *What's in My Neighborhood*? database, there are 10 potentially contaminated sites within the AUAR Study Area. Two are active sites, and eight are inactive. Details on the sites are given in **Table 9-2**.

Table 9-2. *What's in My Neighborhood?* Sites within the AUAR Boundary*

Site Name and Location	Activity	Status
Eagle Standard 728 S 4th Street	Hazardous Waste, Small to Minimal Quantity Generator	Inactive
Star & Tribune 425 Portland Avenue S	Leak Site	Inactive
	Leak Site	Inactive
	Tank Site	Inactive
Star Tribune **716 S 4th Street**	Hazardous Waste, Small to Minimal Quantity Generator	Active
	Tank Site	Inactive
Minneapolis Star Tribune Co **McClatchy Co** **425 Portland Avenue**	Hazardous Waste, Small to Minimal Quantity Generator	Active
	Industrial Stormwater Permit	Active
North Third Street Property 735, 763, & 805 N 3rd Street	Voluntary Investigation & Cleanup (VIC)	Inactive
Rock Island Yard Fuel Oil West corner of Park Avenue & 3rd Street S	Unpermitted Dump Site	Inactive
Bureau of Eng Site 502 S 4th Street	Hazardous Waste, Small to Minimal Quantity Generator	Inactive[a]
Bureau of Engraving (Fourth Street) 500 S 4th Street	Voluntary Investigation & Cleanup (VIC)	Inactive
	Voluntary Investigation & Cleanup (VIC)	Inactive
	Voluntary Investigation & Cleanup (VIC)	Inactive
Bureau of Engraving Inc – 4th St 500 S 4th Street	Air Permit	Inactive[a]
	Hazardous Waste, Small to Minimal Quantity Generator	Inactive
	Leak Site	Inactive
	Leak Site	Inactive
	Tank Site	Inactive
Hennepin County Safety Facility	Tank Site	Inactive

* **Bold** text indicates the site has an active status.

[a] Property ownership transferred to Star Tribune, and site operations are no longer active.

[2] The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

Mitigation measures for environmental contamination in the State of Minnesota are typically undertaken in coordination with the MPCA. The MPCA offers the following fee-for-service voluntary programs which can provide liability assurances to owners, prospective purchasers, or developers:

- Petroleum Brownfield Program (PBP) for petroleum contamination
- Voluntary Investigation and Cleanup (VIC) program for non-petroleum contamination

The MPCA voluntary programs operate in coordination with state regulatory programs such as Superfund and Petroleum Remediation Program (PRP) to offer liability assurances consistent with state statutes, rules, and policies. The voluntary programs also offer users prescribed guidelines and standardized approaches for investigation, response action planning, remediation, and monitoring of mitigation measures.

During site preparation, contamination or solid waste that must be properly managed to minimize risks may be encountered. The following materials management categories, each requiring unique permitting and documentation measures, are anticipated for materials that may be encountered within the AUAR Study Area:

- Landfill disposal/management of hazardous or solid waste
- Landfill disposal or potential reuse of regulated fill soil following state and local government notification procedures
- Potential on-site or off-site reuse or approved disposal of unregulated fill soil depending on soil characteristics and conditions at the prospective receiving site
- Potential on-site or off-site reuse or disposal of uncontaminated soil depending on soil suitability for planned construction uses
- Soil and bedrock, either contaminated or uncontaminated, which may remain *in situ*
- Discharge or sanitary disposal of potentially contaminated waters which may require advanced planning, permitting, and pre-treatment, or other management measures

The presence of soil gas contamination may result in migration and encroachment risks to buildings, whether existing or yet to be constructed. Given the information known about the Study Area, further investigation of potential vapor intrusion risks may be warranted. If investigation activities indicate a potential for vapor intrusion to occupied building space (retail, office, or residential) at concentrations exceeding action levels, then vapor mitigation measures would be necessary such as active or passive vent and barrier systems. The parking ramps on Blocks 1, 2, and 3 are required to be ventilated for exhaust and, therefore, could eliminate some vapor issues if the need arises.

The presence of the identified environmental impacts to soil and soil gas media will require diligence during planning and construction to manage risks associated with contaminated media, to coordinate waste stream management, to confirm the presence and degree of risks, and to mitigate any residual risks which are not remediated.

Specific mitigation for contamination and regulated waste is addressed in Section 20.

10. Cover Types

AUAR Guidance: The following information should be provided instead:

a. Cover type map, at least at the scale of a USGS topographic map, depicting:

- *Wetlands – identified by type (Circular 39)*
- *Watercourses – rivers, streams, creeks, ditches*
- *Lakes – identify public waters status and shoreland management classification*

- *Woodlands – breakdown by classes where possible*
- *Grassland – identify native and old field*
- *Cropland*
- *Current development*

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

The Study Area does not contain any wetlands, watercourses, lakes, woodlands, grassland, or cropland. It is a developed area with buildings and paved parking lots. Grassy areas and trees are limited to parking lot and building landscaping. Green space would increase by 1 $^{2}/_{3}$ blocks in the Maximum Development Scenario and by two blocks in the Minimum Development Scenario, with the addition of the public plaza/park. See **Figure 5-2**.

11. Fish, Wildlife, and Ecologically Sensitive Resources

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

There are no fish and wildlife resources and habitats on or near the AUAR Study Area. The entire AUAR site and surrounding area (within two to three blocks of the AUAR boundary) are fully developed with the only green space being isolated landscaped areas (sidewalk trees, shrubs, planters, and other manicured vegetation). The Mississippi River is approximately 0.4 miles from the Study Area and will not be impacted as a result of the project.

b. Are any state-listed (endangered, threatened, or special concern) species, rare plant communities, or other sensitive ecological resources on or near the site? X Yes _ No

If yes, describe the resource and how it would be affected by the project. Describe any measures that will be taken to minimize or avoid adverse impacts. Provide the license agreement number (LA-629) and/or Division of Ecological Resources contact number (ERDB See Appendix C) from which the data were obtained and attach the response letter from the DNR Division of Ecological Resources. Indicate if any additional survey work has been conducted within the site and describe the results.

A review of the DNR Natural Heritage Inventory database was conducted (license agreement LA-629) for the project Study Area and an area within a radius of approximately one mile of the Study Area. The database includes the known occurrences of any federal or state endangered, threatened, or special concern species. The review identified three species that may be found in this area: the black sandshell mussel, the peregrine falcon, and the tricolored bat.

- Black sandshell (*Ligumia recta*): Federal status – none; State status – special concern

  The black sandshell is a mussel species known to occur in portions of the Mississippi River, living in the sand or gravel bottom areas of the river. The Downtown East project is approximately 0.4 miles from the river and will not have any direct effect on the Mississippi River or this mussel species.[3]

[3] http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=IMBIV26020

- Peregrine falcons (*Falco peregrinus*): Federal status – none; State status – special concern[4]

  Peregrine falcons were reintroduced to Minnesota and the Minneapolis metro area in the early 1980s and have been successful in establishing a local self-sustaining population. Population recovery has been extensive enough that in 1996 the state status of this species was changed from endangered to threatened. In 1999, the peregrine falcon was removed from the federal endangered species list. Peregrine falcons are known to nest within nesting boxes located on skyscrapers in downtown Minneapolis. Peregrine falcons feed mainly on birds, ranging from warblers to ducks, which are caught and killed in mid-air. In urban areas, pigeons provide an abundant food source. The construction of the Downtown East Development will not have an impact on peregrine nesting or affect their ability to survive within the downtown area. Therefore, no impact is anticipated on the peregrine falcon population in the city of Minneapolis.[5]

- Tricolored bats (*Perimyotis subflavus*): Federal status – none; State status – special concern

  Tricolored bats, also known as the eastern pipistrelle, are known to colonize along the banks and caves of the Mississippi River. These bats are small and tend to colonize in small numbers. Tricolored bats forage early in the evening and may catch up to half their body weight in insects each hour. Tricolored bats eat moths, flies, beetles, and ants. They forage mainly over water and tend to avoid deep woods or open fields. The project area will not impact the Mississippi River (waterbody adjacent to the colonies); therefore, no impact is anticipated.[6]

The Minnesota DNR has reviewed the above findings and concurs that the two Development Scenarios will have no effect on the three species listed above and no potential to impact any rare species (**Appendix C**). The DNR did note in its review that peregrine falcons have nested annually on the Clock Tower of City Hall. It is unlikely that the proposed construction activities will affect these birds, but if the birds exhibit unusual behaviors or other signs of potential distress during construction, the Minnesota DNR will be contacted.

The building exteriors will be of similar design with steel structures, pre-cast panels, glass, metal mullions, and a decorative band of granite veneer at the base. Window faces will contribute to less than 40 percent of the building surface area, minimizing the potential for bird/window collisions. Additionally, the exterior building lighting will meet LEED goals, limiting night lighting and consequential impacts to migrating birds. The new buildings on Blocks 2 and 3 may provide new nest site opportunities for peregrine falcons.

[4] After the DNR's concurrence and Draft AUAR, the peregrine falcon was downlisted from threatened to a species of special concern.
[5] http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABNKD06070
[6] http://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=AMACC03020

12. Physical Impacts on Water Resources

Will the project involve the physical or hydrologic alteration – dredging, filling, stream diversion, outfall structure, diking, and impoundment – of any surface waters such as a lake, pond, wetland, stream, or drainage ditch? _Yes X No

If yes, identify water resource affected and give the DNR Public Waters Inventory number(s) if the water resources affected are on the PWI: Describe alternatives considered and proposed mitigation measures to minimize impacts.

No water resources were identified within the AUAR Study Area. The Development Scenarios will not involve any physical or hydrologic alterations of any surface waters.

13. Water Use

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

If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.

The deepest excavation for any of the new development would be 13-17 feet for the elevator pit areas. Groundwater is an average of 30 feet below the ground surface per soil borings taken in the area. The seasonal high groundwater elevation is estimated to be within two to three feet of the observed groundwater. As a result, permanent dewatering is not anticipated. However, project specific calculations will be conducted to determine if increased infiltration from the project will affect groundwater levels after significant rain events.

Temporary dewatering may be required during project construction, particularly during caisson installation for each of the mixed use development blocks (1, 2, and 3). All water pumped during construction dewatering activities will be discharged in compliance with City and Minnesota Department of Natural Resources (DNR) requirements and the National Pollutant Discharge Elimination System (NPDES) permit. No discharge water will be directed to surface waters without prior retention in a temporary settling basin. A City of Minneapolis temporary water discharge permit is required and will be obtained, if needed. The developer will determine if groundwater is contaminated as a basis for determining discharge to storm sewer or sanitary sewer. Construction dewatering will require a Temporary Water Appropriations General Permit 1997-0005 if less than 50 million gallons per year and less than one year in duration. Construction dewatering is anticipated to last less than one year, if needed.

Water Wells and Water Main System

The Hennepin County Well Index was consulted to verify the presence of water supply wells located within or near the AUAR boundary. There are two wells listed in the index, and information about these wells is provided in **Table 13-1**.[7] It is not known if the existing wells are used for water supply or if they are existing groundwater monitoring wells. The developer will coordinate with the MPCA on whether they will need to be relocated for continued monitoring or if they can be capped and sealed.

[7] County Well Index, Minnesota Department of Health Division of Environmental Health, 2007

If any additional wells are encountered during construction, they will be capped and sealed according to Department of Health regulations.

Table 13-1. Wells within the AUAR Boundary

Well Name	Unique Well Number	Address
Minneapolis Star-Tribune	200399	425 Portland Avenue
Corn Exchange	200627	North corner of 3rd Street & 5th Avenue

The AUAR boundary is served by the City's municipal water main system. Water mains exist in the following locations:

- 24-inch main in 5th Avenue
- 12-inch main in Portland Avenue
- 6-inch main in Park Avenue
- 12-inch main in Chicago Avenue
- 6-inch main in 5th Street
- 12-inch main in 4th Street
- 6-inch main in 3rd Street

The City of Minneapolis has indicated that the public water system has adequate capacity to provide service to the project. The developer will perform engineering studies, including fire flow tests, to verify that the needs of their development can be met for internal fire suppression systems. The adequacy of the public water supply capacity assumes that there are no impacts by the proposed development to the existing system.

The estimated peak water demand range for the project based on the Minimum and Maximum Development Scenarios is 260,000 to 420,000 gallons per day (GPD).

14. Water-Related Land Use Management District

Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district? _Yes X No

If yes, identify the district and discuss project compatibility with district land use restrictions.

No part of either Development Scenario involves a shoreland zoning district, a delineated 100-year floodplain, or a state or federally designated wild or scenic river land use district. The Mississippi National River and Recreation Area (MNRRA) and state Mississippi River Critical Area (MRCA) boundaries, which run along South 2nd Street, lie two blocks north of the Study Area. Neither Development Scenario will impact any areas within the MNRRA or MRCA boundary (see **Figure 14-1**).

15. Water Surface Use

Will the project change the number or type of watercraft on any water body? _Yes X No

If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.

The Study Area does not include or adjoin recreational water bodies; therefore, this section does not apply.

16. Erosion and Sedimentation

Give the acreage to be graded or excavated and the cubic yards of soil to be moved:

acres: 12.4; cubic yards: 75,000. Describe any steep slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.

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

The AUAR Study Area consists of 12.4 acres of mostly impervious surfaces including paved parking, sidewalks, buildings, and streets. To facilitate development, existing surfaces throughout the Study Area will be excavated or graded. Excavation in the public plaza/park area will be made to the depth required to remove existing pavement, buildings, or inactive infrastructure. Excavation on lots where high-rise buildings are proposed will have deeper excavations for construction of footings.

Areas with steep slopes are identified as having slopes greater than 1 vertical (v):3 horizontal (h) (12 percent or greater). There are no significant areas with steep slopes in the Study Area. The existing condition has little potential for erosion and sedimentation; however, there will be potential for erosion and sedimentation during construction as soils are disturbed by excavation and grading. Particular attention will be paid to areas with deep cuts as they can present unstable soil conditions that can result in erosion if not properly managed during construction activities.

Since the Study Area is contained in an urban environment, special attention will be given to sediment tracking potential. Construction vehicles entering and exiting the site will use temporary construction accesses with crushed rock to capture sediment from vehicle tires.

An Erosion and Sediment Control Plan is required in the City of Minneapolis (Chapter 52 of the Minneapolis Code of Ordinances) for all land disturbance activities which are in excess of either five thousand square feet or five hundred cubic yards of earth moved. The Study Area exceeds both of these parameters. The developer will follow the Erosion Control plan checklist and meet the City Code requirements, to minimize drainage problems, soil erosion, and prevention of sediment from entering curb and gutter systems and storm sewer inlets.

Erosion and sediment control measures planned for use during and after construction of either Development Scenario will meet or exceed the requirements of the National Pollution Discharge Elimination System (NPDES) Construction Storm Water Permit.

17. Water Quality: Surface Water Runoff

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

- *It is expected that an AUAR will have a detailed analysis of stormwater issues;*
- *A map of the proposed stormwater management system and of the water bodies that will receive stormwater should be provided;*
- *The description of the stormwater systems would identify on-site and "regional" detention ponding and also indicate whether the various ponds will be new water bodies or converted existing ponds or wetlands. Where on-site ponds will be used but have not yet been designed, the discussion should indicate the design standards that will be followed.*

a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.

The quantity of stormwater runoff in the Study Area will be significantly reduced through the conversion of two blocks into a public plaza/park. Currently most of the Study Area is comprised of impervious surfaces. There are no apparent stormwater best management practices (BMPs) currently in place to manage stormwater for water quality treatment or rate and volume attenuation in the Study Area. Stormwater runoff currently discharges to the municipal storm drain systems and then to the Mississippi River untreated.

The quality of stormwater runoff from the Study Area will be improved by BMPs to meet the treatment requirements of the City for total suspended solids (TSS) removal, as well as MPCA treatment requirements. There will be a reduction in stormwater runoff volume as a result of the conversion of portions of the Study Area from impervious to pervious area. Discharge rates will be controlled such that rates do not exceed existing condition peak discharge rates for the 2-, 10-, and 100-year storms, SCS Type II/24-hour storms. All proposed BMPs necessary to achieve compliance with the City stormwater treatment requirements will be located outside of public right-of-way. Regional treatment is not anticipated; however, in the event that it is proposed, any necessary private easements and agreements will be obtained by the developer.

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the Study Area and will include BMPs for managing erosion and sedimentation during site construction. These BMPs may include silt fencing, inlet sediment filters, sediment traps, grit chambers, temporary ditch checks, rock filter dikes, fiber logs, turf reinforcement mats, temporary seeding, riprap and erosion control blankets for disturbed areas, and seeding or placement of sod or other plant materials for final restoration.

The proposed project will manage stormwater within the boundaries of the Study Area and will comply with the stormwater requirements stated in the Minneapolis Code of Ordinances, including Chapter 54, which has provisions for water quality and rate control. Determination of the BMPs will be made during final design of each block. All development within the Study Area will be considered one action and, as a result, will be captured under Chapter 54 of the Minneapolis Code of Ordinances.

Blocks 5 and two-thirds or more of Block 4 are proposed to be converted to pervious public park uses and would have an impervious coverage of nearly zero percent. Blocks 1, 2, 3, and a portion of Block 4 would be developed with an impervious coverage ranging from 80% to 99%. Stormwater BMPs in the park will consist of bio-infiltration measures, such as shallow depressions in a linear alignment, to promote detention and infiltration in lieu of allowing all stormwater runoff to be directed to the adjacent roadways.

The north portions of Blocks 2 and 3 will utilize a BMP based on the Minnesota Stormwater Manual guidance in an effort to achieve MPCA and City of Minneapolis requirements. The selection of BMPs will be dependent on actual use.

Portions of Blocks 1, 2, 3, and 4 will route stormwater to the existing tunnel under 4th Street, which is approximately 100 feet by 160 feet, and convert the tunnel into a cistern. Each owner of the various buildings will require an easement in place to allow such drainage to occur. The existing tunnel will require modifications to remove existing equipment and waterproof the floor and walls. New access points and penetrations for pipes will also be required. The stormwater pipes to and from the cistern will need to be located within proposed utility easements across existing right-of-way. Pumps will be installed to harvest the stormwater instead of using potable water for irrigation of the proposed

landscaping and park. The City of Minneapolis has indicated that the tunnel use would be acceptable and that the system would function as a Regional Stormwater Facility.

The developer intends to design the stormwater facilities for portions of the Study Area in an effort to reduce stormwater utility fees assessed by the City of Minneapolis. The primary method for doing so would be the utilization of the existing tunnel as an underground cistern for reuse via site irrigation. The application for utility fee reduction occurs after project completion. The developer has indicated that a 100% reduction in stormwater utility fees is desired. The feasibility of this reduction is dependent on final site drainage paths, and will likely require perimeter drains such as trench drains to capture 100% of the stormwater from the lots applying for the credit, and to route 100% of that stormwater to the selected BMP.

b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.

The City of Minneapolis and the MPCA requirements are dependent in part on the downstream receiving system. The Study Area does not fall within an area that has been designated as flood prone by the City of Minneapolis. The Study Area drains to the Mississippi River. According to the Clean Water Act section 303(d) List of Impaired Waters (also known as the Total Maximum Daily Load or TMDL List). the Mississippi River is not impaired for construction-related parameters. The current standards of the two primary regulatory authorities specific to the Study Area are summarized in **Table 17-1**.

Table 17-1. Stormwater Management Criteria

Stormwater Requirement	Current Permitting Authority	
	City of Minneapolis	MPCA
Volume Control	Encourages the use of volume control measures to the greatest possible degree where site conditions are appropriate.	Current rule (August 1, 2013): Retain the volume equivalent to 1 inch of runoff from the added impervious surface
Rate Control	Do not exceed existing condition peak discharge rates for the 2-, 10-, and 100-year storms, SCS Type II/24-hour storms	Not applicable to projects not draining to impaired or special waters
Water Quality	70% Total Suspended Solids (TSS) removal from project runoff generated by a 1.25-inch rainfall	Current rule (August 1, 2013): 1 inch of runoff from the added impervious surface

Since the Study Area is currently comprised of mostly impervious surfaces and proposed redevelopment will convert up to two blocks to pervious surface, the MPCA rule to “retain the volume equivalent to 1-inch of runoff from the added impervious surface” will likely not be the most stringent requirement. Instead, the City of Minneapolis water quality requirement for treatment of 70% TSS removal from the 1.25-inch rainfall event will likely govern. Assuming that infiltration and/or reuse will be the primary method used for treatment, it is estimated that 0.65 acre-feet of treatment volume will be required.

18. Water Quality: Wastewaters

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

- *Only domestic wastewater should be considered in an AUAR—industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process;*

- *Wastewater flows should be estimated by land use subareas of the AUAR area; the basis of flow estimates should be explained;*
- *The major sewer system features should be shown on a map and the expected flows should be identified;*
- *If not explained under section 6, the expected staging of the sewer system construction should be described;*
- *The relationship of the sewer system extension to the RGU's comprehensive sewer plan and (for metro area AUARs) to Metropolitan Council regional systems plans, including MUSA expansions, should be discussed. For non-metro area AUARs, the AUAR must discuss the capacity of the RGU's wastewater treatment system compared to the flows from the AUAR area; any necessary improvements should be described;*
- *If on-site systems will serve part of the AUAR the guidance in EAW Guidelines on page 16 regarding section 18b under Residential development should be followed.*

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

The estimated range of sewer demand for the Minimum and Maximum Development Scenarios is provided in **Table 18-1** and is based upon the 2013 MCES SAC Procedure Manual Rates prescribed for various land uses. For the proposed parking garage on Block 1, it has been assumed that there will be, on average, one drain fixture connected to sanitary sewer for every 100 parking stalls in the garage.

Table 18-1. Estimated Wastewater Generation

Land Use	Minimum Development Scenario	Maximum Development Scenario	Rate (GPD)	Min. Demand (GPD)	Max. Demand (GPD)
Residential Units	335	350	274	91,790	95,900
Hotel (Rooms)		150	137	0	20,550
Retail (Square Feet)	80,000	105,000	0.091	7,280	9,555
Office (Square Feet)	1,400,000	2,580,000	0.114	159,600	294,120
Parking Garage (Vehicles)	1,925	2,675	0.161	310	431
Estimated Development Demand Range (GPD)				**258,980**	**420,556**

b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies (identifying any impaired waters), and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.

No on-site wastewater treatment is required for the Study Area.

c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions, and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.

The City of Minneapolis owns and operates a public sanitary sewer system that provides service to the Study Area. The City sanitary sewer network within and adjacent to the Study Area includes the following:

- 12-inch cement pipe in 4th Street
- 12-inch cement pipe in 5th Street
- 15-inch cement pipe in 5th Avenue
- 36-inch brick pipe in 3rd Street, increasing to 42-inch before tying into Chicago Avenue
- 18-inch cement pipe in Portland Avenue
- 15-inch cement pipe in Chicago Avenue south of 3rd Street

These City sewers ultimately discharge into the Metropolitan Council Environmental Services (MCES) interceptor sewer (1-MN-310) under Washington Avenue. The MCES interceptor has a capacity of 120 million gallons per day (mgd). In 2009, the average daily flow was less than 40 mgd, and peak flow was less than 70 mgd. Based upon this information, there is adequate capacity in the interceptor for the peak demand assumed in the Maximum Development Scenario. The interceptor travels through the project area, running within the Portland Avenue and 4th Street rights-of-way. The interceptor was built in 1887 and is a 90 by 95 inch brick pipe at a depth of approximately 74 feet. Coordination with Metropolitan Council Environmental Services will occur to obtain the necessary sanitary sewer extension permit.

The City of Minneapolis Department of Public Works has determined that the existing sanitary sewer infrastructure is adequate for the proposed development.

19. Geologic Hazards and Soil Conditions

a. Approximate depth (in feet) to ground water: 16 feet minimum and 30 feet average;

To bedrock: 37 feet average.

Describe any of the following geologic site hazards to ground water and also identify them on the site map: sinkholes, shallow limestone formations, or karst conditions. Describe measures to avoid or minimize environmental problems due to any of these hazards.

According to the Geologic Atlas of Hennepin County (Minnesota Geological Survey, 1989), bedrock in the Study Area consists of Platteville Formation, fine-grained limestone with thin shale partings near its base (up to 30 feet thick), underlain by Glenwood Formation, green sandy shale (up to five feet thick), and St. Peter Formation, fine- to medium-grained friable quartz sandstone (about 160 feet thick). There are no karst or sinkhole features present in the Study Area.

b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil texture and potential for groundwater contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.

Soil data was obtained from the NRCS Web Soil Survey.[8] The Study Area contains a single soil type, identified as U4A, Urban land – Udipsamments (cut and fill land) complex, with 0 to 2 percent slopes. The City of Minneapolis was historically excluded from the NRCS/SCS Soil Survey because of urban development and extensive soil reworking. According to the Geologic Atlas of Hennepin County (Minnesota Geological Survey, 1989), the surficial soils in the Study Area are Middle Terrace glacial-melt water stream sediments of sand, gravelly sand, and loamy sand, which are overlain in places by thin deposits of silt, loam, or organic sediment. The surficial deposits in heavily developed areas, such as those in the Study Area, are frequently covered by thick artificial fill or reworked local materials.

[8] http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed June 18, 2013

20. Solid Wastes, Hazardous Wastes, Storage Tanks

a. Describe types, amounts, and compositions of solid or hazardous wastes, including solid animal manure, sludge, and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.

AUAR Guidance: For a, generally only the estimated total quantity of municipal solid waste generated and information about any recycling or source separation programs of the RGU need to be included.

It is anticipated that demolition debris and earth materials will be generated during demolition of the existing buildings and parking lots. The development within the Study Area will require complete demolition of the existing McClellan, Freeman, and Star Tribune buildings, including outlying facilities and underground infrastructure. Demolition debris is inert material such as concrete, brick, bituminous, glass, plastic, untreated wood, and rock. It is estimated that up to 90 percent of the solid wastes generated during demolition will be recycled. The remainder will be disposed at a state permitted landfill. It is estimated that the demolition will generate 50,000 tons of concrete/asphalt debris and 5,000 tons of miscellaneous construction debris. Construction of the development will generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which will be either recycled or disposed in the proper facilities.

Hazardous waste is not anticipated to be generated during demolition, except for abatement and removal of regulated materials such as asbestos, lead-based paint, refrigeration equipment, lights, and other regulated wastes if they are encountered during demolition. A Pre-Demolition Survey has been completed for the three buildings to be removed from the Study Area to determine if any regulated materials such as asbestos-containing materials, lead-based paint, and other regulated materials/wastes are present. An Abatement Plan is being prepared to address removal and proper disposal of regulated materials identified in the Pre-Demolition Survey. Following abatement and demolition activities, a comprehensive Abatement Closeout Report will be prepared, which will document the removal, management, and disposal of the regulated materials.

Prior to initiation of subsurface construction activities, the project will be enrolled in the MPCA's Voluntary Investigation and Cleanup (VIC) Program and Petroleum Brownfields Program (PBP). A Phase II Environmental Site Assessment (Phase II ESA) is now being completed for the Study Area. Based upon the results of the Phase II ESA and previously conducted environmental investigations within the Study Area, a Response Action Plan (RAP) will be prepared and submitted to the VIC and PBP Programs for review and approval to address proper handling and treating of contaminated soil and/or groundwater within the context of, and consistent with, the proposed redevelopment activities.

A Construction Contingency Plan (CCP) will be developed and submitted to the MPCA with the RAP to address proper handling, treating, storing, and disposing of solid wastes, hazardous materials, petroleum products, and other regulated materials/wastes that are used or generated during construction. The CCP would also establish protocols to minimize impacts to soil and groundwater in the event a release of hazardous substances or petroleum occurs during construction. The CCP will also be implemented in the event that previously unknown hazardous substances or petroleum products (i.e., releases not identified in presently available reports or the Phase II ESA Report) are encountered during construction activities. In that event, the General Contractor, in consultation with the Project Environmental Consultant, will secure the area of the suspected release and follow the prescribed management protocols contained in the CCP. In the event of a release to the environment, the Minnesota Duty Officer would be contacted immediately to make the required agency contacts.

The U.S. Environmental Protection Agency (EPA)'s 2009 publication *Municipal Solid Waste in the United States* was consulted as a basis for Municipal Solid Waste (MSW) generation for the proposed development. It is estimated that 4.34 pounds of MSW will be generated per person per day, resulting in a range of 7,200 to 12,500 tons of MSW generated per year based upon the Minimum and Maximum Development Scenarios for the proposed development. There will be a corporate recycling program established in the two office buildings and a recycling program for the residential component. There will be a dedicated storage/trash area in the loading dock area that will be used for recycling management and pickup.

b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating groundwater. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.

AUAR Guidance: No response is necessary for b.

c. Indicate the number, location, size, and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.

Knowing that multiple stories will be constructed for residential, office, retail, and parking uses in either Development Scenario, generators to operate lights and elevators will be required at a minimum on Blocks 1, 2, and 3 for life and safety requirements. Therefore, diesel fuel tanks (one per Blocks 1, 2, and 3) are expected to be installed. The sizes of these tanks are estimated to be up to 12,000 gallon capacity. Installation and permitting will follow MPCA requirements.

21. Traffic

Parking spaces added:

Existing spaces (if project involves expansion):

Estimated total average daily traffic generated:

Estimated maximum peak hour traffic generated and time of occurrence:

Indicate source of trip generation rates used in the estimates.

If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Using the format and procedures described in the Minnesota Department of Transportation's Traffic Impact Study Guidance *(available at: http://www.oim.dot.state.mn.us/access/pdfs/Chapter%205.pdf)* or a similar local guidance, provide an estimate of the impact on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system.

AUAR Guidance: For AUAR reviews a detailed traffic analysis will be needed, conforming to the MnDOT guidance as listed on the EAW form. The results of the traffic analysis must be used in the response to section 22 and in the noise aspect of section 24.

See **Table 7-1** for a description of the number of parking spaces in each scenario.

The information in this section is based on the *Downtown East Traffic Analysis Technical Memorandum* (Kimley-Horn, August 2013). This memorandum provides the methodology, assumptions, traffic volumes, and findings of the traffic analysis, which are summarized below. The

analysis includes evaluation of the traffic operations in the Study Area for No Build and future Build conditions based on the two proposed Development Scenarios.

The Downtown East AUAR traffic analysis includes:

- Year 2035 No Build Analysis for AM and PM Peak Hours
- Year 2035 Build Analyses for AM and PM Peak Hours

Development Scenarios include a Minimum Development Scenario and a Maximum Development Scenario. An additional scenario was analyzed that includes a 2,000 attendee event in the proposed public plaza/park on the development site, with the event arrival coinciding with the PM peak hour.

In addition to the two Development Scenarios, four potential roadway options and the mid-day period were analyzed in the Draft AUAR as part of the Build development. As discussed in Section 6, these four roadway options have been eliminated from future consideration as a part of either Development Scenario, and a Baseline Roadway Network Option is being moved forward in the Final AUAR. The traffic-related data and analysis from Roadway Option 4 has been renamed as the Baseline Roadway Network Option for this Final AUAR document. Since Option 4 has the same roadway network and analysis assumptions as the Baseline Roadway Network Option, except the Baseline Roadway Network has no modifications to Park and Portland Avenues between 4th and 5th Streets, most of the analysis results are the same. Where differences occur that result in changes in mitigation requirements, they are noted in the analysis.

- Option 4: Park Avenue and Portland Avenue both reduced to two lanes and open during peak hours only
- Baseline Roadway Network Option: Park Avenue and Portland Avenue retain their existing configurations and are open during all hours

Option 4 proposed that the existing bicycle lanes on Park Avenue and Portland Avenue would be maintained (on-street or through the park), but all on-street parking would be eliminated within these two blocks.

Hennepin County, in cooperation with the City of Minneapolis, is planning for a roadway reconstruction project on Washington Avenue from Hennepin Avenue to 5th Avenue S in 2014. The project includes sidewalk and streetscape improvements, the addition of a cycle track, and changes in roadway lanes. Washington Avenue is proposed to be reduced from three eastbound lanes to two eastbound lanes, with a right-turn lane at 4th Avenue S. In the westbound direction, there are multiple options being considered that include either three westbound lanes, as in the existing conditions, or two westbound lanes with right-turn lanes at 3rd Avenue S, Marquette Avenue, and Hennepin Avenue. The base assumption for the traffic modeling included three westbound lanes on Washington Avenue. At the request of Hennepin County, additional Washington Avenue configuration scenarios were analyzed and these are included in the Cumulative Potential Effects section of this document (see Section 29).

A summary matrix of the roadway options (No Build and Baseline Roadway Network Options) and Development Scenarios evaluated in the Draft AUAR that are remaining in the Final AUAR traffic analysis has been provided in **Table 21-1**. The traffic operations analysis was completed in Synchro/SimTraffic, a software program that applies the methodologies of the Highway Capacity Manual. This tool was used to evaluate intersection volume/capacity ratio, operations, and level of service, and queuing. Level of service (LOS) is a rating system that describes how well an intersection operates. LOS A operations indicate the best traffic operations (little delay) and LOS F indicates an intersection that is failing to operate effectively. Operations of LOS D or better are generally considered acceptable to drivers under peak conditions. It should be noted that the

Synchro/SimTraffic software cannot capture the impacts on traffic operations due to pedestrians, bicyclists, bus stops, loading/unloading, parking maneuvers, traffic control agents, and other activities that are typical in the downtown environment. Therefore, the LOS results presented would be considered to generally be better than what would be expected to be observed during a typical peak hour because of the model's inability to simulate these other factors.

The Baseline Roadway Network Option contains no lane closures on Park and Portland Avenues between 4th and 5th Streets, and there are also no proposed changes to parking or bike lanes. The Baseline Roadway Network Option was evaluated for both Minimum and Maximum Development Scenarios to determine what differences would result when compared to Option 4. The results shown below, labeled as the Baseline Roadway Network Option, show worst case conditions and utilized the Option 4 lane reductions on Park and Portland Avenues between 4th and 5th Streets. Discussion below provides a description of the difference in traffic operations, for which the true Baseline Roadway Network Option with Park and Portland Avenues between 4th and 5th Streets at their existing configuration would result in slightly improved traffic operations in the Minimum Development Scenario at the intersection of 5th Street and Park Avenue when compared to Option 4.

Table 21-1. Analysis Scenario Summary

Development Scenario	No Build Roadway Network	Baseline Roadway Network
No Build		
AM	✓	
PM	✓	
Minimum Development Scenario		
AM		✓
PM		✓
PM – Public plaza/park event		
PM – Washington Ave two westbound lanes		✓
Maximum Development Scenario		
AM		✓
AM – Washington Ave two westbound lanes		
PM		✓
PM – Public plaza/park event		
PM – Washington Ave two westbound lanes		✓

Options for the Downtown East Development were analyzed for weekday conditions.

Traffic Study Area

The roadway network that would be expected to have potential traffic impacts is bounded by 8th Street to the south, 3rd Avenue to the west, Washington Avenue to the north, and I-35W to the east. In

addition, the intersections on Washington Avenue west to Hennepin Avenue were included. **Figure 21-1** shows the 51 intersections that were analyzed.

2035 No Build Conditions

Existing conditions were not analyzed due to a number of roadway changes expected to occur prior to the opening of the Downtown East Development. These changes include:

- Reconstruction of Washington Avenue between Hennepin Avenue and 5th Avenue, as described previously in this section.
- Construction of an entrance ramp from 4th Street to I-35W northbound.
- Modification to several roadways adjacent to the Metrodome, as part of the construction of the proposed Minnesota Multi-Purpose Stadium. The Minnesota Multi-Purpose Stadium project has proposed permanent changes to 5th Street, 6th Street, and 11th Avenue near the stadium. The design plans for the Stadium project are still under development and several roadway options still remain under consideration. For the purposes of the Downtown East analysis, the following assumptions have been incorporated into all options:
  - 5th Street closed between 11th Avenue and Park Avenue;
  - One westbound lane provided on 6th Street from 11th Avenue to Park Avenue;
  - Realignment of the 5th Street/11th Avenue intersection, moving the intersection north of its current location, and reduction of 5th Street from four lanes to three lanes approaching 11th Avenue; and
  - Addition of a southbound right-turn lane on 11th Avenue from 5th Street to 6th Street.

All of the intersections included in the analysis are signalized. The base signal timing for the analysis assumed the proposed timings being implemented in summer/fall 2013 as part of the Downtown Signal Timing project. The operations analysis was conducted for all 51 intersections in the analysis area to determine how traffic will operate within the Study Area before the Downtown East project is implemented. A background growth rate of 0.5 percent per year was assumed to calculate 2035 No Build peak hour volumes from the existing (2011) peak hour turning movement counts.

The analysis was completed using Synchro/SimTraffic. Capacity analysis results identify a Level of Service (LOS) which indicates how well an intersection operates. Intersections are given a ranking from LOS A through LOS F. LOS A indicates the best traffic operation and LOS F indicates an intersection that is operating over capacity. LOS A through D are generally considered acceptable for peak hour conditions in an urban area. In a downtown grid network, the delay at individual intersections may not fully capture the impacts of a roadway or traffic volume change due to the close spacing of the intersections since the maximum delay on any approach is limited by the distance to the upstream intersection. Therefore, in addition to individual intersection LOS, overall network delay based on the SimTraffic output has been provided. Due to the interaction of the closely spaced intersections, changes in operations from LOS B to LOS C or LOS C to LOS D do not necessarily represent a significant degradation in operations at an intersection, but can be partially attributed to the random nature of the model and the interactions upstream on either roadway that can cause vehicle queues to block an intersection for a few cycles. For this reason, the analysis included intersection LOS, overall network delay, and observation of the simulations to identify when a roadway had reached capacity and was consistently unable to process the traffic volume arriving at an intersection.

Figures showing the peak hour traffic volumes used in the analysis of each No Build scenario can be found in the *Downtown East Traffic Analysis Technical Memorandum* (Kimley-Horn, August 2013).

Results of the analysis shown in **Table 21-2** indicate that most intersections will operate at an acceptable LOS D or better during the No Build peak periods. The modeling also showed that there

are very few issues with queues extending beyond a block on any segment within the analysis area. The overall network delay measure shows the AM and PM peak hours have somewhat similar levels of congestion.

However, five intersections in the study are expected to operate at LOS E or F during the AM and/or PM peak hours:

- Washington Avenue at the I-35W southbound ramps in the AM peak hour
- 5th Street at 11th Avenue in the AM peak hour
- 6th Street at 11th Avenue in the PM peak hour
- Washington Avenue at 11th Avenue in the PM peak hour
- 5th Street at 4th Avenue in the PM peak hour

In addition, although the overall level of service was C or better for the 4th Street S/Chicago Avenue intersection in the peak hour No Build conditions, a southbound left-turn lane or rush hour parking restrictions are recommended on Chicago Avenue to accommodate the increase in southbound left-turn volume to the new entrance ramp to I-35W northbound from 4th Street. A turn lane or rush hour restrictions would allow through vehicles to bypass a waiting left-turn vehicle.

Table 21-2. 2035 No Build Peak Hour Traffic Analysis Results

Intersection			Intersection Level of Service	
Number	Road 1	Road 2	AM Peak	PM Peak
Overall Network Delay (seconds/vehicle)			147	152
1	Washington Ave S	Hennepin Ave S	D	C
2	Washington Ave S	Nicollet Ave S	B	A
3	Washington Ave S	Marquette Ave S	B	B
4	Washington Ave S	2nd Ave S	C	B
5	Washington Ave S	3rd Ave S	D	D
6	Washington Ave S	4th Ave S	A	A
7	Washington Ave S	5th Ave S	B	C
8	Washington Ave S	Portland Ave S	B	B
9	Washington Ave S	Park Ave S	B	A
10	Washington Ave S	Chicago Ave S	B	B
11	Washington Ave S	10th Ave S	A	A
12	Washington Ave S	11th Ave S	D	E
13	Washington Ave S	I-35W SB Ramp	F	C
14	Washington Ave S	I-35W NB Ramp	B	C
15	3rd St S	3rd Ave S	B	C
16	3rd St S	4th Ave S	B	B
17	3rd St S	5th Ave S	A	A
18	3rd St S	Portland Ave S	B	B
19	3rd St S	Park Ave S	A	B
20	3rd St S	Chicago Ave S	B	B
21	4th St S	3rd Ave S	B	B
22	4th St S	4th Ave S	B	A

Intersection			Intersection Level of Service	
Number	Road 1	Road 2	AM Peak	PM Peak
23	4th St S	5th Ave S	A	B
24	4th St S	Portland Ave S	B	B
25	4th St S	Park Ave S	A	A
26	4th St S	Chicago Ave S	B	B
27	5th St S	3rd Ave S	C	D
28	5th St S	4th Ave S	C	E
29	5th St S	5th Ave S	C	C
30	5th St S	Portland Ave S	B	B
31	5th St S	Park Ave S	C	B
32	5th St S	11th Ave S	F	B
33	6th St S	3rd Ave S	A	B
34	6th St S	4th Ave S	A	A
35	6th St S	5th Ave S	A	B
36	6th St S	Portland Ave S	B	B
37	6th St S	Park Ave S	B	B
38	6th St S	Chicago Ave S	B	B
39	6th St S	11th Ave S	B	F
40	7th St S	3rd Ave S	B	B
41	7th St S	4th Ave S	A	A
42	7th St S	5th Ave S	A	A
43	7th St S	Portland Ave S	B	B
44	7th St S	Park Ave S	B	A
45	7th St S	Chicago Ave S	C	B
46	8th St S	3rd Ave S	C	C
47	8th St S	4th Ave S	A	C
48	8th St S	5th Ave S	B	C
49	8th St S	Portland Ave S	A	B
50	8th St S	Park Ave S	C	B
51	8th St S	Chicago Ave S	B	B

Traffic Forecasts

Traffic forecasts for the proposed redevelopment site were developed for future year 2035 Build conditions. Trip generation estimates for the AM and PM peak periods were calculated for each proposed Development Scenario based on the proposed land use type and size. Trip generation rates from the 9th Edition of the *Institute of Transportation Engineers Trip Generation* (2012) were used to calculate development-generated traffic. A number of assumptions were also made related to internal trip capture (trips that are made on-site between the various proposed uses), pass-by trips (trips already existing within the Study Area that make use of the development land uses), and mode split (trips by transit, walking, or biking):

- Mode split
    - Office land use = 40% non-single occupant vehicle (SOV) trips

    - Residential land use = 50% non-SOV trips
    - Retail land use = 15% non-SOV trips
- Internal capture
    - 5% AM peak
    - 7% PM peak
- Pass-by trips
    - 50% of retail trips only

The mode split assumptions were based on past downtown cordon counts, United States Census data, and commuter surveys that showed approximately 60 percent of commuters to Minneapolis travel by single occupant vehicle. The assumptions regarding pass-by and internal capture rates were based on the 2nd Edition of the *Institute of Transportation Engineers Trip Generation Handbook* (2004).

An assessment of existing traffic generated by the current land uses within the Study Area was also estimated based on the rates in *Institute of Transportation Engineers Trip Generation*. The trips generated by the existing uses were then subtracted from the new trips generated by the development to produce a calculation of net new traffic on the roadway network. Summaries of the trip generation calculations for the AM and PM peak hours are shown in **Tables 21-3** and **21-4**.

The directional trip distribution for the site-generated vehicle traffic was based on the existing regional patterns of traffic into and out of the downtown, as shown in **Figures 21-2** and **21-3**. The peak hour traffic volumes used in the analysis of each Build scenario are included in the *Downtown East Traffic Analysis Technical Memorandum* (Kimley-Horn, August 2013). In addition to the regional distribution of vehicle traffic, an evaluation of existing parking supply and utilization, as well as proposed parking supply, was used to assign the new vehicle trips to a parking destination. All residential parking was assumed to be assigned to the same block where the units were located. Vehicle traffic generated by the office and retail uses was assumed to first utilize the structured parking that is proposed as part of the development (Block 1, also referred to as the McClellan Block) and then to seek nearby available parking. The distribution of parking demand outside the development blocks is shown in **Figure 21-4**.

Table 21-3. AM Peak Hour Trip Generation

Land Use Description	ITE Land Use Code	Size		ITE Trip Rate	Internal Capture	Pass-By	Non-SOV %	Enter %	Exit %	Total Vehicle Trips Enter	Total Vehicle Trips Exit
Minimum Development Scenario											
General Office Building	710	1,400	1,000 sq ft	1.21	5%	0%	40%	88%	12%	850	120
Apartment	220			0.5	5%	0%	50%	20%	80%		
Block 1		60	Dwelling Units (DU)							0	10
Block 2		175	DU							10	30
Block 3		175	DU							10	30
Subtotal		*410*	*DU*							*20*	*70*
Retail	*	80	1,000 sq ft	5.72	5%	50%	15%	61%	39%	110	70
Subtotal New Development										980	260
Existing Use	710	-600	employees	0.52	0%	0%	40%	88%	12%	-160	-20
Minimum Development Scenario - Net New Vehicle Trips										820	240
Maximum Development Scenario											
General Office Building	710	2,580	1,000 sq ft	1.21	5%	0%	40%	88%	12%	1,570	210
Apartment	220			0.5	5%	0%	50%	20%	80%		
Block 1		60	DU							10	20
Block 2		50	DU							0	10
Block 3		50	DU							0	10
Block 4		175	DU							10	30
Subtotal		*335*	*DU*							*20*	*70*
Retail	*	105	1,000 sq ft	5.72	5%	50%	15%	61%	39%	150	90
Subtotal New Development										1,740	370
Existing Use	710	-600	employees	0.52	0%	0%	40%	88%	12%	-160	-20
Maximum Development Scenario - Net New Vehicle Trips										1,580	350

*A mix of retail uses were considered to develop the trip generation rates, including specialty retail, grocery, restaurant, and pharmacy.

Table 21-4. PM Peak Hour Trip Generation

Land Use Description	ITE Land Use Code	Size		ITE Trip Rate	Internal Capture	Pass-By	Non-SOV %	Enter %	Exit %	Total Vehicle Trips Enter	Total Vehicle Trips Exit
Minimum Development Scenario											
General Office Building	710	1,400	1,000 sq ft	1.20	7%	0%	40%	17%	83%	160	780
Apartment	220			0.60	7%	0%	50%	65%	35%		
Block 1		60	DU							10	10
Block 2		175	DU							30	20
Block 3		175	DU							30	20
Subtotal		*410*	*DU*							*70*	*50*
Retail	*	80	1,000 sq ft	7.64	7%	50%	15%	51%	49%	120	120
Subtotal New Development										350	950
Existing Use	710	-600	employees	0.47	0%	0%	40%	17%	83%	-30	-140
Minimum Development Scenario - Net New Vehicle Trips										320	810
Maximum Development Scenario											
General Office Building	710	2,580	1,000 sq ft	1.20	7%	0%	40%	17%	83%	290	1,430
Apartment	220			0.6	7%	0%	50%	65%	35%		
Block 1		60	DU							10	10
Block 2		50	DU							10	0
Block 3		50	DU							10	0
Block 4		175	DU							30	20
Subtotal		*335*	*DU*							*60*	*30*
Retail	*	105	1,000 sq ft	7.64	7%	50%	15%	51%	49%	160	160
Subtotal New Development										510	1,620
Existing Use	710	-600	employees	0.47	0%	0%	40%	17%	83%	-30	-140
Maximum Development Scenario - Net New Vehicle Trips										480	1,480

*A mix of retail uses were considered to develop the trip generation rates, including specialty retail, grocery, restaurant, and pharmacy.

Parking Generation

The zoning for the Study Area does not require parking to be provided for the proposed development. However, the proposed land uses are expected to generate parking demand both within the Study Area and in the surrounding area. The weekday peak parking demand for the office and retail land uses of the proposed development was calculated based on the rates contained in the 4th Edition of the *Institute of Transportation Engineers Parking Generation* (2004). The residential uses are proposed to have reserved parking on the same block as the units, which will not be available for public parking. Note that of the parking proposed to be constructed on Block 1, a portion (100 spaces) was assumed to be reserved for the residential use, with the remaining available for public parking. The residential parking demand and supply are summarized in **Table 21-5**. The parking demand rates for office and retail were adjusted based on the assumed internal capture and mode split of the proposed development. The resulting new parking demand is shown in **Table 21-6**. An assessment of existing parking supply was also conducted to assess the availability of additional parking, outside of the Study Area. As shown in **Table 21-7**, there is adequate available parking supply for the expected new demand resulting from the Study Area development.

Table 21-5. Development Residential Parking Demand

Land Use Description	ITE Land Use Code	Size		Average Peak Parking Rate (stalls)	Peak Parking Demand (stalls)	Proposed Parking Supply (stalls)
Minimum Development Scenario						
Apartment	221		DU	1.2		
Block 1		60	DU		72	100
Block 2		175	DU		210	250
Block 3		175	DU		210	250
Subtotal		410	DU		492	600
Maximum Development Scenario						
Apartment	221		DU	1.2		
Block 1		60	DU		72	100
Block 2		50	DU		60	225
Block 3		50	DU		60	225
Block 4		175	DU		210	225
Subtotal		*335*	*DU*		402	875

Table 21-6. Development Office and Retail Parking Demand

Land Use Description	ITE Land Use Code	Size		Average Peak Parking Rate (stalls)	Internal Capture	Non-SOV Percentage	Peak Parking Demand (stalls)
Minimum Development Scenario							
General Office Building	710	1,400	1,000 sq ft	2.47	5%	40%	1,971
Retail	*	80	1,000 sq ft	3.14	5%	15%	203

Land Use Description	ITE Land Use Code	Size		Average Peak Parking Rate (stalls)	Internal Capture	Non-SOV Percentage	Peak Parking Demand (stalls)
Subtotal							2,174
Existing parking demand							-524
New public parking supply provided							1,425
Net new parking demand							225
Maximum Development Scenario							
General Office Building	710	2,580	1,000 sq ft	2.47	5%	40%	3,632
Retail	*	105	1,000 sq ft	3.14	5%	15%	266
Subtotal							3,898
Existing parking demand							-524
New parking supply provided							2,000
Net new parking demand							1,374

Table 21-7. No Build Weekday Parking Supply and Utilization

Parking Location	Capacity (Parking Stalls)	Weekday Mid-Day Non-Event	
		Percent Available	Stalls Available
Stadium Parking			
Ramps	2,400	30%	720
Hennepin Medical Center Ramp	1,192	20%	238
Private Lots	5,257	45%	2,366
Subtotal	*8,849*	*38%*	*3,324*
North Of Washington Avenue Parking			
Ramps	1,484	60%	890
Private Lots	76	70%	53
Subtotal	*1,560*	*60%*	*943*
2nd Avenue To 5th Avenue Parking			
Ramps	9,406	20%	1,881
Private Lots	1,159	20%	232
Subtotal	*10,565*	*23%*	*2,113*
Total	**20,974**	**30%**	**6,380**

***** Based on 12:00 PM data

Future Traffic Operations Analysis – Regional Network

A freeway capacity analysis was completed to determine the impact that development traffic would have on the regional roadway network. This analysis includes all freeway segments and ramps directly surrounding the downtown area.

Existing traffic volumes for a non-event condition were obtained from the Minnesota Department of Transportation's (MnDOT) traffic database from April 2013. To develop 2035 volumes, a review of historical traffic volumes was completed. Raw count data and published annual average daily traffic volume (AADTs) for the regional system over the past ten years were obtained from MnDOT's traffic

database. The results of this evaluation indicated that no growth has occurred on the freeway system since 2004. For purposes of this analysis, a growth rate of 0.5 percent per year was assumed to account for any potential growth that may occur by year 2035.

Development traffic was assigned to the regional system using the directional distributions shown in **Figure 21-2** and **21-3.** The sum of the background and development traffic was calculated for each segment/ramp and used to determine the anticipated hourly traffic volumes for each event scenario.

A planning level ramp capacity threshold of 1,600 vehicles per lane per hour was used to determine if a ramp is over capacity, with a threshold of 1,440 to 1,600 considered to be approaching capacity.

The use of the existing MnPASS lanes on I-394 and the Priced Dynamic Shoulder Lane (PDSL) on northbound I-35W south of downtown Minneapolis were assumed to be available during the AM and PM peak periods. The future 4th Street ramp to northbound I-35W was also assumed to be in place as part of the analysis.

It should be noted that the total volume for each ramp assumes that all the traffic can get to that location during the hour (i.e., there are no bottlenecks upstream).

The results of the analysis are shown below in **Table 21-8**. The locations that are expected to be approaching or over capacity are highlighted. In both Development Scenarios, the locations identified in the Build conditions are the same as those identified in the No Build conditions scenario.

Table 21-8. 2035 Freeway Analysis – Capacity Results

Location	Number of Lanes	Capacity (vph)	Traffic Volumes (vph)				
			Background (No Build)	Minimum Development Scenario	Minimum Development Scenario Total	Maximum Development Scenario	Maximum Development Scenario Total
AM Peak Hour							
1. Southbound I-35W Exit To Washington Ave	1	1,600	1,690	70	1,760	130	1,820
2. Southbound I-35W Exit To 11th Ave	1	1,600	810	40	850	60	870
3. Westbound I-94 Exit To 5th St	1	1,600	1,720	70	1,790	130	1,850
4. Westbound I-94 Exit To 11th St	1	1,600	970	40	1,010	80	1,050
5. Westbound TH 55 Exit To 7th St	2	3,200	950	40	990	70	1,020
6. Northbound I-35W Exit To 3rd St	1	1,600	270	20	290	20	290
7. Northbound I-35W Exit To Washington Ave	1	1,600	490	20	510	40	530
8. Northbound I-35W Exit To 5th Ave	2	3,200	2,550	100	2,650	190	2,740
9. Eastbound I-394 Exit To 12th St	1	1,600	1,820	70	1,890	140	1,960
10. Eastbound I-394 Exit To 6th St	2	3,200	370	20	390	30	400
11. Eastbound I-394 Exit To 4th St	2	3,200	590	30	620	50	640
12. Eastbound I-394 Exit To Washington Ave	1	1,600	960	40	1,000	70	1,030
13. Eastbound I-94 Exit To 4th St	2	3,200	2,350	90	2,440	180	2,530
PM Peak Hour							
14. Northbound I-35W Entrance From Washington Ave	1	1,600	730	30	760	50	780
15. Northbound I-35W Entrance From 4th St	1	1,600	730	30	760	50	780
16. Eastbound I-94 Entrance From 6th St	2	3,200	1,610	60	1,670	110	1,720
17. Eastbound TH 55 Entrance From 8th St	2	3,200	1,020	40	1,060	70	1,090
18. Southbound I-35W Entrance From Washington Ave	1	1,600	800	30	830	60	860
19. Southbound I-35W Entrance From 4th St	1	1,600	160	10	170	20	180
20. Southbound I-35W Entrance From 4th Ave	2	3,200	2,390	90	2,480	160	2,550
21. Southbound I-35W Entrance From 12th St	1	1,600	860	40	900	60	920
21. Westbound I-94 Entrance From 4th Ave	1	1,600	1,000	40	1,040	70	1,070
21. Westbound I-94 Entrance From 3rd St	2	3,200	2,020	80	2,100	140	2,160
21. Westbound I-394 Entrance From Washington Ave	1	1,600	80	10	90	10	90
22. Westbound I-394 Entrance From 3rd St	2	3,200	1,810	70	1,880	120	1,930
23. Westbound I-394 Entrance From 10th St	1	1,600	150	10	160	10	160
24. Westbound I-394 Entrance From Linden Ave	1	1,600	1,480	60	1,540	100	1,580

Future Traffic Operations Analysis – Local Roadway Network

To determine how well the roadway system will accommodate the proposed development, a peak hour traffic operations analysis was conducted for future year 2035 Build conditions for each Development Scenario. The signalized intersections were analyzed using the Synchro/SimTraffic software. The results of this analysis are shown in **Table 21-9** for the Minimum Development Scenario. The results for the Maximum Development Scenario are shown in **Table 21-10**. Note that the LOS results presented in these tables do not assume implementation of any mitigation measures. Based on the analysis, a limited number of intersections will operate at an unacceptable LOS for future year 2035 Build conditions. In the Maximum Development Scenario, the modeling showed that some intersections were unable to process the vehicle demand over the course of the hour, which impacted the vehicle arrivals and LOS at downstream intersections. In these cases, observation of the simulations was critical to identifying the operational and capacity issues that needed to be mitigated.

Table 21-9. 2035 Build Traffic Analysis Results – Minimum Development Scenario

Intersection			Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
Overall Network Delay (seconds/vehicle)			150	176
1	Washington Ave	Hennepin Ave	D	C
2	Washington Ave	Nicollet Ave	C	A
3	Washington Ave	Marquette Ave	C	B
4	Washington Ave	2nd Ave S	C	B
5	Washington Ave	3rd Ave S	D	D
6	Washington Ave	4th Ave S	A	A
7	Washington Ave	5th Ave S	B	C
8	Washington Ave	Portland Ave	B	B
9	Washington Ave	Park Ave	B	A
10	Washington Ave	Chicago Ave	B	B
11	Washington Ave	10th Ave S	A	B
12	Washington Ave	11th Ave S	E	E
13	Washington Ave	I-35W SB Ramp	F	C
14	Washington Ave	I-35W NB Ramp	B	C
15	3rd St S	3rd Ave S	B	C
16	3rd St S	4th Ave S	B	B
17	3rd St S	5th Ave S	A	B
18	3rd St S	Portland Ave	B	B
19	3rd St S	Park Ave	A	B
20	3rd St S	Chicago Ave	B	B
21	4th St S	3rd Ave S	B	B
22	4th St S	4th Ave S	B	B
23	4th St S	5th Ave S	A	B
24	4th St S	Portland Ave	B	B
25	4th St S	Park Ave	B	A
26	4th St S	Chicago Ave	B	B

Intersection			Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
27	5th St S	3rd Ave S	C	D
28	5th St S	4th Ave S	C	C
29	5th St S	5th Ave S	C	C
30	5th St S	Portland Ave	C	B
31	5th St S	Park Ave	D	B
32	5th St S	11th Ave S	F	B
33	6th St S	3rd Ave S	A	B
34	6th St S	4th Ave S	A	C
35	6th St S	5th Ave S	A	C
36	6th St S	Portland Ave	B	B
37	6th St S	Park Ave	C	B
38	6th St S	Chicago Ave	B	B
39	6th St S	11th Ave S	B	F
40	7th St S	3rd Ave S	B	B
41	7th St S	4th Ave S	A	A
42	7th St S	5th Ave S	A	A
43	7th St S	Portland Ave	B	B
44	7th St S	Park Ave	B	A
45	7th St S	Chicago Ave	C	B
46	8th St S	3rd Ave S	C	C
47	8th St S	4th Ave S	A	C
48	8th St S	5th Ave S	B	C
49	8th St S	Portland Ave	A	B
50	8th St S	Park Ave	C	B
51	8th St S	Chicago Ave	B	B

[a] Note that the Option 4 analysis results from the Draft AUAR are reported here as a worst case scenario for the Baseline Roadway Network Option. The previous Option 4 has been renamed Baseline Roadway Network, where reductions in delay would result by not implementing any reconfiguration of Park and Portland Avenues between 4th and 5th Streets.

Table 21-10. 2035 Build Traffic Analysis Results – Maximum Development Scenario

Intersection			Baseline Roadway Newtork Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
Overall Network Delay (seconds/vehicle)			167	177
1	Washington Ave	Hennepin Ave	D	C
2	Washington Ave	Nicollet Ave	C	A
3	Washington Ave	Marquette Ave	C	B
4	Washington Ave	2nd Ave S	C	B
5	Washington Ave	3rd Ave S	D	D
6	Washington Ave	4th Ave S	A	A
7	Washington Ave	5th Ave S	B	C

Intersection			Baseline Roadway Newtork Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
8	Washington Ave	Portland Ave	B	C
9	Washington Ave	Park Ave	A	A
10	Washington Ave	Chicago Ave	C	B
11	Washington Ave	10th Ave S	A	B
12	Washington Ave	11th Ave S	E	E
13	Washington Ave	I-35W SB Ramp	F	C
14	Washington Ave	I-35W NB Ramp	B	C
15	3rd St S	3rd Ave S	B	C
16	3rd St S	4th Ave S	B	B
17	3rd St S	5th Ave S	A	B
18	3rd St S	Portland Ave	B	B
19	3rd St S	Park Ave	B	B
20	3rd St S	Chicago Ave	B	B
21	4th St S	3rd Ave S	B	B
22	4th St S	4th Ave S	B	B
23	4th St S	5th Ave S	A	B
24	4th St S	Portland Ave	B	B
25	4th St S	Park Ave	C	A
26	4th St S	Chicago Ave	B	B
27	5th St S	3rd Ave S	C	D
28	5th St S	4th Ave S	C	C
29	5th St S	5th Ave S	C	D
30	5th St S	Portland Ave	C	B
31	5th St S	Park Ave	D	C
32	5th St S	11th Ave S	F	B
33	6th St S	3rd Ave S	B	B
34	6th St S	4th Ave S	A	C
35	6th St S	5th Ave S	A	C
36	6th St S	Portland Ave	B	B
37	6th St S	Park Ave	C	B
38	6th St S	Chicago Ave	B	B
39	6th St S	11th Ave S	B	F
40	7th St S	3rd Ave S	B	B
41	7th St S	4th Ave S	A	A
42	7th St S	5th Ave S	B	B
43	7th St S	Portland Ave	B	B
44	7th St S	Park Ave	C	A
45	7th St S	Chicago Ave	C	B
46	8th St S	3rd Ave S	C	C
47	8th St S	4th Ave S	A	C

Intersection			Baseline Roadway Newtork Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
48	8th St S	5th Ave S	B	C
49	8th St S	Portland Ave	A	B
50	8th St S	Park Ave	C	B
51	8th St S	Chicago Ave	B	B

[a] Note that the Option 4 analysis results from the Draft AUAR are reported here as a worst case scenario for the Baseline Roadway Network Option. The previous Option 4 has been renamed Baseline Roadway Network, where reductions in delay would result by not implementing any reconfiguration of Park and Portland Avenues between 4th and 5th Streets.

Minimum Development Scenario

Based on the results of the analysis, the additional traffic generated by the Minimum Development Scenario is expected to be able to be accommodated with less than five percent increase in overall network delay in the AM peak hour and approximately 15 percent increase in overall network delay in the PM peak hour. The intersections that were shown to operate at LOS E or LOS F in the No Build conditions are expected to also operate at LOS E or LOS F in this scenario. However, two additional issues were also identified due to increases in traffic volume due to the development:

- Near-capacity operations at the Washington Avenue/11th Avenue intersection in the AM peak, in addition to operational issues identified in the No Build scenario in the PM peak.
- Increased delay on northbound 11th Avenue at 6th Street due to the impact of left-turning vehicles in the PM peak.

Maximum Development Scenario

Based on the results of the analysis, the additional traffic generated by the Maximum Development Scenario is expected to be able to be accommodated under Roadway Option 4 with approximately 15 percent increase in overall network delay in both the AM and PM peak hours. The intersections that were shown to operate at LOS E or LOS F in the No Build conditions are expected to also operate at LOS E or LOS F in this scenario. However, three additional issues were also identified due to increases in traffic volume due to the development:

- Near-capacity operations at the Washington Avenue/11th Avenue intersection in the AM peak, in addition to operational issues identified in the No Build scenario in the PM peak.
- Increased delay on northbound 11th Avenue at 6th Street due to the impact of left-turning vehicles in the PM peak.
- Increased delay on north/south roadways crossing the 5th Street corridor, due to the green time allocated to LRT progression, in both the AM and PM peaks.

Traffic Mitigation

A number of improvements are recommended to bring the AUAR Study Area intersections to acceptable LOS levels and eliminate queuing that impacted upstream intersections. The evaluated improvements range from reassigning existing lanes to provide additional turn lane capacity, eliminating parking to provide travel lanes, modifying signal phasing, and optimizing signal timing, among others. It should be noted that eliminating parking has impacts on the community and on the City. However, for the purposes of developing mitigation strategies, eliminating parking is deemed to have a lesser impact than the effects of expanding the roadway footprint through right-of-way acquisition or the effects of unmitigated traffic impacts.

The recommended improvements as described in detail in the Final Mitigation Plan are summarized in **Table 21-11**.

In both Development Scenarios, the mitigation for an event in the public plaza/park that overlaps with the PM peak would be a Traffic Management Plan for the event. The Traffic Management Plan would need to include measures such as the implementation of event signal timings, wayfinding signing for parking, and traffic control agents at critical intersections such as 4th Street/Park Avenue.

The mitigation strategies identified in **Table 21-11** address the capacity and operations issues that were observed in the traffic modeling. However, some strategies have the potential to have ancillary impacts on parking, safety, and other modes such as pedestrians, bicyclists, and transit. **Table 21-11** also lists potential impacts for each of the mitigation strategies. In general, additional through or turn lanes will increase the conflict areas between vehicles and pedestrians or bicyclists.

Table 21-11. Mitigation Strategies Summary and Potential Impacts of Mitigation Strategies

Mitigation Strategy		Baseline Roadway Network Option		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies
		Min[a]	Max[b]		
1	Add northbound left turn lane at 6th St / 11th Ave	X	X	• Lane alignment on 11th Ave • Potential widening of 11th Ave due to addition of southbound right turn lane at 6th St as part of Stadium project	Coordination needed with Stadium roadway design
3	Reduce LRT green time at 5th St and Park Ave		X	• Impacts to LRT delay and schedule	Installation of LRT detection on 5th St at Park Ave
11[c]	Add second northbound left turn lane at 11th Ave/ Washington Ave		X	• Restrict or eliminate on-street parking • Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes	
12[c]	Add second southbound left turn lane at 11th Ave/ Washington Ave		X	• Restrict or eliminate on-street parking • Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes	

[a] Minimum Development Scenario
[b] Maximum Development Scenario
[c] Requires modification to bike lane, either remove or share with through lane

The expected operations with the implementation of the mitigation measures were then analyzed for each of the Development Scenarios. The intersections that are shown to have LOS E or LOS F operations in the mitigated results are the intersections that also operated at LOS E or LOS F in the No Build conditions.

The results of the analysis for the Minimum Development Scenario are shown in **Table 21-12**. In the mitigated scenarios, intersections that operated at LOS E or F in the Build conditions generally improved to LOS D or better and the overall network delays increased by less than 3 seconds per vehicle.

The results of the Option 4 Maximum Development Scenario analysis are provided in **Table 21-13**. In the mitigated scenarios, intersections that operated at LOS E or F in the Build conditions generally improved to LOS D or better and the overall network delays increased by less than 13 seconds per vehicle for Roadway Option 4.

Traffic related differences between Option 4 and Baseline Roadway Network Option (Park & Portland remain in existing configuration):

Option 4 from the Draft AUAR included a reduction in the number of lanes on Park and Portland Avenues between 4th and 5th Streets. The reduction of capacity on Park and Portland Avenues has been dropped from consideration largely due to City and County concerns about traffic, access, and emergency access to HCMC. The new Baseline Roadway Network Option includes the same roadway network and analysis assumptions as Option 4, but with Park and Portland Avenues at their existing configuration, and no reductions in capacity as a part of this project. This modest change primarily impacts traffic operations in the immediate vicinity of the Study Area, with the primary difference of operations at 5th Street intersections at Park and Portland Avenues. Under the previously analyzed Option 4, signal timing revisions or LRT vehicle detection was a recommended mitigation strategy to ensure acceptable levels of service at these intersections. With the Baseline Roadway Network Option, this recommended mitigation strategy is no longer necessary for the Minimum Development Scenario to maintain acceptable intersection operations.

Table 21-12. 2035 Build Traffic Analysis Results – Mitigated Minimum Development Scenario

Intersection			Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
Overall Network Delay (seconds/vehicle)			150	165
1	Washington Ave	Hennepin Ave	D	C
2	Washington Ave	Nicollet Ave	C	A
3	Washington Ave	Marquette Ave	C	B
4	Washington Ave	2nd Ave S	C	B
5	Washington Ave	3rd Ave S	D	D
6	Washington Ave	4th Ave S	A	A
7	Washington Ave	5th Ave S	B	C
8	Washington Ave	Portland Ave	B	B
9	Washington Ave	Park Ave	B	A
10	Washington Ave	Chicago Ave	B	B
11	Washington Ave	10th Ave S	A	A
12	Washington Ave	11th Ave S	E	E
13	Washington Ave	I-35W SB Ramp	F	C
14	Washington Ave	I-35W NB Ramp	B	C
15	3rd St S	3rd Ave S	B	C
16	3rd St S	4th Ave S	B	B

Intersection			Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
17	3rd St S	5th Ave S	A	A
18	3rd St S	Portland Ave	B	B
19	3rd St S	Park Ave	A	B
20	3rd St S	Chicago Ave	B	B
21	4th St S	3rd Ave S	B	B
22	4th St S	4th Ave S	B	A
23	4th St S	5th Ave S	A	B
24	4th St S	Portland Ave	B	B
25	4th St S	Park Ave	B	A
26	4th St S	Chicago Ave	B	B
27	5th St S	3rd Ave S	C	D
28	5th St S	4th Ave S	C	B
29	5th St S	5th Ave S	C	C
30	5th St S	Portland Ave	C	B
31	5th St S	Park Ave	D	B
32	5th St S	11th Ave S	F	B
33	6th St S	3rd Ave S	A	B
34	6th St S	4th Ave S	A	C
35	6th St S	5th Ave S	A	B
36	6th St S	Portland Ave	B	B
37	6th St S	Park Ave	C	B
38	6th St S	Chicago Ave	B	B
39	6th St S	11th Ave S	B	B
40	7th St S	3rd Ave S	B	B
41	7th St S	4th Ave S	A	A
42	7th St S	5th Ave S	A	A
43	7th St S	Portland Ave	B	B
44	7th St S	Park Ave	B	A
45	7th St S	Chicago Ave	C	B
46	8th St S	3rd Ave S	C	C
47	8th St S	4th Ave S	A	C
48	8th St S	5th Ave S	B	C
49	8th St S	Portland Ave	A	B
50	8th St S	Park Ave	C	B
51	8th St S	Chicago Ave	B	B

[a] Note that the Option 4 analysis results from the Draft AUAR are reported here as a worst case scenario for the Baseline Roadway Network Option. The previous Option 4 has been renamed Baseline Roadway Network, where reductions in delay would result by not implementing any reconfiguration of Park and Portland Avenues between 4th and 5th Streets.

Table 21-13. 2035 Build Traffic Analysis Results – Mitigated Maximum Development Scenario

Intersection			Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
Overall Network Delay (seconds/vehicle)			165	177
1	Washington Ave	Hennepin Ave	D	C
2	Washington Ave	Nicollet Ave	B	A
3	Washington Ave	Marquette Ave	C	B
4	Washington Ave	2nd Ave S	C	B
5	Washington Ave	3rd Ave S	D	D
6	Washington Ave	4th Ave S	A	A
7	Washington Ave	5th Ave S	B	C
8	Washington Ave	Portland Ave	B	C
9	Washington Ave	Park Ave	A	A
10	Washington Ave	Chicago Ave	C	B
11	Washington Ave	10th Ave S	A	B
12	Washington Ave	11th Ave S	C	E
13	Washington Ave	I-35W SB Ramp	F	C
14	Washington Ave	I-35W NB Ramp	B	C
15	3rd St S	3rd Ave S	B	C
16	3rd St S	4th Ave S	B	B
17	3rd St S	5th Ave S	A	B
18	3rd St S	Portland Ave	B	C
19	3rd St S	Park Ave	B	B
20	3rd St S	Chicago Ave	B	B
21	4th St S	3rd Ave S	B	B
22	4th St S	4th Ave S	B	B
23	4th St S	5th Ave S	A	A
24	4th St S	Portland Ave	B	B
25	4th St S	Park Ave	C	A
26	4th St S	Chicago Ave	B	B
27	5th St S	3rd Ave S	C	D
28	5th St S	4th Ave S	C	B
29	5th St S	5th Ave S	C	D
30	5th St S	Portland Ave	C	B
31	5th St S	Park Ave	D	C
32	5th St S	11th Ave S	F	B
33	6th St S	3rd Ave S	B	B
34	6th St S	4th Ave S	A	C
35	6th St S	5th Ave S	A	B
36	6th St S	Portland Ave	B	B
37	6th St S	Park Ave	C	B
38	6th St S	Chicago Ave	B	B

Intersection			Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	AM	PM
39	6th St S	11th Ave S	B	B
40	7th St S	3rd Ave S	B	B
41	7th St S	4th Ave S	A	A
42	7th St S	5th Ave S	B	A
43	7th St S	Portland Ave	B	B
44	7th St S	Park Ave	D	A
45	7th St S	Chicago Ave	C	B
46	8th St S	3rd Ave S	C	C
47	8th St S	4th Ave S	A	C
48	8th St S	5th Ave S	B	C
49	8th St S	Portland Ave	A	C
50	8th St S	Park Ave	D	B
51	8th St S	Chicago Ave	B	B

[a] Note that the Option 4 analysis results from the Draft AUAR are reported here as a worst case scenario for the Baseline Roadway Network Option. The previous Option 4 has been renamed Baseline Roadway Network, where reductions in delay would result by not implementing any reconfiguration of Park and Portland Avenues between 4th and 5th Streets.

22. Vehicle-Related Air Emissions

Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts.

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

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

The Indirect Source Permit (ISP) rule 7023.9010 was terminated in 2001; therefore, an ISP is not required for the proposed development. A hot spot air quality screening was conducted and is described below.

The U.S. Environmental Protection Agency has approved a screening method to determine which intersections need analysis for potential hot spot air quality impacts. The screening analysis consists of two criteria. If either criterion is met, then an intersection analysis would be required.

The first criterion is to determine whether the total daily approach volume of the Study Area exceeds 79,400 AADT. If it does, then an analysis would be required. The approach volumes at all of the signalized intersections near the Study Area are below approximately 20,000 AADT, well below the threshold of 79,400. Therefore, the first criterion is not met.

The second criterion compares the Study Area to the locations of 10 intersections that the MPCA has identified as having the highest volumes in the metro area. If any of these 10 intersections were affected by either Development Scenario then analysis would be required. The nearest of these intersections is 2.5 miles away, at the intersection of Lake Street and Hennepin Avenue in Minneapolis, and would not be impacted by either Development Scenario; therefore, the second criterion is not met. As a result, no hot spot analysis is needed, and no measurable change in air quality is anticipated under either of the Development Scenarios.

No air quality mitigation is required.

23. Stationary Source Air Emissions

Describe the type, sources, quantities, and compositions of any emissions from stationary sources of air emissions such as boilers, exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult *EAW Guidelines* for a listing) and any greenhouse gases (such as carbon dioxide, methane, nitrous oxide) and ozone-depleting chemicals (chloro-fluorocarbons, hydrofluorocarbons, perfluorocarbons, or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.

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

24. Odors, Noise, and Dust

Will the project generate odors, noise or dust during construction or during operation? X Yes __No

If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at section 23 instead of here.)

AUAR Guidance: Dust, odors, and construction noise need not be addressed in an AUAR, unless there is some unusual reason to do so. The RGU might want to discuss as part of the mitigation plan, however, any dust control or construction noise ordinances in effect. If the area will include or adjoin major noise sources a noise analysis is needed to determine if any noise levels in excess of standards would occur, and if so, to identify appropriate mitigation measures. With respect to traffic-generated noise, the noise analysis should be based on the traffic analysis of section 21.

As stated in the AUAR guidelines, this section need not be addressed unless there is some unusual reason to do so. No unusual circumstances have been identified that would necessitate a detailed noise analysis for any generators except traffic. Traffic-generated noise is discussed below.

Noise Characteristics

Noise is defined as any unwanted sound. Sound travels in a wave motion and produces a sound pressure level. This sound pressure level is commonly measured in decibels. Decibels (dB) represent the logarithm of the ratio of a sound energy relative to a reference sound energy. For highway traffic

noise, an adjustment, or weighting, of the high- and low-pitched sound is made to approximate the way that an average person hears sound. The adjusted sound levels are stated in units of "A-weighted decibels" (dBA). A sound increase of three dBA is barely noticeable by the human ear, a five dBA increase is clearly noticeable, and a 10 dBA increase is heard as twice as loud. For example, if the sound energy is doubled (i.e., the amount of traffic doubles), there is a three dBA increase in noise, which is just barely noticeable to most people. On the other hand, if traffic increases by a factor of 10, the resulting sound level will increase by about 10 dBA and be heard as twice as loud.

In Minnesota, traffic noise impacts are evaluated by measuring and/or modeling the traffic noise levels that are exceeded 10 percent and 50 percent of the time during the hours of the day and/or night that have the loudest traffic scenario. These numbers are identified as the L_{10} and L_{50} levels, respectively. The L_{10} value is the noise level that is exceeded for a total of 10 percent of an hour, or six minutes. The L_{50} value is the noise level that is exceeded for a total of 50 percent of an hour, or 30 minutes.

Table 24-1 provides a rough comparison of the noise levels of some common noise sources.

Table 24-1. Decibel Levels of Common Noise Sources

Sound Pressure Level (dBA)	Noise Source
140	Jet Engine (at 25 meters)
130	Jet Aircraft (at 100 meters)
120	Rock and Roll Concert
110	Pneumatic Chipper
100	Jointer/Planar
90	Chainsaw
80	Heavy Truck Traffic
70	Business Office
60	Conversational Speech
50	Library
40	Bedroom
30	Secluded Woods
20	Whisper

Source: "A Guide to Noise Control in Minnesota," Minnesota Pollution Control Agency, http://www.pca.state.mn.us/programs/pubs/noise.pdf and "Highway Traffic Noise," FHWA, http://www.fhwa.dot.gov/environment/htnoise.htm

Along with the volume of traffic and other factors (e.g., topography of the area and vehicle speed) that contribute to the loudness of traffic noise, the distance of a receptor from a sound's source is also an important factor. Sound level decreases as distance from a source increases. A general rule regarding sound level decrease due to increasing distance from a line source (roadway) is: beyond approximately 50 feet from the sound source, each doubling of distance from the line source over hard ground (such as pavement or water) will reduce the sound level by three dBA, whereas each doubling of distance over soft ground (such as vegetated or grassy ground) results in a sound level decrease of 4.5 dBA.

Minnesota State Noise Standards

Minnesota State Noise Standards have been established for daytime and nighttime periods. For residential land uses (identified as Noise Area Classification 1 or NAC 1), the Minnesota State Standards for L_{10} are 65 dBA for daytime and 55 dBA for nighttime; the standards for L_{50} are 60 dBA for daytime and 50 dBA for nighttime. The MPCA defines daytime as 7:00 AM to 10:00 PM and

nighttime from 10:00 PM to 7:00 AM. State noise standards are depicted in **Table 24-2**. Minnesota State noise standards apply to the outdoor atmosphere (i.e., exterior noise levels).

Table 24-2. Minnesota State Noise Standards

Land Use	Noise Area Classification	Daytime Hours (7:00 AM to 10:00 PM)		Nighttime Hours (10:00 PM to 7:00 AM)	
		L10 (dBA)	L50 (dBA)	L10 (dBA)	L50 (dBA)
Residential	1	65	60	55	50
Commercial	2	70	65	70	65
Industrial	3	80	75	80	75

State noise standards apply to trunk highway facilities and local roadways within the city of Minneapolis. Minnesota Rules 7030.0050, subp. 3, lists exceptions to the State noise standards and land use classifications identified in **Table 24-2**. The noise area classification for a land use may be changed if applicable conditions in Minnesota Rules 7030.0050, subp. 3 are met. For example, under Minnesota Rules 7030.0050, subp. 3A, the daytime standard for NAC 1 is applied to NAC 1 during the nighttime if the land use activity does not include overnight lodging. Other exceptions for NAC 1, 2, and 3 are described in Minnesota Rules 7030.0050, subp. 3B through subp. 3D.

Roadway Traffic Noise Impacts

The AUAR Study Area is located in the city of Minneapolis. Adjacent land uses surrounding the Study Area include residential (multi-story condominiums), multi-story offices, restaurants, hotels, government offices, institutional uses (churches), light warehousing, transportation uses (parking and light rail transit station), and supporting utility infrastructure. For purposes of this traffic noise analysis, modeled receptor locations were identified within a five-block area with three blocks bounded by S 3rd Street, 5th Avenue S, S 4th Street, and Chicago Avenue S. The additional two blocks are bounded by S 4th Street, 5th Avenue S, S 5th Street, and Park Avenue S.

Traffic Noise Modeling

Noise modeling for the Study Area was done using the noise prediction program MINNOISE31, a version of the Federal Highway Administration (FHWA) STAMINA model adapted by MnDOT for use in Minnesota. This model uses traffic volumes, speed, class of vehicle, and the typical characteristics of the roadway being analyzed (e.g., roadway horizontal and vertical alignment). The noise modeling assumed free-flow conditions through signalized intersections within and adjacent to the Study Area. Traffic data input into the MINNOISE31 noise model input files for the Study Area included the existing PM peak hour (4:30-5:30 PM),[9] and year 2035 No Build alternative. To account for when congested conditions cause reduced speeds during the PM peak and event arrival periods, a default traffic volume of 700 vehicles per lane per hour was used in the noise model input files where appropriate.

Modeled Noise Receptor Locations

Traffic noise impacts were assessed by modeling noise levels at representative receptor sites adjacent to the Study Area likely to be affected by changes in traffic patterns and volumes on local streets under the Development Scenarios. Traffic noise levels were modeled at 45 representative receptor locations within the Study Area representing exterior areas where frequent human use occurs (e.g., balconies/patios of residential properties, outdoor dining areas). The model receptor

[9] Existing traffic volumes from year 2011 Minnesota Department of Transportation (MnDOT) counts for downtown Minneapolis. 2011 Publication Traffic Volumes Metro Street Series – 3E available on the MnDOT Website at http://www.dot.state.mn.us/traffic/data/data-products.html#volume, accessed 3/6/2013.

locations are illustrated in **Figure 24-1.** Land uses are listed with each modeled receptor location in **Table 24-5**.

Noise Model Results

Results of the noise modeling analysis for existing conditions (PM peak hour), the future (2035) No Build alternative (PM peak hour), and the worst-case 2035 Maximum Development Scenario (from Draft AUAR) are tabulated in **Table 24-5**. This condition will result in the greatest traffic volumes in the Study Area and represents the worst-case condition.[10] The results of the traffic noise modeling analysis (L_{10} and L_{50} descriptors) are summarized below.

Existing (2011) daytime modeled noise levels (PM peak hour) at modeled receptor locations range from 64.1 dBA (L_{10}) to 75.0 dBA (L_{10}). Modeled daytime traffic noise levels exceed State daytime L_{10} and L_{50} standards at 30 modeled receptor locations under existing PM peak hour conditions. In general, these modeled receptor locations primarily represent residential land uses (NAC 1). Modeled noise levels exceed State daytime L_{10} standards only at two commercial receptor locations (Receptors K and U), while modeled noise levels at remaining commercial receptor locations are below applicable State daytime L_{10} and L_{50} standards.

Modeled traffic noise levels currently exceed (2011) State daytime noise standards at more than half of the modeled receptor locations. Traffic noise levels at three-fourths of the modeled receptor locations are projected to exceed State daytime standards under the future (2035) No Build alternative.

Future (2035) daytime modeled noise levels with the Maximum Development Scenario (PM Peak period) are predicted to range from 64.4 dBA (L_{10}) to 75.1 dBA (L_{10}). Modeled daytime traffic noise levels are predicted to increase by up to 2.3 dBA (L_{10}) compared to the No Build alternative. Modeled traffic noise levels are predicted to exceed State daytime L_{10} and L_{50} standards at 34 modeled receptor locations under the Maximum Development Scenario

Table 24-5. Traffic Noise Analysis Model Results

Receptor ID	NAC*	Existing (2011) PM Peak Hour		No Build (2035)		Worst Case Maximum Development Scenario† (2035)		Difference	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
A (C)	2	**70.2**	64.2	**70.5**	64.7	**71.0**	**65.4**	0.5	0.7
B (R)	1	**72.5**	**64.9**	**72.5**	**64.9**	**73.1**	**65.7**	0.6	0.8
C-1 (R)	1	**72.7**	**65.0**	**72.7**	**64.9**	**73.3**	**65.7**	0.6	0.8
C-2 (R)	1	**72.3**	**64.9**	**72.2**	**64.8**	**72.8**	**65.6**	0.6	0.8
C-3 (R)	1	**71.7**	**64.7**	**71.6**	**64.6**	**72.2**	**65.4**	0.6	0.8
C-4 (R)	1	**71.1**	**64.7**	**71.1**	**64.5**	**71.6**	**65.3**	0.5	0.8
D (R)	1	**70.3**	**64.2**	**70.2**	**64.1**	**70.7**	**64.7**	0.5	0.6
E-1 (R)	1	**72.6**	**65.9**	**72.7**	**66.0**	**72.8**	**66.2**	0.1	0.2
E-2 (R)	1	**72.4**	**65.9**	**72.5**	**66.0**	**72.6**	**66.2**	0.1	0.2
E-3 (R)	1	**72.0**	**65.8**	**72.1**	**65.9**	**72.2**	**66.1**	0.1	0.2
E-4 (R)	1	**71.5**	**65.7**	**71.6**	**65.7**	**71.8**	**66.0**	0.2	0.3
E-5 (R)	1	**71.1**	**65.5**	**71.2**	**65.6**	**71.3**	**65.8**	0.1	0.2
E-6 (R)	1	**70.6**	**65.3**	**70.7**	**65.3**	**70.8**	**65.6**	0.1	0.3
F (C)	2	69.9	64.7	69.9	**65.0**	**70.5**	**65.7**	0.6	0.7

[10] Option 1 includes the complete closure of both Park and Portland Avenues between 4th and 5th Streets.

Receptor ID	NAC*	Existing (2011) PM Peak Hour		No Build (2035)		Worst Case Maximum Development Scenario† (2035)		Difference	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
G-1 (R)	1	**73.4**	**65.4**	**72.8**	**64.8**	**73.6**	**65.8**	0.8	1.0
G-2 (R)	1	**72.9**	**65.4**	**72.4**	**64.8**	**73.2**	**65.8**	0.8	1.0
G-3 (R)	1	**72.3**	**65.3**	**71.8**	**64.8**	**72.5**	**65.7**	0.7	0.9
G-4 (R)	1	**71.6**	**65.1**	**71.2**	**64.8**	**71.9**	**65.6**	0.7	0.8
H (C)	2	68.7	64.8	68.3	64.4	69.2	**65.4**	0.9	1.0
I (C)	2	67.2	63.8	67.1	63.6	67.4	64.0	0.3	0.4
J (R)	1	**68.9**	**61.6**	**71.1**	**64.2**	**71.2**	**64.3**	0.1	0.1
K (C)	2	**75.0**	**68.2**	**75.0**	**68.2**	**75.1**	**68.3**	0.1	0.1
L-1 (R)	1	**67.9**	**63.5**	**67.9**	**63.5**	**68.0**	**63.7**	0.1	0.2
L-2 (R)	1	**67.9**	**63.5**	**67.9**	**63.5**	**68.0**	**63.7**	0.1	0.2
M-1 (R)	1	**65.4**	**61.2**	**65.4**	**61.2**	**65.5**	**61.4**	0.1	0.2
M-2 (R)	1	**65.4**	**61.2**	**65.4**	**61.2**	**65.5**	**61.4**	0.1	0.2
N (C)	2	64.2	60.3	64.2	60.3	64.4	60.5	0.2	0.2
O (R)	1	**67.8**	**63.7**	**68.0**	**63.8**	**68.2**	**64.1**	0.2	0.3
P (P)	1	**70.3**	**65.7**	**70.3**	**65.7**	**70.4**	**65.8**	0.1	0.1
Q (I)	3	67.0	63.0	67.0	63.0	67.0	63.2	0.0	0.2
R (C)	2	68.2	63.0	68.7	63.7	67.9	62.5	-0.8	-1.2
S (C)	2	68.9	62.9	69.1	63.3	65.1	62.1	-4.0	-1.2
T (T)	2	64.4	60.9	64.3	61.0	64.7	61.0	0.4	0.0
U (C)	2	**72.0**	**66.1**	**72.2**	**66.5**	**73.4**	**68.1**	1.2	1.6
V (C)	2	66.3	62.4	66.1	62.6	66.2	62.4	0.1	-0.2
W (M)	1	**67.8**	**63.8**	**68.2**	**64.4**	**68.0**	**64.1**	-0.2	-0.3
X (C)	2	69.2	64.3	69.6	**65.0**	69.9	**65.2**	0.3	0.2
Y (C)	2	69.6	63.7	**71.9**	**66.5**	**70.2**	64.6	-1.7	-1.9
Z (R)	1	**69.6**	**64.1**	**70.6**	**65.6**	**70.1**	**64.9**	-0.5	-0.7
AA (R)	1	64.1	59.5	64.6	**60.2**	64.4	**60.0**	-0.2	-0.2
BB (C)	1	65.0	**60.6**	**65.3**	**61.0**	**65.3**	**61.0**	0.0	0.0
CC (R)	1	**69.1**	**64.6**	**69.1**	**64.6**	**69.8**	**65.4**	0.7	0.8
DD (Ch)	1	64.3	**60.6**	64.8	**61.2**	64.7	**61.1**	-0.1	-0.1
EE (R)	1	64.6	57.7	**65.2**	58.5	**65.2**	58.5	0.0	0.0
FF (P)	1	64.5	57.6	**65.1**	58.5	**65.1**	58.5	0.0	0.0
NAC-1	--	65	60	65	60	65	60	--	--
NAC-2	--	70	65	70	65	70	65	--	--
NAC-3	--	80	75	80	75	80	75	--	--

Bold numbers are above State daytime standards.

(R) – Residential; (C) – Commercial; (B) – Business/Office; (Ch) – Church; (I) – Industrial; (P) – Park/Trail; (T) – Transportation

* Noise Area Classification (NAC) associated with each modeled receptor location.

† Option 1 is from the Draft AUAR and represents the worst case noise impact.

Construction Noise

Noise will be generated by equipment and vehicles used in the construction within the Study Area. Elevated noise levels during construction are unavoidable for this type of project. Noise levels and potential adverse effects due to construction activities will vary depending on the type of equipment, the location of the equipment, the location of noise receptors, the duration of operations, and the time of operations. High-impact construction equipment (e.g., pile drivers) typically results in the greatest potential for construction noise issues. At a distance of 50 feet, an impact pile driver can produce

peak noise levels of up to 101 decibels (Source: FHWA). Noise will also be generated during demolition of existing structures.

Mitigation

Construction within the Study Area will result in increases in traffic noise of less than 3.0 dBA at most modeled receptor locations under either Development Scenario compared to the No Build alternative. A change in sound levels of three dBA is barely noticeable by the human ear. Therefore, the change in traffic noise levels with either Development Scenario is not anticipated to be readily perceptible. Construction of noise barriers along City streets in downtown Minneapolis to reduce traffic noise levels is not feasible or reasonable because of the proximity of roadways, sidewalks, and buildings to one another. Therefore, mitigation is not proposed as part of the project. To the extent possible, construction activities will adhere to the Minneapolis Code of Ordinances, Chapter 59.30, which states "operation of construction equipment without a permit is allowed only on Monday through Friday from 7:00 a.m. to 6:00 p.m., not including federal holidays." A permit will be obtained from the City for any work outside these hours.

25. Nearby Resources

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

Archaeological, historical, or architectural resources? X Yes _No

Prime or unique farmlands or land within an agricultural preserve? _Yes X No

Designated parks, recreation areas, or trails? X Yes _ No

Scenic views and vistas? _Yes X No

Other unique resources? _Yes X No

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

Archaeological, Historical, Or Architectural Resources

There are no locally or nationally recognized historic districts or architectural resources identified within the Study Area. Known properties listed on the National Register of Historic Places (NRHP) in the vicinity of the AUAR boundary include: Minneapolis Armory (500 6th Street S); Minneapolis City Hall (350 5th Street S); Grain Exchange Building (400-412 4th Street S); Northern Implement Co. (616 3rd Street S); and Advanced Thresher/Emerson Newton Co. (700-08 3rd Street S). All of these properties are also locally designated landmarks. There are two historic districts within one-half mile of the Study Area: the Saint Anthony Falls Historic District and the South Ninth Street Historic District. Location of these properties and districts are illustrated in **Figure 25-1**.

Since none of the designated historic districts or NRHP-listed properties identified above is located within the AUAR boundary, no direct impacts to those historic resources are expected.

Potential indirect impacts to the NRHP-listed properties, including impacts on visual settings, traffic patterns, noise, and economics, are discussed below.

Visual Settings

As discussed in Section 26, the height and massing on the northern blocks from either Development Scenario would be larger than the height and massing of existing nearby buildings, including the existing Metrodome, and the new stadium that will be built on the Metrodome site. However, the primary proposed materials of stone with glass windows would provide a consistent visual connection to the surrounding area and would respond to the design guidelines in the Downtown East/North Loop Master Plan that seek greater connectivity between "a single enormous structure" (i.e., the

stadium) “and a series of finer-grain neighborhoods that surround it.” The proposed development would also provide a continuance and consistency with the larger buildings located immediately to the west, in the downtown core. This is illustrated in **Figures 25-2** and **25-3**.

The existing views of the Study Area to and from the St. Anthony Falls Historic District and the South Ninth Street Historic District are partially obscured by existing multi-story buildings (**Figure 25-4**). Partial views may be seen between buildings, from streets, and from upper level floors of some buildings; although the relatively flat nature of the existing Study Area does not offer any distinguishing visual features. Views of the proposed Development Scenarios within the Study Area will be similarly obscured, but the upper floors and roof line of the tallest buildings will be more visible because they will be several stories taller (18 or 20 compared to seven) than the buildings immediately to the north and south. Views of Blocks 4 and 5 would also be partially visible from either of the historic districts as seen between buildings, from streets, and from upper level floors of some buildings. The new view would be of public plaza/park space in lieu of the current parking lots and buildings.

The proposed construction of the office, residential, retail, parking, and/or hotel uses would change the current views to and from the Advance Thresher/Emerson-Newton Company and Northern Implement Company properties (**Figure 25-5**). The existing views to the southwest and southeast from these properties are of office buildings, parking garages, surface parking lots, with some landscaping, and the Metrodome. Construction of the new buildings would obscure views of these historic buildings from the south.

The proposed construction of the office, residential, retail, parking, and/or hotel uses would also change the current view to and from the Minneapolis Armory property (**Figure 25-4**). The existing view to the northwest and northeast from this property is of parking garages, surface parking lots, with some landscaping, and office buildings. Construction of the new buildings would obscure views of this historic building from the north but would provide views from more vantage points from the north with the opening up of the public plaza/park blocks.

The existing view from Minneapolis City Hall and the Grain Exchange Building to the southeast is of parking garages, office buildings, a surface parking lot and, at a three or four block-plus distance, the Metrodome. The proposed public plaza/park on Blocks 4 and 5 would provide a view corridor to the new Stadium site from areas generally to the west, including the site of the Minneapolis City Hall, the Grain Exchange Building, and the Minneapolis Armory (**Figure 25-5**).

Skyways are anticipated to be provided to connect across 5th Avenue to the existing downtown skyway network; between Blocks 1, 2 and 3; and to the new Minnesota Multi-Purpose Stadium. The Ninth Street South Historic District is located four to five blocks south and due to elevation changes, is not visible from where skyways would be placed. Elements of the St. Anthony Falls Historic District are visible from 5th, Park, Portland, and Chicago Avenues, and may be slightly obstructed from the at-grade view by the presence of skyways. Minor obstructions may also be experienced for views of the Minneapolis Armory from Portland Avenue. It is not anticipated that the views of Minneapolis City Hall, Grain Exchange Building, Advance Thresher/Emerson-Newton Company, and Northern Implement Company properties would be noticeably compromised from street level. The skyways crossing 5th Avenue and Portland Avenue and from Block 2 to the parking ramp on Block 3 will primarily be glass, so for users of the skyways, views of these historic structures may be enhanced by the elevated perspective, and more of the historic districts may also be visible.

Traffic Impacts

No significant changes in traffic are expected to occur in the St. Anthony Falls Historic District (southern boundary is 2nd Street) or the South Ninth Street Historic District (northern boundary is 9th Street). It is not anticipated that current traffic through these districts would become noticeably different as a result of the Study Area Development Scenarios.

A new parking ramp will also be provided, and there will be more traffic activity to and from the proposed Study Area. These changes will result in changes in traffic patterns in east downtown Minneapolis, including all surrounding streets and in front of the historic properties which may be noticeable during the peak hours.

Noise Impacts

Modeled noise levels would exceed State daytime standards at the adjacent NRHP buildings; however, the increase would be less than three dBA. Typically, a change in sound levels of three dBA is barely noticeable by the human ear. Therefore, the change in traffic noise levels at these properties under the Development Scenarios is not anticipated to be readily perceptible. Construction of noise barriers along city streets in downtown Minneapolis to reduce traffic noise levels is not feasible or reasonable because of the proximity of roadways, sidewalks, and buildings to one another.

Economic Impacts

The primary uses in the St. Anthony Falls Historic District and the South Ninth Street Historic District are residential, office, entertainment, restaurants, and some limited retail. The primary use in the historic buildings immediately adjacent to the Study Area is for office space. The changes in visual setting, traffic, and noise resulting from either of the two Development Scenarios are not anticipated to negatively affect the economic viability of the identified historic districts and structures. There may be positive economic effects on the historic districts and structures as a result of new construction and amenities (i.e., the public plaza/park) including increased property values, increased residential development, and increased restaurant, entertainment, and retail activity.

During construction, there will be additional traffic, congestion, and detours caused by the construction of either Development Scenario. However, these impacts are not expected to permanently impact the office uses in the adjacent historic structures. The two historic districts are several blocks from the Study Area, and therefore, limited economic impacts are expected during construction. Ultimately, the potential long-term economic benefits will likely enhance the integrity and visibility of both historic districts.

Other Historic Resources

There are three buildings located within the five-block Study Area, all of which are owned and operated by the Star Tribune. According to the Phase I Environmental Site Assessment (Liesch Associates Inc., July 2013), the main Star Tribune Building, located at 425 Portland Avenue (Block 5), was constructed in 1940 as a four-story office building with one subgrade level. There have been multiple later additions to the original structure such that the building now covers the majority of the block. Currently the building is used exclusively as an office space for management and staff involved in producing a daily newspaper. The printing of newspapers was once part of the activities at this site, but that activity was moved to a different location in 1987. A skyway and tunnel connect this building across 4th Street S to a smaller five-story office building (Block 2) which covers about one-fifth of that block. This building was constructed in 1982 and is known as the Freeman Building. The third structure, located on Block 1 and known as the McClellan Building, covers about one-quarter of the block and was built in 1915 as a three-story above ground office building and attached service garage with one subgrade level.

The main building at 425 Portland Avenue was identified in the early 1980s as a potential local historic resource.[11] In 2011, a City-sponsored Historic Resources Inventory was completed by Mead & Hunt and recommended 425 Portland Avenue along with 62 other properties in the Central Core Survey Area as good candidates for intensive-level research and survey for local and/or National Register designation. All three buildings will be demolished under both Development Scenarios. Because Block 1 of the Study Area is within the boundaries established by the MSFA for the Minnesota Multi-Purpose Stadium site, the review of the proposed land use for Block 1, including the demolition of the McClellan Building, will be conducted through the Stadium Implementation Committee process established by the Stadium Act (Laws 2012, Chapter 299). Similarly, because Blocks 4 and 5 of the East Village Project (the 425 Portland Block) are one of two alternatives being considered by the Minnesota Sports Facility Authority for a public plaza, the MSFA may consider both blocks to be part of the "stadium infrastructure" within the meaning of the Stadium Act.

Designated Parks, Recreation Areas, or Trails

There are currently no parks within or directly adjacent to the Study Area. The closest parks are Gold Medal Park and Elliot Park, both located within a half-mile distance of the site. A public plaza/park is included as part of the proposed development. The public plaza/park will occupy Block 5 and two-thirds (Maximum Development Scenario) or all (Minimum Development Scenario) of Block 4. The space will be controlled by a public entity and available for public use, providing a sizable green space and community gathering area with potential to host events. Impacts of a specific park event are not estimated in this AUAR (except for traffic), and any large event at the park would need to be a permitted event with its own management plan.

Within and adjacent to the AUAR boundary, there are existing on-street bike lanes on 4th Street (eastbound only), 3rd Street (westbound only), Park Avenue (northbound only), Portland Avenue (southbound only), and 5th Avenue (northbound only). An on-street bicycle lane east of the site along Norm McGrew Place connects the eastbound 4th Street bike lane with the westbound 3rd Street bike lane. Other facilities are planned to remain in place with either Development Scenario (see **Figure 25-6**).

Trail Mitigation

Since neither Development Scenario includes any changes to the existing street grid or trail system, no trail mitigation measures are necessary.

26. Visual Impacts

Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks? __Yes X No

If yes, explain.

The physical setting of the Downtown East Development is just west of the current Metrodome and lies within the Downtown East Neighborhood. Existing buildings within the AUAR boundary are between three and five stories high. The immediate surroundings of the Downtown East site consist of a mix of surface parking lots and low-rise structures that range in height from one to 10 stories. The highest adjacent structure is the Metrodome at approximately 190 feet. The new stadium will be

[11] When evaluating a property for local designation as a landmark or historic district, the city considers a property's historical, cultural, architecture, archaeological or engineering significance as expressed in at least one of seven categories, as identified in Section 599.210 of the Minneapolis Code of Ordinances.

approximately 290 feet at its highest point. The downtown core of Minneapolis, identifiable by its many high-rise structures, begins just to the west of the Downtown East site.

Proposed building heights in the AUAR Study Area vary between 18 stories or 310 feet for the Minimum Development Scenario, and 20 stories or 360 feet for the Maximum Development Scenario. The Minimum Development Scenario reflects the minimum height of any 18-story building with the minimum floor to floor height ratio and a reduced tower top. The Maximum Development Scenario reflects 20 stories with a slightly taller floor to floor height and maintaining a taller tower top. Either scenario is taller than any of the buildings in the immediate area but consistent with other structures in the central downtown area just to the west. For example, the Hennepin County Government Center, located just one block southwest of the site, is 24 stories and over 400 feet tall. The U.S. Courthouse, located one block northwest, is 15 stories and almost 300 feet tall. The clock tower of Minneapolis City Hall, one block west, is 345 feet tall. Section 530.250 of the City of Minneapolis Code of Ordinances states that "to the extent practical, site plans shall limit the blocking of views of important elements of the city such as parks and greenways, significant buildings, and waterbodies" and references that a shadow study may be required.

Figures 26-1 and **26-2** illustrate the shadows that will be created by the different building scenarios in comparison to shadows cast by similarly tall buildings in the nearby downtown core, and the new stadium that will be built by 2016. It is not anticipated that either Development Scenario will result in shadowing that is inconsistent with other types of development in the downtown area.

There are many views of the current Metrodome/new stadium from the Downtown East Development site. Other properties further away from the site have either views of the roofline or views of a narrow section of the Metrodome structure. With the implementation of the proposed development, some views of the Metrodome/new stadium may be partially obstructed from some areas of downtown, due to the massing and height of the proposed buildings. From the east/southeast, views of the Metrodome/new stadium may remain similar or be opened up further with construction of the public plaza/park.

The Mississippi River itself is not visible from the Downtown East Development site, due to the presence of buildings and the lower elevation of the river. Riverfront structures are visible from the site, and as part of the St. Anthony Falls Historic District, are discussed in Section 25.

Skyways are anticipated to be provided to connect across 5th Avenue to the existing downtown skyway network; between Blocks 1, 2 and 3; and to the new Minnesota Multi-Purpose Stadium. There is only one skyway currently within the Study Area (between the Star Tribune and Freeman Buildings which will be removed as part of the project); however, an extensive skyway system connects many buildings in the heart of downtown, just to the west.

It is expected that the presence of these skyways would be in character with the new development and would not create a significant visual intrusion (potential visual impacts to historic structures are discussed under Section 25). The skyways crossing 5th Avenue and Portland Avenue and from Block 2 to the parking ramp on Block 3 will primarily be glass, with steel support structures and an accent band of pre-cast to tie into the pre-cast exterior panels on the office towers.

Building lighting would be designed to LEED standards and would not include any uplighting that may negatively impact the surrounding uses and neighborhoods. Exterior building lighting will be designed to meet Minneapolis Zoning Code standards. The proposed public plaza/park would have street lights as required by the City of Minneapolis.

Lighting impacts on surrounding neighborhoods, if any, will be considered during the review process with the City of Minneapolis.

27. Compatibility with Plans and Land Use Regulations

Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency? _X_ Yes __ No

If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.

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

The following paragraphs discuss the compatibility of the development scenarios with relevant and applicable planning documents.

Minneapolis Plan for Sustainable Growth (Minneapolis Comprehensive Plan)

Current land use and zoning of the Study Area is described in Section 9 Land Use. The *Minneapolis Plan for Sustainable Growth* (adopted 2009; amended 2011), which functions as the City's comprehensive plan, states an overall mission that "Minneapolis will develop and maintain a land use pattern that strengthens the vitality, quality, and urban character of its downtown core, commercial corridors, industrial areas, and neighborhoods while protecting natural systems and developing a sustainable pattern for future growth." Specific policies outlined in the plan support development such as is proposed. For example, Land Use Policy 1.17 is to "invest in targeted place-making strategies to build upon and enhance existing community assets and encourage private sector development," and Economic Development Policy 4.1 is to "support private sector growth to maintain a healthy, diverse economy." The plan also identifies downtown Minneapolis as one of four designated "Growth Centers." To be a designated Growth Center, an area must contain a significant concentration of employment activity; and employment must be complemented by a wide range of activities, including residential, office, retail, entertainment, and recreational uses. The proposed office, retail, residential, and public plaza/park uses under either scenario, combined with the adjacent stadium, embodies all of the identified Growth Center activities.

The plan identifies future land use for the Study Area as follows: Blocks 1, 2, and 5 are designated for mixed use; and Blocks 3 and 4 are designated for commercial use. The development scenarios include mixed use on Blocks 1, 2, and 3, and potentially part of Block 4 under the Minimum Development Scenario; and public plaza/park use on Blocks 4 and 5. While public plaza/park use is not designated in the comprehensive plan, it does fulfill other objectives stated in the plan, such as Parks Policy 7.9: "Work to develop high quality open spaces in Downtown." The plan specifically notes that the increased residential density is creating an additional need for more greening of downtown.

Minneapolis Park and Recreation Board (MPRB) 2007-2020 Comprehensive Plan

The *Minneapolis Plan for Sustainable Growth* also incorporates the *Minneapolis Park and Recreation Board (MPRB) 2007-2020 Comprehensive Plan*, adopted in 2007. The MPRB plan states that one of

its strategies is to help shape the built form of the city by developing and/or implementing park plans to acquire parkland and build amenities in current or projected growth areas of the city, including downtown. It should be noted that the owner and/or operator of the new public plaza/park within the Study Area has not been determined and could be the MPRB or another public entity.

Downtown East/North Loop Master Plan

The *Downtown East/North Loop Master Plan*, adopted in 2003, provides direction for how growth should occur in the underdeveloped areas of downtown Minneapolis surrounding rail transit stations. The plan includes recommendations for land use, infrastructure, transportation, parking, urban design, and streetscape. Recommendations also promote downtown living by forging Complete Communities that include a mixture of transit stations, commercial office, retail, housing, and parks/plazas. Specific to the Downtown East neighborhood, the plan proposed redevelopment while supporting and expanding the downtown core. Recommendations for the Study Area include mixed-use residential and office, with open space elements. This is consistent with the two Development Scenarios.

In Chapter 5 of the plan (Urban Design Plan), it states that "maintaining utility and convenience of the downtown street grid is critical to ensuring access across the entire central business district for pedestrians, bicycles, buses, trucks, and automobiles. However, as new opportunities present themselves, it is important to consider modifications and adjustments to the existing street system that will ensure that it continues to serve downtown livability and economic vitality, rather than detract from it" (Chapter 5 Urban Design Plan, p. 51).

Hennepin County Planning Documents

The *Hennepin County Comprehensive Plan Update* (2011) and the *Hennepin County Transportation Systems Plan* (HC-TSP, 2011) were created with the goal of setting the stage for future transportation investments that will keep the County competitive in attracting businesses and future work force, and will sustain a high quality of life for County residents. The Development Scenarios are not directly in conflict with any of the goals stated in this plan.

28. Impact on Infrastructure and Public Services

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

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

AUAR Guidance: This section should first of all summarize information on physical infrastructure presented under sections (such 6, 17, 18 and 21). Other major infrastructure or public services not covered under other sections should be discussed as well — this includes major social services such as schools, police, fire, etc. The RGU must be careful to include project-associated infrastructure as an explicit part of the AUAR review if it is to exempt from project-specific review in the future.

Utilities

Redevelopment under either of the proposed Development Scenarios will not require the implementation of upgrades or replacement of existing water main, storm sewer, and sanitary sewer facilities to accommodate increased use and serve new buildings. Only new service to the existing mains will be necessary. These utilities are discussed in greater detail in Sections 13, 17, and 18. As

a result, no additional sewer extensions or improvements to increase capacity are anticipated. This is consistent with discussions with the City of Minneapolis Department of Public Works.

Transit

The Downtown East/Metrodome station is located just east/southeast of the Study Area, providing access to a number of bus routes as well as the Blue Line Light Rail Transit (LRT), which provides service between downtown Minneapolis, the Mall of America in Bloomington, and the Minneapolis/St. Paul (MSP) airport. The Green Line LRT between Minneapolis and St. Paul will also provide service to this station beginning in 2014.

The Study Area is currently directly served by multiple bus routes operated by Metro Transit, as illustrated in **Figure 28-1**. The bus stop at 4th Street and Portland Avenue includes three routes traveling between Minneapolis and various areas of St. Paul (144, 3, 16, 50), limited stop to Snelling Avenue/University of Minnesota (144), and an express route between Minneapolis and St. Paul (94). Riders can also currently access Route 144 at 5th Street and Portland. With the opening of Green Line LRT service in 2014, Routes 50 and 144 are scheduled for elimination. In addition, Route 16 will not operate west of the Stadium Village Green Line Station. Route 14 also serves downtown and operates on 5th Avenue between 8th and 4th Streets. At the 4th Street and 5th Avenue stop, Route 7 provides service between Plymouth and south Minneapolis, while Route 22 travels between Brooklyn Center and the Veteran's Hospital. The bus stop at 5th Street and 5th Avenue includes Routes 7 and 22, as well as a limited stop service to TH 55/Golden Valley (755), and an express service between Golden Valley and Minneapolis (764).

Expansion of existing routes and/or implementation of new transit routes may be necessary to serve the Study Area under either of the proposed Development Scenarios.

Police, Fire and Ambulance Services

Emergency medical and public safety services are critical activities of Hennepin County that operate on a 24/7 basis in proximity to the Study Area. Hennepin County Medical Center (HCMC), located at 7th Street and Park Avenue, receives 19,000 patients who arrive via ambulance to its emergency room each year. In addition, 360 emergency patients arrived by helicopter in 2012. All ambulance arrivals utilize local streets, specifically, Park, Portland, and Chicago Avenues, and 5th, 6th, 7th, and 8th Streets, among others (source: *Hennepin County comments on Minnesota Multi-Purpose Stadium Draft Environmental Impact Statement, 2013*). Both Park and Portland Avenues serve as primary access routes to HCMC's Emergency and Level 1 Trauma Center located on the HCMC campus between these two roadways.

Current police and fire services for the Study Area are provided by the City of Minneapolis. The nearest fire department is Station One, located at 530 S 3rd Street, adjacent to the Study Area. As 3rd Street is one-way going westbound, fire trucks exiting the station are forced to turn right going away from the Study Area.

The Study Area is within the 1st Police Precinct, located at 19 N 4th Street, approximately seven blocks west/northwest of the Study Area.

Under either of the Development Scenarios, there would be an increase in the residential population, as well as an increase in the number of employees and public plaza/park users, which may increase the demand for emergency medical and public safety services.

Schools

The Study Area would be served by the Minneapolis Public School District. Residential units are proposed under both of the proposed Development Scenarios, ranging from 275 (Maximum

Development Scenario, with hotel) to 410 units (Minimum Development Scenario, without hotel). However, generally speaking, it is not anticipated that the type of housing and the project setting will be attractive to many families with school-aged children, as compared to a more traditional single-family development. Therefore, the impact on the school district is likely to be minimal.

Infrastructure Summary

Water, storm sewer, and sanitary mitigation measures are discussed in Sections 13, 17, and 18. Discussions will take place with Metro Transit during site planning regarding bus rerouting or additional service. No additional mitigation is required for schools. Close coordination with the police department, fire department, and HCMC will take place so that emergency routing is maintained during the construction phase of the project.

29. Cumulative Potential Effects

Minnesota Rule part 4410.1700, subpart 7, item B requires that the RGU consider the "cumulative potential effects of related or anticipated future projects" when determining the need for an environmental impact statement.

Identify any past, present or reasonably foreseeable future projects that may interact with the project described in this EAW in such a way as to cause cumulative potential effects. (Such future projects would be those that are actually planned or for which a basis of expectation has been laid.)

Describe the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects (or discuss each cumulative potential effect under appropriate section(s) elsewhere on this form).

AUAR Guidance: Because the AUAR process by its nature is intended to deal with cumulative potential effects from all future developments within the AUAR area, it is presumed that the responses to all sections on the EAW form automatically encompass the impacts from all anticipated developments within the AUAR area. However, the total impact on the environment with respect to any of the sections on the EAW form may also be influenced by past, present, and reasonably foreseeable future projects outside of the AUAR area. The cumulative potential effect descriptions may be provided as part of the responses to other appropriate EAW sections, or in response to this section.

The following projects have been identified as reasonably foreseeable and have the potential to interact with either Development Scenario as to cause varying degrees of reasonably foreseeable cumulative impacts. Each of the identified projects is or has elements that are geographically proximate to the Study Area.

- Infrastructure improvements
    - Washington Avenue reconstruction from Hennepin Avenue to I-35W
    - 10th Avenue Bridge rehabilitation
    - Traffic and safety improvements on 4th Avenue S from 10th Street S to 3rd Street S
    - Replacement of the driving surface on 4th Street S, 8th Street S, and 9th Street S from Hennepin Avenue to Chicago Avenue
    - Replacement of the driving surface on 14th Street S from Park Avenue to 11th Avenue S
    - Rehabilitation/repairs of the Central City and MnDOT (I-35W) storm water tunnels
    - Sealcoating on 10th Street S between 3rd Avenue S and 11th Avenue S

    - Street resurfacing of 11th Street S between 3rd Avenue S and 11th Avenue S
    - Tunnel work on Washington Avenue between Hennepin Avenue and Portland Avenue
    - A signal timing optimization project that includes all signalized intersections in downtown Minneapolis
    - Construction of a new freeway entrance ramp from 4th Street South to I-35W northbound
    - Green Line (Central Corridor) LRT line sharing the existing Blue Line LRT alignment near the AUAR Study Area, utilizing the same stations
    - Two-way traffic operations on Park Avenue S and Portland Avenue S (not programmed)
    - Two-way traffic operations on 9th Street S and 10th Street S, east of 5th Avenue S (not programmed)
    - New exit ramp from westbound I-94 to 7th Street S
    - Changes to Washington Avenue S and 3rd Street S interchanges at I-35W
    - West River Parkway seal coating
    - Downtown sidewalk ADA Pedestrian Ramp replacement (6th Street, 7th Street, 8th Street, and 9th Street)
    - 15th Avenue S Reconstruction (4th Street S to 6th Street S)
- Development
    - Minnesota Multi-Purpose Stadium and associated amenities (parking, plaza, etc.)
    - New social services hub (service center) in the Health Services Building at 6th Street and Park Avenue
    - HCMC Hyperbaric Chamber Addition (716 7th Street S)
    - Emanuel Housing (822 3rd Street S)
    - Izzy's Ice Cream (1100 2nd Street S)
    - Valspar Addition (1101 3rd Street S)
    - Stonebridge Lofts (1120 2nd Street S)
    - Currie Park Lofts (1500 6th Street S)
    - Planning Only – 301 Washington Avenue S (3rd Avenue S to 4th Avenue S)
    - Planning Only – Mill City Quarter (2nd Street S at 3rd Avenue S)

As discussed in other sections of this AUAR, both Development Scenarios will result in various levels of impact in a number of impact categories. Some of the other planned projects in the area may have similar impacts, such as impervious surface, generating noise, and changing the visual landscape. New development in the area may also utilize the parking provided within the Study Area, including the new Minnesota Multi-Purpose Stadium, scheduled to open in 2016. The evaluation of these future projects, if they are scheduled to occur beyond the date of the proposed Downtown East Development, should consider Downtown East as part of the baseline or existing condition when conducting analysis of parking, noise, visual, stormwater, and other issues that may contribute to cumulative impacts. However, based on an assumption that other developments or projects in the area will be held to the same regulatory requirements for surface water, utilities, and visual landscape, the potential for cumulative impacts will be minimized through existing review and permit processes.

In general, the potential for cumulative traffic impacts was evaluated through the assumptions included in the background traffic, traffic growth and other infrastructure improvements. A discussion of traffic, in the context of cumulative impacts of two specific projects (Washington Avenue improvements, and the Minnesota Multi-Purpose Stadium), is provided below.

Traffic

At the request of Hennepin County, traffic operations analysis was conducted for the potential two-lane westbound section on Washington Avenue between Hennepin Avenue and 5th Avenue. Both Development Scenarios were tested for the potential Washington Avenue configuration for AM and PM peak hours.

The results of the traffic operations analysis are presented in **Table 29-1**. The analysis shows that with Washington Avenue reduced from three westbound lanes to two westbound lanes, increased congestion is expected in the PM peak hour.

Table 29-1. 2035 Build Traffic Analysis Results – Washington Avenue Westbound 2-Lane Section

Intersection			PM Peak – Mitigated Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	Minimum Development Scenario	Maximum Development Scenario
Overall Network Delay (seconds/vehicle)			171	188
1	Washington Ave	Hennepin Ave	C	C
2	Washington Ave	Nicollet Ave	A	A
3	Washington Ave	Marquette Ave	B	B
4	Washington Ave	2nd Ave S	B	B
5	Washington Ave	3rd Ave S	D	D
6	Washington Ave	4th Ave S	B	B
7	Washington Ave	5th Ave S	C	C
8	Washington Ave	Portland Ave	B	D
9	Washington Ave	Park Ave	B	C
10	Washington Ave	Chicago Ave	C	C
11	Washington Ave	10th Ave S	A	B
12	Washington Ave	11th Ave S	E	F
13	Washington Ave	I-35W SB Ramp	C	C
14	Washington Ave	I-35W NB Ramp	C	C
15	3rd St S	3rd Ave S	C	C
16	3rd St S	4th Ave S	B	B
17	3rd St S	5th Ave S	B	B
18	3rd St S	Portland Ave	B	C
19	3rd St S	Park Ave	B	B
20	3rd St S	Chicago Ave	C	B
21	4th St S	3rd Ave S	B	A
22	4th St S	4th Ave S	B	B
23	4th St S	5th Ave S	A	B

Intersection			PM Peak – Mitigated Baseline Roadway Network Option Intersection LOS[a]	
No.	Road 1	Road 2	Minimum Development Scenario	Maximum Development Scenario
24	4th St S	Portland Ave	B	B
25	4th St S	Park Ave	B	A
26	4th St S	Chicago Ave	B	B
27	5th St S	3rd Ave S	D	D
28	5th St S	4th Ave S	C	B
29	5th St S	5th Ave S	C	D
30	5th St S	Portland Ave	A	B
31	5th St S	Park Ave	B	C
32	5th St S	11th Ave S	B	B
33	6th St S	3rd Ave S	B	B
34	6th St S	4th Ave S	B	C
35	6th St S	5th Ave S	B	C
36	6th St S	Portland Ave	B	B
37	6th St S	Park Ave	B	B
38	6th St S	Chicago Ave	B	B
39	6th St S	11th Ave S	B	B
40	7th St S	3rd Ave S	B	B
41	7th St S	4th Ave S	A	A
42	7th St S	5th Ave S	A	A
43	7th St S	Portland Ave	B	B
44	7th St S	Park Ave	A	A
45	7th St S	Chicago Ave	B	B
46	8th St S	3rd Ave S	C	C
47	8th St S	4th Ave S	C	C
48	8th St S	5th Ave S	C	C
49	8th St S	Portland Ave	B	B
50	8th St S	Park Ave	B	B
51	8th St S	Chicago Ave	B	B

[a] Note that the Option 4 analysis results from the Draft AUAR are reported here as a worst case scenario for the Baseline Roadway Network Option. The previous Option 4 has been renamed Baseline Roadway Network, where reductions in delay would result by not implementing any reconfiguration of Park and Portland Avenues between 4th and 5th Streets.

Stadium Traffic and Parking

Traffic analysis was also completed for the proposed Minnesota Multi-Purpose Stadium, which studied event and non-event traffic patterns. It also studied area parking, including a new parking ramp on Block 1 within the Study Area. The traffic evaluation for the proposed Downtown East Development studied weekday AM and PM peak traffic flows for the same block. On a limited basis, Stadium and Downtown East Development traffic peaks may intersect, such as when there is a weekday evening event with event attendees arriving to the area around the same time that employees in the Downtown East Development are exiting. This would result in heavier traffic

patterns and delays during those times. The Minnesota Multi-Purpose Stadium Environmental Impact Statement (EIS) documents the expected operations during arrival for a capacity event held on a weekday evening, which would overlap with the PM peak hour. In addition, the Stadium EIS evaluated the proposed temporary closure of Park Avenue and Portland Avenue for a weekend event arrival scenario only. The closures would occur under the potential East/West Plaza configuration and would provide space for pre-game activities.

Overall, the traffic impacts of any event at the Minnesota Multi-Purpose Stadium would be increased with any Downtown East Development Scenario. However, the change in traffic operations due to the Downtown East Development Scenarios is minor compared to the larger impacts of the stadium event, particularly for a weekday evening event.

Event traffic volumes are temporary in nature and are expected to occur on a limited number of days per year. Where capacity events at the new stadium may intersect with peak traffic periods associated with the Study Area development (i.e., weekday stadium arrivals during peak departures from the development), additional traffic management strategies, such as traffic control agents, wayfinding, and event signal timing plans, would need to be implemented by the MSFA to manage event traffic levels.

Due to the potential cumulative impacts of stadium events and operations together with changes to the roadway configuration proposed by area developments, an increased quantity of traffic mitigation measures may be needed in addition to the traffic mitigation measures which would be needed by either stadium events alone or area developments alone.

The City and/or the MSFA may also choose to promote alternative modes of travel (i.e., transit), and other recommendations such as early arrivals or departures for drivers. Agreements between parking ramp owners and the MSFA could also reduce daytime parking, or encourage early departures, at the ramps near the stadium on event days, thereby reducing PM peak traffic volumes in the study area.

Cumulative Impact Summary

Overall, the Development Scenarios, when considered in combination with the other identified reasonably foreseeable projects, have limited potential for cumulative impacts to the resources directly or indirectly affected by the Development Scenarios, except for traffic. As noted above, a number of mitigation measures will be considered to minimize cumulative traffic impacts during major stadium events, reducing the potential for cumulative traffic impact during major weekday stadium events.

30. Other Potential Environmental Impacts

If the project may cause any adverse environmental impacts not addressed by sections 1 to 28, identify and discuss them here, along with any proposed mitigation.

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

All known adverse environmental impacts are addressed in sections 1 to 29.

31. Summary of Issues

List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.

AUAR Guidance: The RGU may answer this question as asked by the form, or instead may choose to provide an Executive Summary to the document that basically covers the same information. Either way, the major emphasis should be on: potentially significant impacts, the differences in impacts between major development scenarios, and the proposed mitigation.

Sections 1 through 7 provide general Study Area information. Section 8 lists the permits and approvals required for development within the Study Area. There were no impacts identified in Sections 10, 11, 12, 14, 15, 18, 19, 22, 23, 26, 27, 29, or 30; therefore, these areas require no mitigation and are not included in the Final Mitigation Plan.

The remaining sections have identified mitigation measures that reduce the level of potential impact of development within the Study Area and are summarized in the following Final Mitigation Plan.

FINAL MITIGATION PLAN

This Final Mitigation Plan is submitted as part of the Final AUAR to provide reviewers and regulators with an understanding of the actions which are advisable, recommended, or necessary to protect the environment and minimize the potential impacts caused by the proposed Development Scenarios. This Final Mitigation Plan has been revised and updated based on comments received during the Draft AUAR comment period (see **Appendix A**).

The mitigation plan is intended to satisfy the AUAR rules that require the preparation of a mitigation plan that specifies measures or procedures that will be used to avoid, minimize, or mitigate the potential impacts of development within the AUAR Study Area. Although mitigation strategies are discussed throughout the AUAR document, this plan will be formally adopted by the City of Minneapolis as their action plan to prevent significant environmental impacts.

The primary mechanism for mitigation of environmental impacts is the effective use of ordinances, rules, and regulations. The plan does not modify the regulatory agencies' responsibilities for implementing their respective regulatory programs, nor create additional regulatory requirements. The mitigation plan specifies the legal and institutional arrangements that will assure that the adopted mitigation measures are implemented.

There were no impacts identified in Sections 10, 11, 12, 14, 15, 18, 19, 22, 23,, 26, 27, 29, or 30; therefore, these areas require no mitigation and are not included in the Final Mitigation Plan. The remaining sections have identified regulatory requirements and/or mitigation measures that reduce the level of potential impact of development within the Study Area. The plan is formatted consistent with the sections of the AUAR for ease of reference.

Section 8. Permits and Approvals Required

Unit of Government	Type of Application	Status
Federal		
Federal Aviation Administration	Airspace hazard permit (for any structures more than 200 feet above ground level)	To be applied for
State		
Minnesota Department of Health	Abandonment of Water Wells	To be applied for
	Water Main Installation Permit	To be applied for, if needed
	Drainage Permit	To be applied for, if needed
Minnesota Department of Natural Resources	Groundwater Appropriation Permit	To be applied for, if needed
Minnesota Historical Society	Minnesota Historic Sites Act Minnesota Field Archaeology Act	Provisions will be met during construction, as applicable
Minnesota Pollution Control Agency	NPDES/SDS Construction Stormwater Permit	To be applied for
	Sanitary Sewer Extension Permit	To be applied for, if needed
	Soil and Groundwater Remediation Plan Approval	To be applied for, if needed
	Storage Tank Registration	To be applied for, if needed
	Intent to Perform a Demolition	Notification
	Asbestos Related Work	Notification, if needed
Regional		
Metropolitan Council	Sanitary Sewer Extension Permit	To be applied for, if needed
Middle Mississippi River Watershed Districted (which defers to the City of Minneapolis for permitting)	No formal review process	NA
Local		
City of Minneapolis	Building permits	To be applied for
	Demolition permit	To be applied for
	Emergency Generator Fuel Storage Permit	To be applied for
	Erosion and Sedimentation Control Plan Approval and Permit	To be applied for
	Stormwater Management Plan Approval	To be applied for
	Planned Unit Development Review and Approval	To be applied for
	Land Subdivision	To be applied for
	Temporary Water Discharge Permit	To be applied for, if needed
	After Hours Work Permit	To be applied for, if needed
	Lane Obstruction Permit	To be applied for, if needed
	Right-of-Way Excavation Permit	To be applied for, if needed
	Encroachment Permit	To be applied for, if needed
	Utility Repair Permit	To be applied for, if needed

Unit of Government	Type of Application	Status
	Utility Connection Permits	To be applied for, if needed
	Sidewalk Construction Permit	To be applied for, if needed
	Testing and Inspection Agreement	To be applied for, if needed
	General Obligation Bonds for Blocks 4 and 5	To be applied for
	Department of Employment and Economic Development grants for redevelopment, and for demolition and clean up	To be applied for
	Final AUAR and Mitigation Plan	In process

Section 9. Land Use

Potential impacts and mitigation measures are the same under both Development Scenarios for land use.

Potential Impacts

- Zoning inconsistencies for either Development Scenario, such as floor area ratio or building height, may occur.
- The Phase I ESA identified 26 petroleum underground storage tanks (USTs) and six above ground storage tanks (ASTs) in the Study Area.
- Four releases from the USTs were reported; two on Block 3 and two on Block 5, and all four have been closed by the Minnesota Pollution Control Agency (MPCA). There are also three listings for Blocks 3 and 4 which are reported as closed on the MPCA SPILLS database.
- According to the MPCA's *What's in My Neighborhood*? database, there are 10 potentially contaminated sites within the AUAR Study Area. Two are active sites, and eight are inactive.

Mitigation Strategies

9.1 A zoning change may be requested for the five blocks within the Study Area boundary. This will be coordinated through the City of Minneapolis Planned Unit Development (PUD) process, if required.

9.2 Removal of all tanks and associated piping will occur in accordance with state and federal laws.

9.3 Mitigation measures for environmental contamination in the State of Minnesota will be undertaken, as necessary, in coordination with the MPCA. Mitigation measures for known and unknown contamination are addressed under Section 20.

How Mitigation Will be Applied and Assured

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

Involvement by Other Agencies, if applicable

Mitigation measures to address site contaminants will be undertaken in coordination with MPCA.

Section 13. Water Use

Potential impacts and mitigation measures are the same under both Development Scenarios for water use.

Potential Impacts

- Abandonment of two on-site wells.
- Temporary dewatering may occur during construction of the buildings.

Mitigation Strategies

13.1 If any additional wells are encountered during construction, they will be relocated (if necessary) or capped and sealed according to Department of Health regulations.

13.2 Water pumped during construction dewatering activities will be tested for contaminants to determine if discharge can be to sanitary or storm sewer system.

13.3 Obtain a National Pollutant Discharge Elimination System (NPDES) permit.

How Mitigation Will be Applied and Assured

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

Involvement by Other Agencies, if applicable

All water pumped during construction dewatering activities will be discharged in compliance with the City and Minnesota Department of Natural Resources (DNR) requirements and the NPDES permit.

Section 16. Erosion and Sedimentation

Potential impacts and mitigation measures are the same under both Development Scenarios for erosion and sedimentation.

Potential Impacts

- Construction activities that involve moving soil and/or excavation may cause erosion and sedimentation impacts to storm sewer infrastructure or surface waters.

Mitigation Strategies

16.1 Require project proposers to acquire NPDES General Stormwater Permit for Construction Activity from the MPCA prior to initiating earthwork for each phase of the project. This permit requires that the MPCA's Best Management Practices be used to control erosion and that all erosion controls be inspected after each significant rainfall.

16.2 Require project proposers to meet the erosion and sediment control regulations in all applicable regulations, ordinances, and rules of the City and MPCA.

How Mitigation Will be Applied and Assured

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

Involvement by Other Agencies, if applicable

The developer must apply for and MPCA must issue an NPDES permit.

Section 17. Water Quality: Surface Water Runoff

Storm water runoff from the Study Area will be reduced under both Development Scenarios with development of two blocks as public plaza/park.

Potential Impacts

- No impacts were identified assuming water quality management standards are implemented.

Mitigation Strategies

17.1 Require stormwater management systems to be developed in accordance with City of Minneapolis code, MPCA, and Mississippi Water Management Organization, as needed.

How Mitigation Will be Applied and Assured

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

Involvement by Other Agencies, if applicable

The developer must apply for and MPCA must issue an NPDES permit.

Section 20. Solid Waste, Hazardous Waste, Storage Tanks

The potential to encounter contaminants is the same under both Development Scenarios.

Potential Impacts

- It is estimated that the demolition would generate 50,000 tons of concrete/asphalt debris and 5,000 tons of miscellaneous construction debris.
- The Phase I ESA found that 26 petroleum underground storage tanks (USTs) were reported to have been previously removed from the Study Area according to the MPCA registered tank files. Six above ground storage tanks (ASTs) were reported as inactive. Several leak sites were also reported, as noted in Section 9.

Mitigation Strategies

20.1 A Pre-Demolition Survey has been completed for the three buildings to be removed from the Study Area to determine if any regulated materials are present. An Abatement Plan is being prepared to address removal and proper disposal of any regulated materials identified in the Pre-Demolition Survey.

20.2 The project will be enrolled in the MPCA's Voluntary Investigation and Cleanup (VIC) Program and Petroleum Brownfields Program (PBP) and all investigation and remediation activities will be consistent with the VIC Program's policies and procedures.

20.3 A Phase II Environmental Site Assessment (Phase II ESA) is now being completed for the Study Area. Based upon the results of the Phase II ESA and previously conducted environmental investigations within the Study Area, a Response Action Plan (RAP) will be prepared and submitted to the VIC and PBP Programs for review and approval to address proper handling and treating of contaminated soil and/or groundwater within the context of, and consistent with, the proposed redevelopment activities.

20.4 A Construction Contingency Plan (CCP) will be developed and submitted to the MPCA with the RAP to address proper handling, treating, storing, and disposing of solid wastes, hazardous materials, petroleum products, and other regulated materials/wastes that are used or generated during construction.

20.5 There will be a corporate recycling program established in the two office buildings and a recycling program for the residential component. There will be a dedicated storage/trash area in the loading dock area that will be used for recycling management and pickup.

20.6 It is estimated that up to 90 percent of the solid wastes generated during demolition will be recycled. The remainder will be disposed at a state permitted landfill. Construction-related waste materials such as wood, packaging, excess materials, and other wastes, will be either recycled or disposed in the proper facilities.

How Mitigation Will be Applied and Assured

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City.

Involvement by Other Agencies, if applicable

The developer will coordinate with the MPCA regarding the required plans, material handling and disposal of demolition materials, and operate consistent with the VIC Unit's policies and procedures relating to the investigation and remediation of hazardous substances, if any are identified.

Section 21. Traffic

Potential Impacts

Minimum Development Scenario Impacts:

For the Baseline Roadway Network the following impacts were identified:

- Near-capacity operations at the Washington Avenue/11th Avenue intersection in the AM peak, in addition to the operational issues identified in the No Build scenario in the PM peak.
- Increased delay on northbound 11th Avenue at 6th Street due to the impact of left-turning vehicles in the PM peak.

Maximum Development Scenario Impacts:

Under the Maximum Development Scenario, two additional intersections are impacted.

The AUAR is intended to capture the likely minimum and maximum development size. As the project details are determined through the development process, changes are likely to occur; however, the Minimum and Maximum Scenarios evaluated within the traffic study are expected to capture the range of impacts that may occur. As site plans are developed, land uses and trip generation difference will be compared to the traffic analysis to confirm the mitigation measures needed.

How Mitigation Will be Applied and Assured

Mitigation will be regulated through the City's development review process. Proposed PUD and/or site plans must address relevant mitigation measures prior to final approval by the City. The design of the proposed public plaza/park should provide access to the stadium in a way that reduces pedestrian/vehicle conflict for major events at the new Minnesota Multi-Purpose Stadium.

Involvement by Other Agencies, if applicable

Coordination with Hennepin County, MSFA, Metro Transit, and the City of Minneapolis will continue.

Mitigation Strategies

Table 21-11. Mitigation Strategies Summary and Potential Impacts of Mitigation Strategies

Mitigation Strategy		Baseline Roadway Network Option		Potential Impacts of Mitigation Strategy	Potential Secondary Mitigation Strategies	Estimated Cost
		Min[a]	Max[b]			
21.1	Add northbound left turn lane at 6th St / 11th Ave	X	X	• Lane alignment on 11th Ave • Potential widening of 11th Ave due to addition of southbound right turn lane at 6th St as part of Stadium project	Coordination needed with Stadium roadway design	$80,000 to $125,000
21.3	Reduce LRT green time at 5th St and Park Ave		X	• Impacts to LRT delay and schedule	Installation of LRT detection on 5th St at Park Ave	$35,000 to $55,000
21.11[c]	Add second northbound left turn lane at 11th Ave/ Washington Ave		X	• Restrict or eliminate on-street parking • Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes		$100,000 to $165,000
21.12[c]	Add second southbound left turn lane at 11th Ave/ Washington Ave		X	• Restrict or eliminate on-street parking • Potential signal phasing changes such as protected only or split phasing, which would necessitate signal equipment changes		$100,000 to $165,000

[a] Minimum Development Scenario
[b] Maximum Development Scenario
[c] Requires modification to bike lane, either remove or share with through lane

Section 24. Odors, Noise, and Dust

Potential impacts and mitigation measures are the same under both Development Scenarios for traffic and construction Noise.

Potential Impacts

- Construction noise will occur during demolition and construction.
- Traffic noise increases will be less than three dBA at most receptors, and therefore barely perceptible to the human ear. Noise barrier mitigation is not feasible in the downtown streetscape.

Mitigation Strategies

24.1 Construction hours will follow City code (limited to Monday through Friday, 7:00 a.m. to 10:00 p.m., unless and after hours work permit is secured from the City).

How Mitigation Will be Applied and Assured

Mitigation will be regulated through the City's development review process. The developer's agreement will address relevant mitigation measures prior to final approval by the City.

Involvement by Other Agencies, if applicable

Not applicable.

Section 25. Nearby Resources

Potential impacts and mitigation measures are the same under both Development Scenarios for historic resources and trails.

Potential Impacts

- Known properties listed on the National Register of Historic Places (NRHP) in the vicinity of the AUAR boundary include: Minneapolis Armory (500 6th Street S); Minneapolis City Hall (350 5th Street S); Grain Exchange Building (400-412 4th Street S); Northern Implement Co. (616 3rd Street S); and Advanced Thresher/Emerson Newton Co. (700-08 3rd Street S).
- The main building at 425 Portland Avenue was identified in the early 1980s as a potential local historic resource. In 2011, a City-sponsored Historic Resources Inventory was completed by Mead & Hunt and recommended 425 Portland Avenue along with 62 other properties in the Central Core Survey Area, as good candidates for intensive-level research to determine eligibility for local and/or National Register designation.

Mitigation Strategies

25.1 Demolition permits will be requested for the existing buildings on site.

How Mitigation Will be Applied and Assured

Proposed PUD, land use and/or site plans must address relevant mitigation measures prior to approval by the City. The Star Tribune building is located on a block (Block 5) which may be considered part of the "stadium infrastructure" by the Minnesota Sports Facility Authority within the meaning of the Minnesota Multi-Use Stadium Act (Laws 2012, Chapter 299).

Involvement of Other Agencies, if applicable

Not applicable.

Section 28. Impact on Infrastructure and Public Services

Potential impacts and mitigation measures are the same under both Development Scenarios for public services.

Potential Impacts

- Development would increase the residential population, as well as increase the number of employees and public plaza/park users, which may increase the demand for transit, emergency medical and public safety services.

Mitigation Strategies

28.1 Discussions will take place with Metro Transit and City during site planning regarding bus and other public services.

How Mitigation will be Applied and Assured

To be determined after site plans are submitted.

Involvement by Other Agencies, if applicable

To be determined after site plans are submitted.