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AVAILABILITY OF THE ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR) UPDATE
Upper Harbor Terminal

The Upper Harbor Terminal Alternative Urban Areawide Review (AUAR) study area encompasses an area totaling approximately 53 acres in Minneapolis, Minnesota. The AUAR study area consists of 10 parcels, nine which are owned by the City of Minneapolis and one owned by the Minneapolis Park and Recreation Board (MPRB). United Properties, in partnership with Port of Minneapolis, LLC (First Avenue Productions and the Minnesota Orchestra), MPRB, and the City of Minneapolis, is proposing to redevelop the 53-acre Upper Harbor Terminal site, which was formerly used as a barge shipping terminal. The proposed development would include residential, hospitality, retail/service, office/employment, light industrial, community performing arts center (includes an outdoor amphitheater), and recreational land uses.

Copies of the AUAR UPDATE will be available for review at the Public Service Building located at 505 Fourth Avenue South, Room 320. Notice will be published in the *EQB Monitor* on Tuesday, April 15, 2025. Written comments on the AUAR UPDATE must be submitted within the 10-day comment period, which ends at 4:00 p.m. on Tuesday, April 29, 2025. It is anticipated that the BHZ Committee at its regular meeting on Tuesday, June 10, 2025, or at a subsequent meeting, will receive a report and recommendation from City staff. The City Council will act on the recommendation of this Committee at its regular meeting on Wednesday, June 18, 2025, or at a subsequent meeting.

This draft AUAR and supporting information will also be available for review on the City of Minneapolis website: Environmental Review - City of Minneapolis. Copies of this AUAR UPDATE can also be provided to individuals by email. For further information or to submit written comments on the AUAR UPDATE, contact Hilary Dvorak, Principal City Planner, at 612.673.2639 or via email hilary.dvorak@minneapolismn.gov.

UPPER HARBOR TERMINAL

ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR) UPDATE

APRIL 2025

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Minneapolis
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1. Introduction

The Upper Harbor Terminal Alternative Urban Areawide Review (AUAR) study area encompasses an area totaling approximately 53 acres in Minneapolis, Minnesota (shown on Figure 1). The AUAR study area consists of 10 parcels, nine which are owned by the City of Minneapolis and one owned by the Minneapolis Park and Recreation Board (MPRB). United Properties, in partnership with Port of Minneapolis, LLC (First Avenue Productions and the Minnesota Orchestra), MPRB, and the City of Minneapolis, is proposing to redevelop the 53-acre Upper Harbor Terminal site, which was formerly used as a barge shipping terminal. The proposed development would include residential, hospitality, retail/service, office/employment, light industrial, community performing arts center (includes an outdoor amphitheater), and recreational land uses.

As the Responsible Governmental Unit (RGU), the City of Minneapolis adopted the Upper Harbor Terminal Final AUAR and Mitigation Plan in September 2021. Pursuant to Minnesota Rules, part 4410.3610, subpart 7, an AUAR must be updated if the RGU determines that substantial changes have occurred that may affect the potential for, or magnitude of, adverse environmental impacts. As the RGU, the City of Minneapolis is requiring an AUAR Update due to a potential update to the City's noise ordinance to accommodate the community performing arts center. The AUAR Update includes information on development to date; updates to the environmental analysis where necessary due to changes in the development that have occurred or are planned to occur, changes in the study area, or changes in applicable plans or regulations; and a review of required mitigation measures.

2. Existing Conditions

As of September 2024, no residential, retail, industrial, or commercial development has occurred within the AUAR study area. Changes within the study area since the AUAR was published in 2021 include the following:

- An existing warehouse and various structures associated with the Upper Harbor Terminal were demolished in 2022 (visible on Figure 1).
- Mass grading of the riverfront property in the AUAR study area was completed in 2022 (visible on Figure 1).
- Environmental remediation began in 2022 as part of mass grading.
- In 2023 and 2024, the City of Minneapolis completed construction of Dowling Avenue North, 33rd Avenue North, and the first phase of West River Road North within the AUAR study area (visible on Figure 1).
- Existing transmission lines owned by Xcel Energy located within the AUAR study area were relocated within the site in 2024.
- In September 2024, the MPRB broke ground on its regional park on site.
- Construction of the Mississippi Watershed Management Organization (MWMO)-facilitated District Stormwater System began in 2022, with additional components of the system constructed in 2023 and 2024.
- Shoreline restoration of the riverfront property in the AUAR study area began in 2023 and will be ongoing through 2024.
- Construction of the MWMO Southern Regional Treatment System began in August 2024 and will be ongoing through spring 2025.

Figure 1: Existing Conditions

3. Development Scenarios

There have been no changes to the development scenarios since the 2021 AUAR. The three development scenarios are outlined in Table 1. The No Build Scenario represents the conditions of the Upper Harbor Terminal site in 2021. Under this scenario, no redevelopment would occur. Scenario 1 represents the density of the development proposed in the *Upper Harbor Coordinated Development Plan* (Final Draft, September 2021). Scenario 2 represents the maximum density allowed under the *Minneapolis 2040 Comprehensive Plan*.

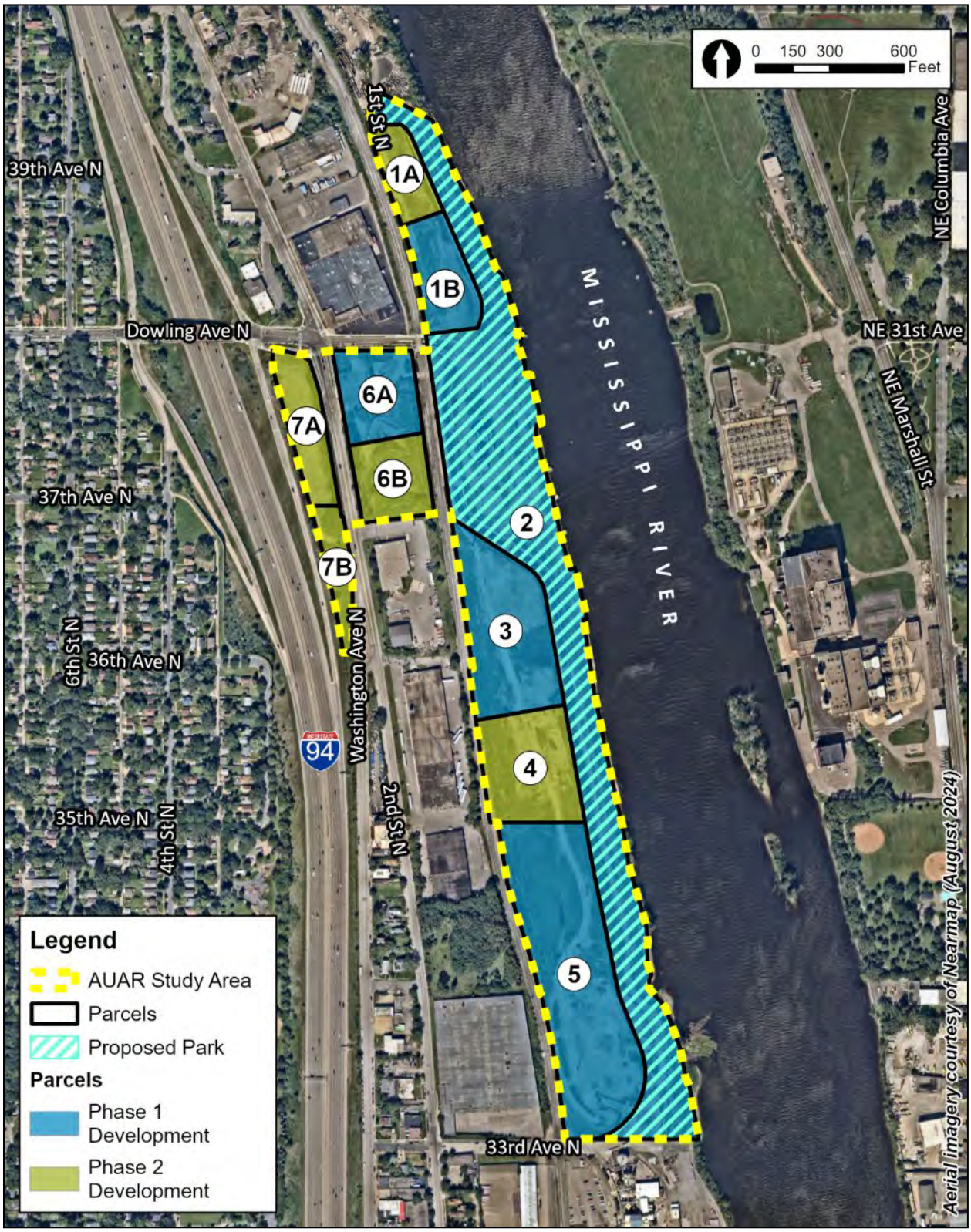
Table 1: Development Scenarios

Component	No Build Scenario	Scenario 1: Draft Coordinated Development Plan	Scenario 2: Maximum Density Allowable under the Comprehensive Plan
Residential units	0	520	890
Commercial (square feet)	0	50,000	55,000
Non-commercial: office, industrial (square feet)	110,000	315,000	640,000
Industrial storage (acres)	37	0	0
Music venue/outdoor amphitheater (peak attendance)	0	10,000[1]	10,000[1]
Recreation (acres)	0	19.5	19.5

The proposed development began in 2022 and is planned to be completed in two separate phases, Phase 1 and Phase 2 (see Figure 2). Phase 1 includes development on Parcel 1B, Parcel 2, Parcel 3, Parcel 5, and Parcel 6A. Some utility and transportation infrastructure, including a portion of the north-south parkway, have been completed as part of Phase 1 and are summarized in Section 2. The regional park will also be completed as part of Phase 1. Phase 2 includes development on Parcel 1A, Parcel 4, Parcel 6B, Parcel 7A, and Parcel 7B. The remainder of the north-south parkway is anticipated to be completed in Phase 2. The timeline for the development is market dependent.

[1] Since the 2021 AUAR, entitlements have been granted for the community performing arts center and the planned capacity has decreased from 10,000 to 8,200. For the purposes of the environmental review, peak attendance of 10,000 was used.

Figure 2: AUAR Study Area Parcels



4. Impact Analysis

4.1. Areas of No Anticipated Change

The analysis that was completed in 2021 for the following issue areas remains valid for the development scenarios:

- Cover Types
- Geology, Soils, and Topography/Landforms
- Water Resources
- Contamination/Hazardous Materials/Wastes
- Historic Properties
- Visual
- Air
- Transportation

4.2. Areas Requiring Updated Analysis

Analysis was updated for the below issue areas due to changes in the development that have occurred or are planned to occur, changes in the study area, or changes in applicable plans or regulations. The Minnesota Environmental Quality Board (EQB) updated the Environmental Assessment Worksheet (EAW) form in December 2022, which is the basis of an AUAR. The updated form includes additional questions to address climate adaptation and resilience and greenhouse gas emissions. An analysis of these new issue areas has also been included below.

4.2.1. Land Use

Since publication of the 2021 AUAR, the Minneapolis City Council adopted the *Upper Harbor Coordinated Development Plan* on October 8, 2021.[2] The analysis from the 2021 AUAR of Future Land Use and Built Form, the Mississippi River Corridor Critical Area, Shoreland and Floodplain Overlay Districts, *Above the Falls Regional Park Master Plan*, and policies from Minneapolis 2040 remain valid for both development scenarios.

Zoning

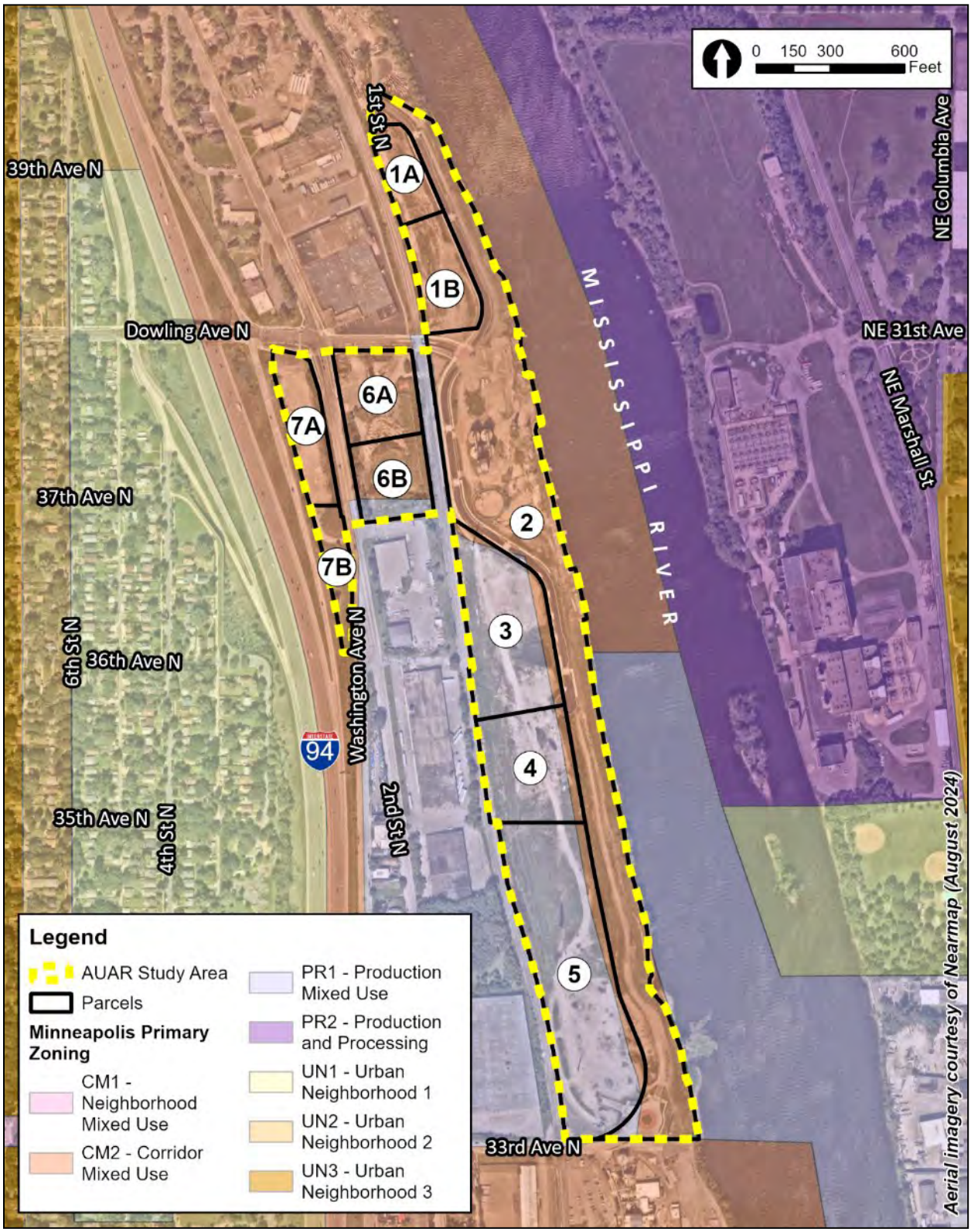
Minneapolis 2040 – The City's Comprehensive Plan went into effect on January 1, 2020.[3] As required by Minnesota Statute 473.858, if a comprehensive municipal plan is in conflict with the zoning ordinance, the zoning ordinance must be brought into conformance through review and amendment if necessary. A *Land Use Rezoning Study* was adopted by the Minneapolis City Council on May 25, 2023, and went into effect on July 1, 2023.[4] This study included the creation and mapping of new zoning districts to be consistent with future land uses identified in *Minneapolis 2040*.

The study area is currently zoned as CM2 Corridor Mixed-Use (Parcels 1A, 1B, 2, 3, 6A, 6B, 7A, and 7B) and PR1 Production Mixed Use (Parcels 3, 4, and 5) (see Figure 3). The CM2 Corridor Mixed Use district allows small, moderate, and large-scale commercial uses. Mixed-use multistory development is encouraged. The PR1 Production Mixed Use district includes production, commercial, and warehousing

[2] Available at https://lims.minneapolismn.gov/Download/RCAV2/24628/Upper-Harbor-Terminal-Coordinated-Plan-Sept-2021.pdf
[3] Available at https://minneapolis2040.com/
[4] Available at https://www2.minneapolismn.gov/business-services/planning-zoning/amendments/adopted-proposed/recently-adopted/land-use-rezoning-study/

and storage uses. Residential uses are allowed in PR1 Production Mixed Use zones as part of mixed-use buildings that provide production space. Both Scenarios 1 and 2 propose land uses that are consistent with the existing CM2 and PR1 zoning.

Figure 3: Minneapolis Primary Zoning



4.2.2. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

The AUAR study area has undergone demolition activities. Given the highly disturbed nature of the site, there is minimal likelihood of finding suitable habitat for state-listed or federally-listed species. As noted in the 2021 AUAR, the DNR identified no adverse impacts to state-listed or federally-listed species.

A review of the Minnesota Department of Natural Resources (DNR) Natural Heritage Information System (NHIS) data was conducted in September 2024 per license agreement LA-2024-006 for the AUAR study area and the area within 1 mile. Five species were identified within 1 mile of the AUAR study area and are summarized in Table 2.

The DNR also completed an updated Natural Heritage Review for the AUAR study area, included in Appendix A. As noted in the letter dated November 13, 2024, several state-listed mussels have been documented in the Mississippi River near the study area. The DNR requires that effective erosion prevention and sediment control practices be implemented and maintained near the river throughout the duration of the project and incorporated into any stormwater management plan. No additional species or resources were noted in the letter provided by the DNR. The DNR did not identify any adverse impacts or required measures in connection with the other species identified during review of NHIS data.

Table 2: State-Listed Species Within the Review Area

Species	Group	Status	Habitat[5]
Beach Heather (*Hudsonia tomentosa)*	Vascular Plant	State Threatened	Preferred habitat includes active sand dunes that are not directly associated with lakes.
Black Sandshell (*Ligumia recta)*	Mussel	Species of Special Concern	Preferred habitat includes riffle and run areas of medium to large rivers in areas dominated by sand or gravel.
Fawnsfoot (*Truncilla donaciformis)*	Mussel	State Threatened	Preferred habitat includes flowing areas of large rivers in soft or coarse substrate.
Peregrine Falcon (*Falco peregrinus)*	Bird	Species of Special Concern	Preferred habitat includes cliff ledges along rivers and lakes. In urban settings they nest primarily on buildings and bridges.
Rusty Patched Bumble Bee (*Bombus affinus)*	Insect	Federally Endangered	Preferred habitat includes semi-natural upland grassland, shrublands, woodlands, and forests. The entire project site is within a Low Potential Zone.

[5] Source: DNR Rare Species Guide. Available at https://www.dnr.state.mn.us/rsg/index.html

4.2.3. Noise

The community performing arts center proposed in both Scenario 1 and Scenario 2 may result in elevated noise levels during major events. The Port of Minneapolis anticipates up to 54 commercial events per year at this amphitheater over an 18-week timeframe. Attendance of anticipated events would range from 100 to 10,000[6] visitors, with an average event attendance of approximately 2,000 people. These events would take place within the daytime permit hours between 7:00 a.m. and 10:00 p.m.

The State of Minnesota has established noise standards for daytime and nighttime periods. These standards differentiate between daytime and nighttime hours, L_{50} and L_{10} time periods, and noise area classifications. The Minnesota Pollution Control Agency (MPCA) defines daytime hours as the hours between 7:00 a.m. to 10:00 p.m. and nighttime hours as the hours between 10:00 p.m. to 7:00 a.m. According to the statute, L_{50} means sound levels (measured in A-weighted decibels (dBA)) exceeded 50 percent of the time during a one-hour survey, and L_{10} means sound levels exceeded 10 percent of the time during a one-hour survey. The noise area classifications are land use activities as defined in Minnesota Rules, part 7030.0050, subpart 3. In general, residential uses fall under Noise Area Classification 1, commercial uses fall under Noise Area Classification 2, and industrial uses fall under Noise Area Classification 3.

Table 3: State of Minnesota Noise Standards[7]

Noise Area Classification	Daytime		Nighttime	
	L_{50} (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{10} (dBA)
1	60	65	50	55
2	65	70	65	70
3	75	80	75	80

Section 389.60 of the Minneapolis Code of Ordinances provides sound level limits for non-exempted sources, and these limits match the State's limits defined in Minnesota Rules, part 7030.0050 (Table 3). Provided the proposed community performing arts center receives a permit for sound amplifying equipment, the venue will be exempt from the Section 389.60 noise limits and instead will be subject to Section 389.105 of the Minneapolis Code of Ordinances. This section pertains specifically to permitted sound amplifying equipment. Under Section 389.105, daytime permits for sound amplifying equipment are subject to the following relevant conditions: [8]

- A daytime permit limits the use of outside sound amplifying equipment to between the hours of 7:00 a.m. and 10:00 p.m. An extended hours permit is required for outside sound amplifying equipment used outside of this time.
- Sound amplification that does not meet the non-permitted limits in Section 389.60 shall be limited to 12 hours in any one day, 24 hours in any seven-day period, and 36 hours in any 28-day period for the same property.
- Sound measured at 50 feet from the source shall not exceed 90 dBA (A-weighted decibels) for standard and large block event permits.

[6] Since the 2021 AUAR, entitlements have been granted for the community performing arts center and the planned capacity has decreased from 10,000 to 8,200. For the purposes of the environmental review, peak attendance of 10,000 was used.
[7] Source: Minnesota Rules, part 7030.0030 (2003)
[8] Source: Minneapolis, Minn., Municipal Code § 389.105(c)(3)

- Sound measured off the property where the equipment is allowed under the permit shall never be more than 15 dBA above the State's daytime residential noise standard for standard and large block event permits.

The noise assessment completed for the 2021 AUAR assumed that the community performing arts center would adhere to the City's permitted noise limit of 90 dBA 50 feet from the source of the sound. Port of Minneapolis is seeking an amendment to the City of Minneapolis amplified sound permitting ordinance that would provide the community performing arts center permits to operate up to 54 commercial events each year at the facility as long as the sound is limited to an L_{eq} (equivalent continuous sound level) of 98 dBA as measured 134 feet from the source. An updated noise assessment dated September 9, 2024 was completed assuming a maximum L_{eq} of 98 dBA 134 feet from the stage as a worst case. A supplemental memorandum dated February 12, 2025 provided additional information regarding the updated noise assessment. This updated noise study and supplemental memorandum are summarized below and included in Appendix B.

The current noise modeling predicts that during permitted community performing arts center events, the peak L_{50} and L_{10} levels at Parcel 6A, the closest planned residential building to the community performing arts center, would be 74 dBA and 76 dBA, respectively. As a result, the noise generated during permitted community performing arts center events may exceed the MPCA limit for land use in Noise Area Classification 1. As a result, the planned residential buildings closest to the community performing arts center may be required to meet the additional requirements listed in Minnesota Rules, part 7030.0050, subpart 3C. These rules provide an exception that allows the L_{50} and L_{10} dBA limits of Noise Area Classification 3 to apply to Noise Area Classification 1 if the following conditions are met:

(1) the building is constructed in such a way that the exterior to interior sound level attenuation is at least 40 dBA;

(2) the building has year-round climate control; and

(3) the building has no areas or accommodations that are intended for outdoor activities.

Unless otherwise agreed to by the MPCA, the developer of the residential projects on both Parcels 6A and 1B, as the closest proposed residential uses to the community performing arts center with the possibility of experiencing noise during events that exceeds the MPCA limit for land use in Noise Area Classification 1, will be required to retain an acoustics consultant to evaluate the site plan, building design, and use plans for consistency with Minnesota Rules Chapter 7030. If applicable, the developer will be required to construct buildings and develop the parcels to meet the requirements of state noise standards or exceptions in Minnesota Rules, part 7030.0050, subpart 3; or, will be required to seek and obtain a variance of the application of Minnesota Rules Chapter 7030 from the MPCA if the applicable rules cannot be met.

Further, the developer of the residential projects on Parcels 6A and 1B will be responsible to ensure the property manager of each residential project will have new tenants affirmatively acknowledge that they are aware that up to 54 commercial events will be held at the community performing arts center per year as permitted by the City of Minneapolis. The developer will also be responsible to ensure that the property manager of each residential project publish notice of the date, time, and duration of all such events to tenants on at least a monthly basis. The operator of the community performing arts center will be contractually obligated to provide property managers of the residential projects notice of the date, start time, and estimated duration of all commercial events at least 30 days in advance of such events

or, if the commercial event is scheduled less than 30 days prior to the event date, promptly after the commercial event is scheduled.

Additionally, the noise study assessed the potential for impacts on the heron rookery in the Mississippi River located to the southeast of the facility. The predicted sound levels associated with the proposed facility are comparable to or less than the background levels measured in the area. Although sounds from the facility may be audible at times, there would be minimal behavioral effects expected for the heron rookery.

4.2.4. Climate Adaptation and Resilience

Trends in temperature, precipitation, flood risk, and cooling degree days are described below for the general project location. Some of the climate projections summarized below use shared socioeconomic pathways (SSPs) or Representative Concentration Pathways (RCPs), which are greenhouse gas concentration scenarios used by the Intergovernmental Panel on Climate Change. SSP 245 and RCP 4.5 are intermediate scenarios in which emissions decline after peaking around 2040, and SSP 370 and RCP 8.5 are high-emissions scenarios in which emissions continue to rise through the century.[9]

Temperature

According to the Minnesota Climate Mapping and Analysis Tool (CliMAT),[10] the annual daily average temperature in the AUAR study area from 1995 to 2014 was 56.9°F. The annual daily average temperature in the study area is projected to increase to 60.5°F from 2040 to 2059 under an intermediate emissions pathway (SSP 245). In 2080-2099, annual daily average temperature is projected to further increase to 63.4°F and 65.7°F under an intermediate (SSP 245) and high emissions pathway (SSP 370), respectively.

Urban Heat Island

Surfaces and structures such as roads, parking lots, and buildings absorb and re-emit more heat from the sun than natural landscapes. This can significantly raise air temperature and overall extreme heat vulnerability in urban areas where there are dense concentrations of these surfaces. This is referred to as the urban heat island effect. According to the Metropolitan Council's Extreme Heat Map Tool, based on the land surface temperature at the AUAR study area during a heatwave in 2022, the study area is susceptible to extreme heat.[11]

Precipitation

According to the EPA Climate Resilience Evaluation and Awareness Tool (CREAT) Climate Change Scenarios Projection Map, there is a projected 2.9% to 13.7% increase in 100-year storm intensity by 2035 and a projected 5.6% to 26.6% increase in 100-year storm intensity by 2060 for the AUAR study area.[12]

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[9] Climate Explorer Metadata. Available at https://www.dnr.state.mn.us/climate/climate-explorer-metadata.html.
[10] Minnesota CliMAT. University of Minnesota. Available at https://app.climate.umn.edu/?output_type=modelVal&scenario=ssp370_2080-2099&model=ensemble&variable=tmax-degF&time_frame=yearly&aoi=none#intro_pane
[11] Extreme Heat Map Tool. Metropolitan Council. Available at https://metrocouncil.org/Communities/Planning/Local-Planning-Assistance/CVA/Tools-Resources.aspx.
[12] CREAT Climate Change Scenarios Projection Map. US EPA. Available at https://www.arcgis.com/home/item.html?id=3805293158d54846a29f750d63c6890e

Localized Flood Risk

The Metropolitan Council's Localized Flood Map Screening Tool[13] identifies localized flood hazards, referred to as Bluespots, which are broken into categories based on potential flood water depth. This tool shows several Primary, Secondary, Tertiary, and Shallow Bluespots mapped throughout the study area with maximum depths ranging from 0.28 feet to 9.47 feet. Primary Bluespots are the first areas to fill with water and are generally considered higher risk, while Shallow Bluespots are separate, isolated low areas generally considered low risk.

Cooling Degree Days

As defined by the National Weather Service, cooling degree days, which are often used as a proxy to estimate cooling needs for buildings, can be examined as a baseline and projected exposure indicator under the RCP 4.5 and RCP 8.5 scenarios. Cooling degree days are indexed units, not actual days, which roughly describe the demand to heat or cool a building. Cooling degree days accumulate on days warmer than 65°F when cooling is required. For example, if a weather station recorded an average daily temperature of 78°F, cooling degree days for that station would be 13.

According to Heat Vulnerability in Minnesota,[14] the number of cooling degree days in 2019 for Hennepin County was 408. The number of cooling degree days in 2050 for Hennepin County is projected to be 482 and 631 for RCP 4.5 and RCP 8.5, respectively. Table 4 summarizes the climate trends in the AUAR vicinity, how future development will interact with those climate trends, and potential vulnerabilities to them.

[13] Localized Flood Map Screening Tool. Metropolitan Council. Available at https://metrocouncil.org/Communities/Planning/Local-Planning-Assistance/CVA/Tools-Resources.aspx.
[14] Heat Vulnerability in Minnesota. Minnesota Department of Health and the University of Minnesota. Available at https://maps.umn.edu/climatehealthtool/heat_app/.

Table 4: Climate Considerations and Adaptations

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations (Scenario 1 and Scenario 2)
Project Design	Aspects of the building architecture/material choices and site design that may negatively affect urban heat island conditions in the area considering changing climate zones, temperature trends, and potential for extended heat waves.	The AUAR study area is located in an area that experiences urban heat island effect.[15] Additionally, projected climate trends include increased temperature and precipitation, and increased frequency of freeze/thaw cycles.	• Seek LEED Silver or relevant equivalent for building shell and core and incorporate sustainable design features consistent with the Enterprise Green Communities Criteria for private developments, as applicable. • For Parcel 3: Meet the State's sustainable building guidelines at Minnesota Statutes 16B.325. • Provide green infrastructure and landscaping that will increase native vegetation and pollinator habitats. • Provide energy efficient housing that complies with the Minnesota Unified Housing Plan.
Land Use	No critical facilities (i.e., facilities necessary for public health and safety, those storing hazardous materials, or those with housing occupants who may be insufficiently mobile) are proposed within floodplains.	Portions of Parcel 2 may experience flooding during extreme rain events. The majority of the AUAR study area is in an area with low flood risk.	Reduce the risk of flooding through retention and/or abstraction of stormwater in the AUAR study area. The MWMO district stormwater system entails a shared stormwater management approach with interconnected above-ground (i.e., infiltration basins) and below-ground (i.e., tanks and filtration systems) for the study area.
Water Resources	Current Minnesota climate trends and anticipated climate change in the general location of the AUAR	Water resources in the vicinity of the AUAR study area may become warmer, more polluted, and increase in volume due to	• **MWMO Southern Regional Treatment System:** An underground stormwater treatment system at the AUAR study area will clean polluted runoff from 75 acres of North Minneapolis, preventing

[15] Defined by the Environmental Protection Agency as "urbanized areas that experience higher temperatures than outlying areas. Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies. Urban areas, where these structures are highly concentrated and greenery is limited, become "islands" of higher temperatures relative to outlying areas." Source: https://www.epa.gov/heatislands

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	**Adaptations (Scenario 1 and Scenario 2)**
	study area may influence water resources.	increased temperatures and runoff. There may be more evaporation and water available when it rains leading to an increase in the flood potential. It is projected that there will be more severe storm events with high, intense rain amounts which will require drainage systems to be adequately maintained to accommodate for the increase in water volume.	untreated runoff from draining directly to the Mississippi River and providing water for the AUAR study area's Common Reuse System. • **MWMO Common Reuse System:** Stormwater runoff at the AUAR study area will be filtered and pumped throughout the site for use in up to two signature ephemeral stream features and potential irrigation. • **MWMO Shoreline and Habitat Restoration:** Removing invasive vegetation, incorporating native vegetation, regrading the riverbank, providing habitat for aquatic species, preserving healthy and mature trees, and stabilizing the riverbank with perennial and diverse tree plantings. • **MWMO District Stormwater System:** The district stormwater system approach provides a level of treatment equal to the regulatory stormwater management standards set by the City of Minneapolis. The system reduces offsite discharge rates below existing conditions, which helps reduce overcapacity of existing storm sewer trunklines. The system abstracts stormwater runoff through infiltration practices, which removes total suspended solids and total phosphorus.
Contamination/ Hazardous Materials/Wastes	Current Minnesota climate trends and anticipated climate change in the general location of the AUAR	Scenarios 1 and 2 are not anticipated to generate hazardous wastes.	Not applicable.

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations (Scenario 1 and Scenario 2)
	study area may influence the potential environmental effects of generation/use/storage of hazardous waste and materials.		
Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)	Current Minnesota climate trends and anticipated climate change in the general location of the AUAR study area may influence local species and suitable habitat.	The AUAR study area is a highly disturbed urban environment.	• Provide landscaping that will increase native vegetation and pollinator habitats • Reused water from the Southern Regional Treatment System will supply two ephemeral streams created on-site. The creation of ephemeral streams will provide habitat for local wildlife including macroinvertebrates and native vegetation. • Improve habitat connectivity between the Mississippi River and Northside Neighborhoods

4.2.5. Greenhouse Gas (GHG) Emissions/Carbon Footprint

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

About Greenhouse Gases (GHGs)

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming.[16]

Project-Related GHG Emissions

This section describes the GHG emissions from the existing buildings within the study area and include an estimated quantification of the following GHG emissions associated with the proposed scenarios.

- Carbon dioxide (CO_2)
- Nitrous oxide (N_2O)
- Methane (CH_4)

The projected GHG emissions are provided on an average annual basis using the CO_2 equivalent (CO_2e) and include the proposer's best estimate of average annual emissions over the proposed life/design service life of future development. The estimates also include emissions from the construction and operating phases of the scenario. Emissions were estimated using the US Environmental Protection Agency's Simplified GHG Emissions Calculator (SGEC) (Version 7 June 2021)[17] and are summarized in Table 5 and Table 6 by project phase (i.e., construction and operations) and source type (e.g., combustion from mobile equipment, off-site electricity).

[16] Summarized from U.S. EPA, Overview of Greenhouse Gases: https://www.epa.gov/ghgemissions/overview-greenhouse-gases
[17] Source: https://www.epa.gov/climateleadership/simplified-ghg-emissions-calculator

Construction emissions for the two proposed scenarios are based on length of construction and are from mobile equipment including passenger cars, light-duty trucks, and medium and heavy-duty trucks, and construction equipment (both gasoline and diesel).

The No Build Scenario is not included in the below analysis of GHG emissions. The No Build Scenario is reflective of the conditions of the study area in 2021, including several industrial type buildings used for stockpiling and storage which are no longer present.

Table 5: Construction Emissions

Scope[18]	Emission Type	Emission Sub-Type	Emitant	Existing CO_{2e} Emissions[17] (total)	Scenario 1[19] Project-Related CO_{2e} Emissions (total)	Scenario 2 Project-Related CO_{2e} Emissions (total)
1	Combustion	Mobile equipment	CO_2, N_2O, CH_4	0	7,334	13,112
Total				**0**	**7,334**	**13,112**

Table 6: Annual Operational Emissions

Scope[18]	Emission Type	Emission Sub-Type	Emitant	Existing CO_{2e} Emissions[20] (tons/year)	Scenario 1 Proposed CO_{2e} Emissions (tons/year)	Scenario 2 Proposed CO_{2e} Emissions (tons/year)
1	Combustion	Stationary equipment	CO_2, N_2O, CH_4	0	1,007	1,819
2	Off-site electricity	Grid-based	CO_2, N_2O, CH_4	0	4,220	7,779
3	Off-site waste management	Area	CO_2, CH_4	0	1,639	3,033
Total				**0**	**6,866**	**12,631**

b. GHG Assessment

i. Describe any mitigation considered to reduce the project's GHG emissions.

Scenario 1 and Scenario 2

The following are potential design strategies and sustainability measures that are under consideration for the proposed development to reduce emissions for both scenarios:

- Use energy efficient appliances, equipment, and lighting.

[18] Emissions are categorized as either direct or indirect. Scope 1 emissions are direct emissions that are released directly from properties owned or under the control of the project proposer. This includes, for example, the use of mobile equipment during construction. Scope 2 and 3 emissions are indirect emissions. Scope 2 emissions are associated with the offsite generation of purchased electricity and/or steam. Scope 3 emissions are from the offsite provision of waste management services, including land disposal (landfilling), recycling, and solid waste composting.

[19] Residential unit density for Scenario 1 and Scenario 2 was assumed to be the lowest density listed in Minneapolis 2040 (50 dwelling units per acre). This equates to approximately 871 square feet per unit.

[20] The existing emissions reflect the 2024 conditions within the study area, which is currently vacant.

- Build energy efficient building shells.
- Encouragement of the use of alternative modes of transportation to and from the project through site design.
- Implement waste best management practices and to recycle and compost appropriate material when applicable.
- Incorporate trees and landscaping to improve local air quality, absorb greenhouse gas emissions, and reduce local urban heat island effect.
- Provide electric vehicle ready charging infrastructure.
- Install rooftop solar photovoltaics.[21]

Implementation of the above strategies will be evaluated on a case-by-case basis based on code requirements, feasibility, availability of materials, schedule, and tenant considerations.

ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the project's GHG emissions. Explain why the selected mitigation was preferred.

The potential mitigation listed in Item b.i. includes best management practices for new construction and reducing GHG emissions where practicable during operations.

iii. Quantify the proposed project's predicted net lifetime GHG emissions (total tons per number of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

The Next Generation Energy Act requires the state to reduce greenhouse gas emissions in the state by 80 percent between 2005 and 2050, while supporting clean energy, energy efficiency, and supplementing other renewable energy standards in Minnesota. The MPCA's biennial GHG emissions reduction act report from 2023[22] identifies strategies for reducing emissions in the three economic sectors with the highest emissions – transportation, electricity generation, and agriculture, forestry, and land use.

The expected lifespan of the project is 50 years, this equates to a total estimated 350,634 metric tons over the lifetime of the development under Scenario 1 and 644,662 metric tons over the lifetime of the development under Scenario 2 (including both construction and operations phases). The applicable developer will evaluate implementing the sustainability measures listed in Item b.i to reduce operational emissions to the extent practicable. The proposed development will be built in compliance with state regulations and city building codes.

4.2.6. Cumulative Potential Effects

The 2021 AUAR identified five reasonably foreseeable future projects adjacent to the AUAR study area that could interact with environmental effects of the proposed development. Four of the projects (Outfall Repairs, Upper Dowling Reconstruction, 33rd Avenue North Reconstruction, and Xcel Energy Transmission Line Relocation) have been completed as part of the Phase 1 infrastructure project within the AUAR study area. Environmental review is currently in progress for the fifth project (Highway 252 and I-94). The Highway 252 and I-94 project may have an impact on traffic adjacent to the AUAR study area. All other impacts from this future project will be addressed via regulatory permitting and approval measures; therefore, it will be individually mitigated to ensure no cumulative impacts occur to

[21] This mitigation measure only applies to the community performing arts center.
[22] Available at https://www.pca.state.mn.us/air-water-land-climate/climate-change-initiatives

environmental and community resources. No additional reasonably foreseeable future projects were identified in the vicinity of the AUAR study area.

4.2.7. Other Environmental Effects

Since the publication of the 2021 AUAR, the American Community Survey (ACS) has released updated demographic and population data.

2018-2022 ACS data was used to determine if residents of color and/or low-income populations are present in or adjacent to the AUAR study area. The project falls within or is adjacent to three block groups (see Figure 4 and Figure 5). A demographic summary by block group is shown in Table 7 and Table 8. Block Group 1, Census Tract 1004, which encompasses the northern portion of the AUAR study area, has a higher percentage of residents below the poverty level than the citywide average. Block Groups 1 and 2, Census Tract 1009, have a lower percentage of residents below the poverty level than the citywide average.

Table 7: Demographic Analysis Summary by Race

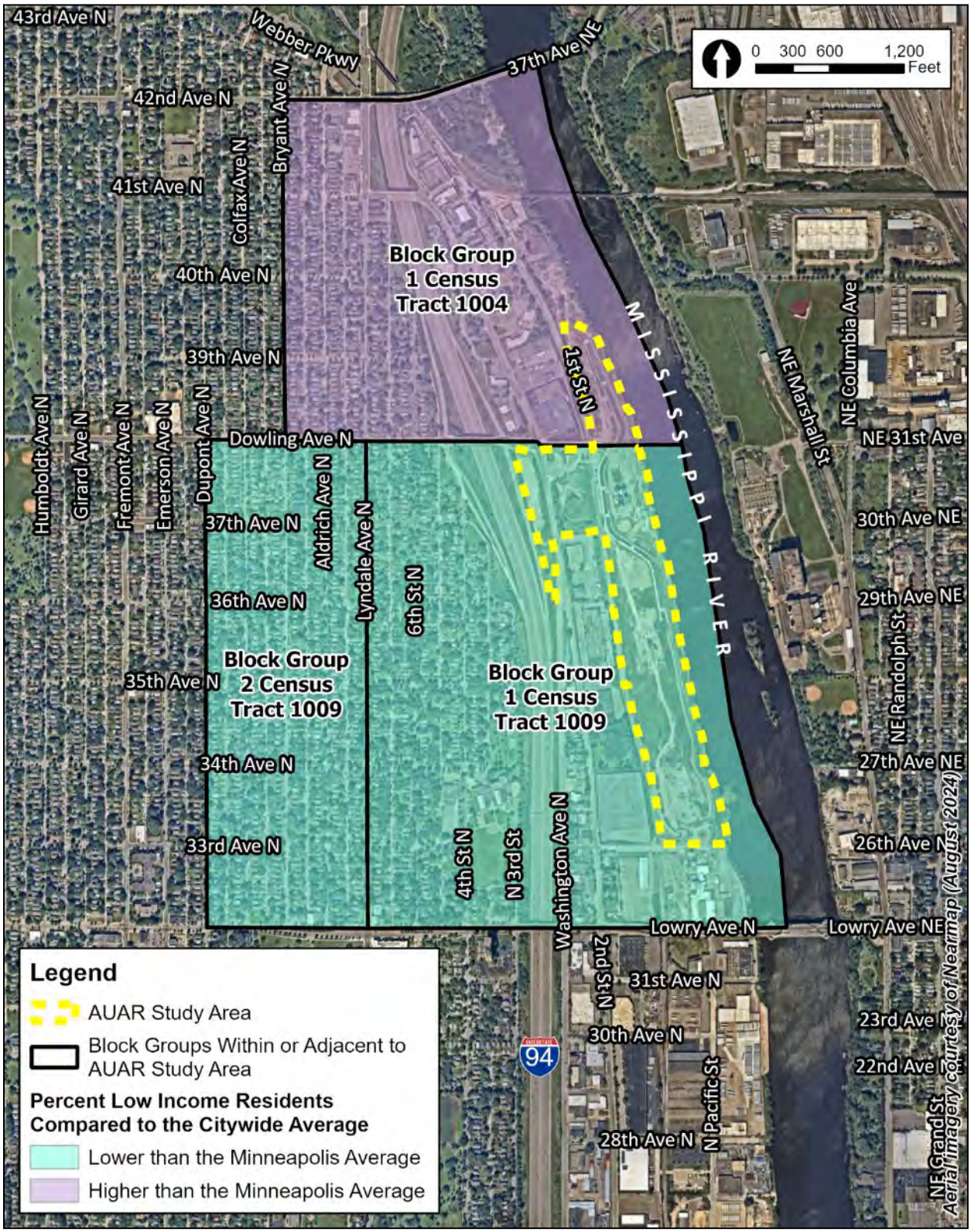
	Total Population	Total White, not Hispanic or Latino	Total Residents of Color	% Total Non-White	Difference from City
Minneapolis	425,104	256,315	168,789	40%	--
Block Group 1, Census Tract 1004	1,093	174	919	84%	+44%
Block Group 1, Census Tract 1009	1,557	511	1,046	67%	+27%
Block Group 2, Census Tract 1009	1,986	434	1,552	78%	+38%

Table 8: Demographic Analysis Summary by Poverty Status

	Population for Whom Poverty Status is Determined	Population Below Poverty Level	% Below Poverty Level	Difference from City
Minneapolis	411,852	69,035	17%	--
Block Group 1, Census Tract 1004	1,058	358	33%	+16%
Block Group 1, Census Tract 1009	1,557	90	6%	-11%
Block Group 2, Census Tract 1009	1,986	307	15%	-2%

Figure 4: Block Groups with Higher than Average Percentage of Residents of Color

Figure 5: Block Groups with Higher than Average Percentage of Low-Income Residents



5. Mitigation Summary and Update

The mitigation measures developed as part of the 2021 AUAR process are outlined below in Table 9 and Table 10 along with a status update and any additional mitigation identified based on the information presented in Section 4.2.

Table 9: Anticipated Permits and Approvals

Unit of Government	Type of Application	Status
Federal		
U.S. Army Corps of Engineers	Section 404	To be applied for, if needed
State		
Minnesota Department of Natural Resources	Water Appropriation Permit	To be applied for, if needed
	Public Waters Permit	To be applied for, if needed
Minnesota Pollution Control Agency	National Pollutant Discharge Elimination System Stormwater Permit for Construction Activities	To be applied for
	Section 401 Water Quality Certification	To be applied for, if needed
	Sanitary Sewer Extension Permit	To be applied for
	Industrial Stormwater Permit	To be applied for, if needed
	Notice of Intent of Demolition	Completed
	Construction Contingency Plan and Response Action Plan approval	To be applied for, if needed
	Noise Variance	To be applied for, if needed
Minnesota Department of Health	Water Main Installation Permit	To be applied for
Regional		
Metropolitan Council	Sewer Connection Permit	To be applied for
	Standard Industrial Discharge Permit	To be applied for
	Encroachment Agreement	To be applied for
Hennepin County	Right-of-Way Permits	To be applied for
	Road Access Permits	To be applied for
Local		
City of Minneapolis	Plumbing Permits	To be applied for
	Water Main Installation	To be applied for
	Alternative Urban Areawide Review Adoption	Completed
	Development Agreements	To be completed
	Land Use Applications, including but not limited to comprehensive plan amendments, rezonings, conditional use permits, variances, site plan review, etc.	To be applied for
	Permit for Stormwater Management, Erosion and Sediment Control, Wetland Management	To be applied for

Unit of Government	Type of Application	Status
	Preliminary and Final Plat	Completed
	Zoning code text amendment to allow outdoor amphitheaters	Completed
	Sign Permit	To be applied for
	Building Permit	To be applied for
	Excavation and Grading Permit	To be applied for
	Certificate of Occupancy	To be applied for
	Emergency Generator Fuel Storage Permit	To be applied for
	Erosion and Sedimentation Control Plan Approval and Grading Permit	To be applied for
	Demolition Permit	In process
	Right-of-Way and Utility Easement Vacations	Completed
	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
	Utility Repair Permit	To be applied for, if needed
	Sidewalk Construction Permit	To be applied for, if needed
	Testing and Inspection Permit	To be applied for, if needed
	Floodplain – No Rise Certificate	Completed
	Water Discharge for Dewatering or Storm Water Ponds	To be applied for, if needed
	Well Permit	To be applied for, if needed
	Tank Permit	To be applied for, if needed
	Temporary On-Site Storage of Impacted Soil Approval	To be applied for, if needed
	Approval of Impacted Soil Reuse	To be applied for, if needed
	Noise permit for amphitheater events	To be applied for, if needed
	Coordinated Development Plan Approval	Completed
	Mississippi River Corridor Critical Area (MRCCA) Vegetation Removal Permit	To be applied for, if needed
	MRCCA Land Alteration Permits	To be applied for, if needed
Other		
CP Rail	Flagging Agreement Permit	To be applied for
	Minimum Safety Requirements Permit	To be applied for
	Right of Entry Permit	To be applied for
	Funding Agreement with MnDOT Permit	To be applied for
	Crossing Agreement in coordination with MnDOT	To be applied for

Implementation of feasible mitigation measures will be addressed through site plan review, permitting, and developer agreements with the City of Minneapolis. The following definitions relate to the entities identified in the "responsible party" column in Table 10:

- **Applicable Developer:** refers to the entity responsible for the construction or work related to the applicable development component which may be (i) a development entity for a particular development parcel, (ii) the City for public infrastructure construction, or (iii) the MPRB for the park improvements.
- **Contractor/Permit Holder:** refers to the contractor hired by one of the applicable developers listed above to which a permit has been issued or is transferred to.

Table 10: Mitigation Summary for Scenario 1 and Scenario 2

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
Land Use	**Comprehensive Plan Amendment –** A comprehensive plan amendment will be required to align the proposed parcels with the future land use and built form districts included in the Comprehensive Plan.	City of Minneapolis		X	
	Transportation Analysis Zone (TAZ) Changes - Coordinate with the Metropolitan Council regarding TAZ forecast changes for the AUAR study area. If any modifications are needed, those will be coordinated with the Metropolitan Council directly.	City of Minneapolis	X		
	Rezoning – All Parcels: Any proposed development for Scenario 1 or Scenario 2 would require a zoning change to the parcels within the study area to allow for residential, commercial, retail, and park uses.	City of Minneapolis		X	
	Zoning Code Text Amendment – Parcel 3: The proposed outdoor amphitheater, as part of the community performing arts center on Parcel 3, is not a recognized use in the Minneapolis Zoning Code. A zoning code text amendment would be required to allow this use.	City of Minneapolis		X	
	Conditional Use Permit – Parcel 6A: The height of the proposed building on Parcel 6A is 75 feet, which is higher than the 65-foot maximum height allowed in the City's MRCCA Overlay District. A Conditional Use Permit would be required to increase the allowable height on this parcel.	Applicable Developer	X		
	Height Premiums – Parcel 7A: A 15-story building is proposed on Parcel 7A. This building would require height premiums in order to exceed the standard allowable height of its built form overlay district.	Applicable Developer	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	Comprehensive Plan Amendment - Parcel 7A: A 15-story building is proposed on this parcel, designated Corridor 6. The maximum building height for the BFC6 Corridor 6 Built Form Overlay District may only be increased up to 10 stories or 140 feet, provided all applicable sections of Built Form Overlay Districts ordinance section 552.530 are met. This would require a comprehensive plan amendment to allow additional building height.	Applicable Developer and City of Minneapolis	X		
	Conditional Use Permits – Parcels 1A, 1B, 3, 4, and 5: A conditional use permit would be required to increase the building height over the maximum of 35 feet on all parcels within the Shoreland Overlay District.	Applicable Developer	X		
Geology, Soils, and Topography	**Erosion and Sediment Control -** Temporary erosion and sediment control measures will be implemented during construction. Because the study area is located on the Mississippi River, erosion and sediment protection will be provided upstream and in the water (where appropriate) while work is conducted along the riverbank. Additionally, storm sewer inlet protection, silt fence, floating silt fence, biologs, erosion mats, and construction entrance protection will be provided. The contractor will need to prepare a Construction Contingency Plan and Response Action Plan for MPCA approval to document plans for handling unknown materials during construction. Erosion prevention and sediment control practices will be implemented on-site per the NPDES General Stormwater Permit requirements.	MPRB and City of Minneapolis for any work required as part of preliminary site delivery or Phase 1 infrastructure. Applicable Developer or Contractor/ Permit Holder after conveyance of any property from the City to the Applicable Developer.	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
Water Resources	**Surface Waters**				
	Shoreline Restoration – Regrading the steep shoreline to a flatter slope (approximately 1:3.5) is proposed as part of the ecological restoration approach outside of the riverwall areas. Depending on the available shoreline width between the pedestrian path and the shoreline, the grading could extend down to the normal water level, which is below the ordinary high water level. In places where there is limited area, the regrading may terminate higher. As part of the shoreline restoration, debris will be selectively removed and native plantings will be used to stabilize the slopes. This work could require permitting with the DNR and US Army Corps of Engineers.	MPRB		X	
	Stormwater				
	Stormwater management infrastructure will be constructed to comply with the City of Minneapolis Code of Ordinances Chapter 54. This includes meeting existing rates for the 2, 10, and 100-year 24-hour storm events, removing 70 percent of total suspended solids (TSS), and retaining 1.1 inches of runoff on all newly constructed impervious surfaces on sites without infiltration restrictions. For linear projects, 0.55 inches of runoff needs to be retained for newly constructed or fully reconstructed impervious surfaces, or 1.1 inches of runoff over the net increase in impervious surfaces, whichever is greater.	Applicable Developer	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	District Stormwater System:[23] A district stormwater approach is being implemented to manage stormwater in shared systems across parcel boundaries. The district stormwater approach includes a defined maintenance approach with the costs and responsibilities of maintenance allocated to the benefitting parties.	Applicable Developers, City of Minneapolis, MWMO		X	
	Wastewater / Water Supply				
	A DNR temporary water appropriation permit will be obtained for any dewatering that will be needed for construction.	Contractor/Permit Holder, Applicable Developer	X		
	Obtain a permit from the Metropolitan Council and MPCA for a sewer extension and permit to connect.	Contractor/Permit Holder	X		
	Obtain a permit from MDH for a watermain installation.	Applicable Developer	X		
	Groundwater monitoring wells abandoned prior to construction within the AUAR study area per MPCA and MDH well sealing requirements.	Applicable Developer		X	
Contamination/ Hazardous Waste	Development would both generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which would be either recycled or disposed of in the proper facilities. Products will be kept in their original containers unless they cannot be resealed. Original labels and Material Safety Data Sheets will be made available. Surplus materials will be properly removed from the property upon completion of use.	Contractor/Permit Holder	X		
	Ensure compliance with applicable laws, rules, and ordinances related to the management of solid and hazardous waste as required by Minnesota Statutes 2020, section 473.811, subdivision 5c.	Contractor/Permit Holder	X		

[23] The 2021 AUAR included two possible stormwater management approaches (individual stormwater systems or a district stormwater system), and the district stormwater approach was selected.

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	Coordinate with the MPCA regarding the required plans, material handling, and disposal.	Contractor/Permit Holder/ Applicable Developer	X		
	Construction Contingency Plan and Response Action Plan for handling unknown materials during construction.	Contractor/Permit Holder, Applicable Developer, City of Minneapolis	X		
	Notice of Intent of Demolition for removal of buildings.	Contractor/Applicable Developer	X		
Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources	Effective erosion prevention and sediment control practices will be incorporated into any stormwater management plan and also must be implemented and maintained near the Mississippi River to protect species in the river.	Contractor(s)/Permit Holder, Applicable Developers, City of Minneapolis	X		
	As building and site design progresses, the Audubon Minnesota Bird-Safe Building Guidelines and the American Bird Conservancy's Bird-Friendly Building Design (2015) will be used to develop strategies to avoid and minimize impacts to nearby and migrating birds to the extent practical. These guidelines include strategic selections of the types and placements of building materials, landscaping vegetation, exterior window glazing, and interior window treatments to minimize impacts to birds.	Applicable Developer	X		
	Wildlife friendly erosion control methods will be prioritized within the study area to minimize impacts to land and aquatic wildlife using the site during construction, such as biodegradable or other woven natural fiber netting.	Contractor(s)/Permit Holder	X		
	Native plantings and vegetation restoration to promote pollinator habitat and wildlife habitat.	Applicable Developer	X		
	Shoreline restoration in regarded areas near the river to improve ecological functions and remove invasive species.	MPRB		X	

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
Historic Properties	Consult with the Minnesota State Historic Preservation Office (SHPO) under Section 106 of the Historic Preservation Act of 1966 (36 CFR 800) when using federal funds, permits, or authorizations in a federal undertaking.	Applicable Developer	X		
	Evaluate options for adaptive reuse, preservation, removal, redevelopment, interim stabilization measures (10- to 20-year timeframe) for existing buildings or structures based on community input and design development. Prepare construction drawings for adaptive reuse or stabilization of existing buildings or structures, as needed.	MPRB		X	
	Use existing documentation of historic resources (such as industrial buildings, structures, sites, and objects) including site survey, digital photography of structural remains, narrative written descriptions, and available information about construction methodology) to inform relevant interpretive planning.	MPRB, City of Minneapolis	X		
	Explore interpretive planning that allows for phased implementation and balances the significance of the site through time and across cultures. This interpretive work could incorporate the history and culture associated with the site into physical features and site programming and function.	MPRB, City of Minneapolis	X		
Archaeology	Use the Archaeological Plan as a guide and continue work with a professional archaeologist to determine whether historical structures remain beneath the surface and to determine whether buried pre-contact materials may be present along the Mississippi's previous river line. In areas where no ground disturbing activities are planned, no archaeological survey is required.	Applicable Developer/City of Minneapolis for demolition, grading and street and utility construction	X		
	Should archaeological materials be identified, follow established communication protocols with the Office of the State Archaeologist, SHPO, and other organizations as appropriate.	Applicable Developer/City of Minneapolis for demolition, grading, and street and utility construction	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	Evaluate potential impacts to any materials identified; work with a professional archaeologist to create a treatment plan if mitigation may be necessary. Evaluate potential for unexpected discoveries and include in the treatment plan, as applicable.	Applicable Developer/City of Minneapolis for demolition, grading, and street and utility construction	X		
Visual	All lighting will be subject to the MRCCA Plan requirements. The use of outdoor lighting for the Community Performing Arts Center is subject to a conditional use permit.	Applicable Developer		X	
	Visual impacts will be regulated through the City of Minneapolis's development review, site plan, and permitting process.	Applicable Developer	X		
Air	Development will generate temporary fugitive dust emissions during construction. These emissions will be controlled by sweeping, watering, or sprinkling, as appropriate or as prevailing weather and soil conditions dictate. In accordance with Minneapolis Ordinances (Section 89.30.), contractors are responsible for dust control during construction of the proposed development and immediately address any dust problems upon receiving notice from the City.	Contractor/Permit Holder	X		
Noise	Construction activities may result in temporarily elevated noise levels. To the extent possible, construction activities will be conducted to minimize noise levels and nighttime construction activities. Permits related to construction noise will be obtained from the City, if needed. All equipment used in the construction phases of the project will be muffled and will use quieter backup alarms, where appropriate.	Contractor/Permit Holder	X		
	An outdoor noise permit will need to be obtained as applicable, before operating the Community Performing Arts Center for all events.	Applicable Developer/Permit Holder	X		
	Installation of appropriate noise attenuation features in residential buildings and the Community Performing Arts Center.	Applicable Developer	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	The Applicable Developer for the residential projects on Parcels 6A and 1B will agree to retain a qualified acoustics consultant to evaluate the site plan, building design, and use plans for consistency with Minnesota Rules Chapter 7030, as applicable, using the noise modeling from the memorandum prepared by Dudek, Inc. dated September 9, 2024 as modified to account for the loudest hour described in that certain supplemental memorandum by Dudek, Inc. dated February 12, 2025, or other noise modeling available at the time. Based on such evaluation, if applicable and unless otherwise agreed to by the MPCA, the Applicable Developer for Parcels 6A and 1B will either: a. Construct each building and develop each parcel in such a way that it meets the requirements of the state noise standards or the exceptions in Minnesota Rules, part 7030.0050, subpart 3 applying the appropriate Noise Area Classification (NAC)-level standards for the relevant land-use activity taking place in each portion of the building; OR b. The Applicable Developer and the City shall seek and obtain a variance of the application of Minnesota Rules Chapter 7030 from the Minnesota Pollution Control Agency as needed to deviate from such rules. The Applicable Developer of the residential portions of the projects on Parcels 6A and 1B shall contractually agree with the City to be responsible for causing the property manager of each residential project to (A) have new tenants affirmatively acknowledge (in their lease or otherwise) that they are aware that up to 54 commercial events at the community performing arts center per year will be allowed to operate as permitted by the amended Minneapolis City Ordinance Chapter 389.105(e) and (b) to the extent such information is provided by the	Applicable Developer, City of Minneapolis			X

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	community performing arts center, publish notice to tenants on at least a monthly basis (by posting in the common areas, transmission of general emails, or otherwise) the scheduled date, time and duration of all such events.				
	The operator of the community performing arts center will be contractually obligated to provide to the managers of the Parcel 6A and 1B residential projects advance notice of the scheduled date, start time, and estimated duration of all commercial events at the community performing arts center at least 30 days in advance of such events or, if the commercial event is scheduled less than 30 days prior to the event date, promptly after the commercial event is scheduled.	Port of Minneapolis, City of Minneapolis			X
Transportation	The following mitigation measures were identified in the December 2020 Upper Harbor Terminal Traffic Analysis. Development may result in increased motorized and non-motorized travel on the regional roadway network within and surrounding the study area. Mitigation will be regulated through the City of Minneapolis development review, site plan, and permitting process. Implementation of feasible mitigation measures will be addressed through permitting and developer agreements with the City of Minneapolis. The Mitigation Plan for motor vehicle traffic is identified in two phases (Phase A and Phase B) that implement traffic improvements only as they are needed based on development intensity and vehicle traffic levels. *Phase A Mitigation Plan* The Phase A Mitigation Plan addresses both phases of development under Scenario 1 and the first phase of development under Scenario 2 (see the description of the development phase starting on page 4). The plan consists of measures to reduce motor vehicle traffic demand of the development, manage motor vehicle traffic	City of Minneapolis or Applicable Developer as noted below	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	operations and improve conditions for non-motorized travel. Phase A mitigation is included in Phase 1 of development for both scenarios.				
	• The City will continue to work with Metro Transit to coordinate improvements that support existing and future transit service upgrades.	City of Minneapolis	X		
	• Improve the bikeway on Dowling Avenue North from on-street bicycle lanes to a shared used path from Lyndale Avenue North to the I-94 Eastbound ramps and a sidewalk level protected bikeway from the I-94 Eastbound ramps to the new parkway to make bicycling a safer and more comfortable option for users of all ages and abilities.	City of Minneapolis		X	
	• Construct a westbound right-turn lane at the Dowling Avenue North and westbound I-94 ramps intersection. The turn lane should extend the full distance between the westbound I-94 ramps and Washington Avenue North due to the short distance between these intersections. There is no existing turn lane and the recommended turn lane length is 190 feet.	City of Minneapolis		X	
	• Extend the eastbound left-turn lane at the Dowling Avenue North and Washington Avenue North intersection to the full distance between Washington Avenue North and the westbound I-94 ramps due to the short distance between these intersections. The existing left-turn lane is approximately 90 feet long and the recommended turn lane length is 190 feet.	City of Minneapolis		X	
	• Construct a northbound left-turn lane at the Dowling Avenue North and Washington Avenue North intersection. There is no existing turn lane, and the recommended turn lane length is 300 feet based on the existing and projected left-turn volumes.	City of Minneapolis		X	
	• Install protected/permissive left-turn signal phasing for all left-turn movements at the Dowling Avenue North and Washington Avenue North intersection.	City of Minneapolis		X	

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	• Install protected/permissive left-turn phasing for the eastbound left-turn movement at the Lowry Avenue North and Washington Avenue North intersection. The left-turn phase should operate as a leading phase only because a left-turn lane is not proposed to be constructed.	City of Minneapolis	X		
	• Install protected/permissive left-turn phasing for the eastbound left-turn movement at the Lowry Avenue North and North 2nd Street intersection. The left-turn phase should operate as a leading phase only because a left-turn lane is not proposed to be constructed.	City of Minneapolis	X		
	• Upgrade existing on-street bike lanes on Washington Avenue North to an on-street two-way protected bikeway from Dowling Avenue North to Lyndale Avenue North/41st Avenue North.	City of Minneapolis		X	
	• Upgrade existing on-street bike lanes on Washington Avenue North south of Dowling Avenue North to a sidewalk level protected bikeway within the Phase I limits, that will also be compatible with future upgrade and conversion to a two-way bikeway extending to the south.	City of Minneapolis		X	
	• Coordinate non-motorized access to and within the AUAR study area with applicable parties and any new easements for rail crossing at 36th Avenue North.	City of Minneapolis	X		
	• Develop robust travel demand management plans (TDMP) with each phase or sub-phase of the development. The TDMPs should be completed in parallel with the City's land use application process and should detail comprehensive strategies to encourage pedestrian and bicycle travel, enhance safety and comfort of the pedestrian and bicycling environment, reduce parking demand, increase transit, and create a balance between all users of the local transportation system.	Applicable Developer	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	• Upgrade the public realm to include appropriate streetscape, such as street lighting, sidewalks, landscaping, bike racks, and bikeways (compatible with two-way). • Develop a comprehensive event transportation management plan (ETMP) for the Community Performing Arts Center and the park. Strategies that will be considered include transit, neighborhood parking regulations, use of Parcels 7A/7B for parking, rideshare, shuttles from other locations, and ensure access to the park during events. • Upgrade non-motorized access to and within the AUAR study area, rail crossing improvements, and provide new easements for rail crossing at 36th Avenue North.				
	Phase B Mitigation Plan The Phase B Mitigation Plan addresses Phase 2 of development under Scenario 2. The operations of the Horizon Year (2040) conditions with Phase A mitigation showed significant remaining operational issues and queues that would extend the length of Dowling Avenue North and the I-94 ramps to mainline I-94. If development intensity and traffic volumes reach these levels, additional measures may warrant additional review to mitigate the impacts of the development motor vehicle traffic. All strategies should continue to encourage pedestrian and bicycle travel, enhance safety and comfort of the pedestrian and bicycling environment, reduce parking demand, increase transit, and create a balance between all users of the local transportation system. Along with the implementation of the mitigation measures identified in Phase A, the following additional mitigation measures are identified for Phase B:	City of Minneapolis	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	• Extend the eastbound left-turn lane at the Dowling Avenue North and westbound I-94 ramps intersection to the full distance between the westbound I-94 ramps and the east I-94 ramps. The existing left-turn lane is approximately 145 feet long and the recommended turn lane length is 380 feet. • Extend the westbound left-turn lane at the Dowling Avenue North and eastbound I-94 ramps intersection to the full distance between the eastbound I-94 ramps and Washington Avenue North. The lane would be designated as an additional westbound through lane at the west I-94 ramps intersection. The existing left-turn lane is approximately 125 feet long and the recommended turn lane length is 600 feet. • Construct an eastbound right-turn lane at the Dowling Avenue North and Washington Avenue North intersection to the full distance between Washington Avenue North and the west I-94 ramps. There is no existing turn lane and the recommended turn lane length is 190 feet. The addition of this right turn lane would require mitigating the removal of the separated bikeway and/or sidewalk in this location. • Revise access along Washington Avenue North for Parcels 6A, 6B, 7A, and 7B to maximize the distance from the intersection and minimize the number of driveways. The Phase B mitigation measures, in addition to the Phase A mitigation, may require either widening of the Dowling Avenue North bridge over I-94 or removal of the bicycle facility on the existing bridge. Any changes to the existing Dowling Avenue North bridge that remove pedestrian and/or bicycle facilities will need to be mitigated by constructing a new non-motorized bridge along Dowling Avenue				

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	North over I-94 to allow for continuous pedestrian and/or bicycle facilities. Reconfiguring the bridge and constructing a new nonmotorized bridge across I-94 supports the environmental justice strategies in the Draft Coordinated Plan.				
	Community Performing Arts Center ETMP An ETMP will be needed to mitigate traffic and mobility impacts related to events at the community performing arts center proposed on Parcel 3 of the development in Scenario 1 and Scenario 2. The implementation of the ETMP could include the following: • The park will remain open for at least bicycle and pedestrian access. • Close off a portion of West River Parkway to general traffic during medium and large events (residents would maintain access). • Close off a portion of Dowling Avenue North east of Washington Avenue North to general traffic during medium and large events (residents would maintain access). • Explore solutions enabling the management of the proposed park's surface parking lot to remain available for public park users during events. • Manage on-street parking and loading along Washington Avenue North and North 2nd Street between 34th Avenue North and 36th Avenue North. • Monitor event parking in the neighborhoods that are within walking distance west of the study area. Explore working with businesses or neighboring property owners who may be interested in providing temporary parking during major community performing arts center events. • Manage temporary event staging on Parcels 7A and 7B for shuttles, handicap parking, and/or transportation network companies (TNC) during events that	Port of Minneapolis	X		

Resource Area	Mitigation	Responsible Party	Status		
			Ongoing from 2021 AUAR	Completed	New with AUAR Update
	occur prior to the development of these parcels. This would involve interim improvements to the parking lot. • Manage shuttle buses from an off-site location to a pickup and drop-off area along the shared drive south of the community performing arts center. This may include either the expansion of the existing cul-de-sac or the construction of a gravel drive along the Phase 2 portion of the West River Road or the use of the Phase 1 portion of West River Road. • Place traffic control agents at key locations throughout the surrounding streets. • Establish disability and shuttle drop-off locations. • Construct on-site bicycle parking at the proposed community performing arts center or nearby/adjacent private development. • Create a geofence to manage where TNC requests and pick-ups are permitted. • Distribute transportation information to all event ticket holders. • Incentivize attendees to utilize TNC or public transportation. • Monitor and make adjustments to this ETMP as needed.				
	Complete an ETMP for large events if planned in the proposed park.	MPRB	X		
	Obtain the following permits with CP Rail for work within the rail right of way: • Flagging agreement permit • Minimum safety requirements permit • Right of entry permit • Funding agreement with MnDOT permit • Crossing Agreement in coordination with MnDOT	Applicable Developers	X		

6. AUAR Update Review

Pursuant to Minnesota Rules, part 4410.3610, subpart 7, this AUAR Update is available for a comment period of 10 business days. Once the comment period is over and if no objections are filed by state agencies or the Metropolitan Council, the City of Minneapolis will adopt the AUAR Update. The Upper Harbor Terminal AUAR will remain valid for an additional five years from the date of adoption.

Appendix A:

DNR Correspondence

Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

November 13, 2024

Twin Cities - Environmental (Kimley-Horn)
Kimley-Horn and Associates, Inc.

RE: Natural Heritage Review of the proposed **Upper Harbor Terminal**,
T29N R24W Sections 3 and 10; Hennepin County

Dear Twin Cities - Environmental (Kimley-Horn),

For all correspondence regarding the Natural Heritage Review of this project please include the project ID **MCE-2024-00789** in the email subject line.

As requested, the Minnesota Natural Heritage Information System has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

State-listed Species

- Several state-listed mussels have been documented in the Mississippi River in the vicinity of the proposed project. Mussels are particularly vulnerable to deterioration in water quality, especially increased siltation. As such, **effective erosion prevention and sediment control practices must be implemented and maintained near the river throughout the duration of the project and incorporated into any stormwater management plan.**

- Please visit the DNR Rare Species Guide for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

Federally Protected Species

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) tool.

Environmental Review and Permitting

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

- Given the potential presence of state protected species, we encourage submission of Natural Heritage Review requests to ensure avoidance of take for these species and to determine survey needs as individual projects are planned.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available and is the most complete source of data on Minnesota's native plant communities, rare species, and other rare features. However, the NHIS is not an exhaustive inventory and does not contain the locations of all rare features in the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and project description provided with the request. **If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.**

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit Natural Heritage Review for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, please contact your DNR Regional Environmental Assessment Ecologist.

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

Molly Barrett

Natural Heritage Review Specialist
molly.barrett@state.mn.us

Cc: Melissa Collins, Regional Environmental Assessment Ecologist, Central (Region 3)

Appendix B:

Noise Report

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

MEMORANDUM

To:	Hilary Holmes, Senior Project Coordinator, City of Minneapolis Community Planning & Economic Development
From:	James P. Cowan, INCE Bd.Cert.
Subject:	Upper Harbor Terminal Amphitheater Noise Assessment
Date:	September 9, 2024
Attachment(s):	Appendix A – Monitored Sound Data at Bluestem Center for the Arts on August 20, 2024

This memo summarizes the acoustical evaluation of the proposed Upper Harbor Terminal (UHT) site in Minneapolis, MN, for an outdoor amphitheater with electronic sound amplification. Preliminary plans show the amphitheater site on the vacant lot between 1st Street North and the Mississippi River near the end of North Dowling Avenue, with the stage facing to the north. The facility is planned to have an 8,000- to 9,000-person capacity, including fixed seats and a lawn seating/standing area. The land use plan for the site is shown in **Figure 1**, with existing residential communities roughly 1,500 feet to the west and 2,500 feet to the southeast of the facility, new residences to the north of the theater, and heron habitats on the islands to the southeast of the facility in the Mississippi River. As is shown in **Figure 1**, the amphitheater is part of a larger development which is described with the numbered parcels in the figure, although this evaluation is not considering the noise generated by the other proposed buildings in the development. Parcel 3 in **Figure 1** is the planned location of the amphitheater.

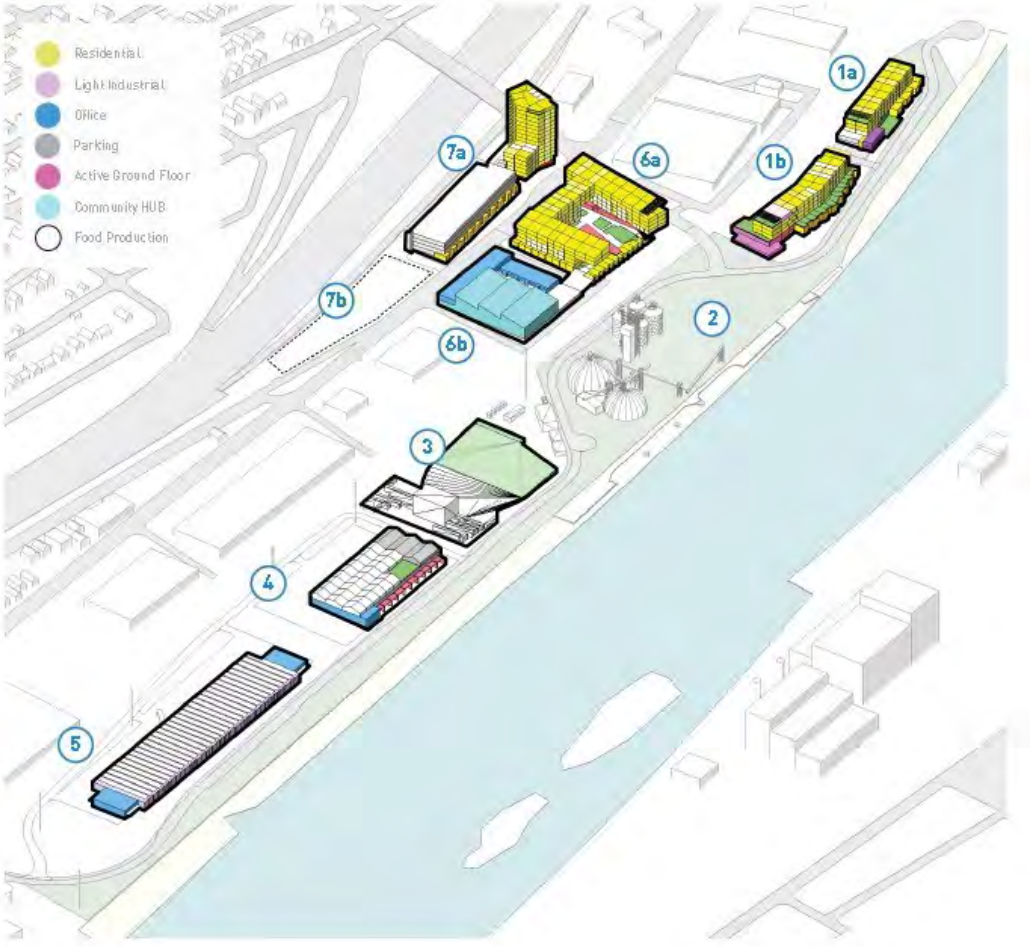


Figure 1. Land use map of the full proposed UHT project site (Parcel 3 is the amphitheater)

1 Relevant Noise Regulations

Acoustics criteria relevant to this site are the noise regulations associated with the State of Minnesota and the City of Minneapolis. The State of Minnesota noise standards are published in Minnesota Administrative Rule 7030.0040 (latest version published December 17, 2003), which lists noise limits by noise area classification (NAC) in terms of daytime (between 7 AM and 10 PM) and nighttime (between 10 PM and 7 AM) L_{10} and L_{50} sound pressure level values. L_{10} and L_{50} are statistical sound pressure levels representing the levels exceeded 10% and 50% of the time-of-interest, respectively, with the time-of-interest being one hour for the State standards. **Table 1** lists the limits in this statute in terms of A-weighted sound pressure levels.

Table 1. Minnesota noise criteria (1-hour sound pressure levels in dBA)

Noise Area Classification	Daytime (7 AM to 10 PM)		Nighttime (10 PM to 7 AM)	
	L_{50}	L_{10}	L_{50}	L_{10}
1	60	65	50	55
2	65	70	65	70
3	75	80	75	80

A-weighted sound pressure levels are denoted in units of decibels (dBA), which are adjusted to model the mid-level frequency sensitivity associated with human hearing, and are therefore used in most published environmental noise criteria. The dBA scale emphasizes the mid-frequency (500 to 4,000 Hz) range and has reduced emphasis on frequencies below and above that range. **Table 2** lists common noise sources and environments as they relate to A-weighted sound pressure levels for reference. Note that a 3 dBA change is just noticeable to most people while a 10 dBA increase is commonly perceived as a doubling of loudness and a 10 dBA reduction is perceived as a halving of loudness. As this is the case for each change of 10 dBA, an increase of 20 dBA would be perceived as four times the loudness and a decrease of 20 dBA would be perceived as being ¼ as loud as the original sound.

There are four NAC categories defined in Minnesota Administrative Rule 7030.0050, denoted NAC 1 through NAC 4, for which residential and typical noise-sensitive uses fall under the NAC 1 category; commercial land uses fall under the NAC 2 category; manufacturing, amusement parks, and agricultural uses fall under the NAC 3 category; and undeveloped and unused lands fall under the NAC 4 category. There are no limits associated with NAC 4 properties.

The Minneapolis noise ordinance, as of September 21, 2020, is published in Title 15, Chapter 389 of the City Code. Although Section 389.60 provides sound pressure level limits for non-exempted sources, Section 389.105 deals specifically with sound amplifying equipment, making it the most relevant stipulation for this facility. Under this stipulation, amplified sound can exceed the limits in Section 389.60 if an event has a permit and amplification is limited to a total of:

- 12 hours in any single day,
- 24 hours in any week, and
- 36 hours in any four-week period.

In addition to that limitation, sound levels from the facility cannot exceed 15 dBA over the background levels off the property and dominant sound sources from these kinds of facilities cannot exceed 90 dBA at 50 feet. The City defines background levels by the Minnesota L_{50} limits listed in **Table 1** for each NAC. Therefore, these levels are being used as the baseline for this study.

Table 2. Sound pressure levels (in dBA) associated with common sources and environments

Noise Source (at a Given Distance)	Sound Pressure Level (dBA)	Noise Environment	Human Judgment of Noise Loudness (Relative to a Reference Level of 70 Decibels*)
Military Jet Take-off with after-burner (50 ft) Civil Defense Siren (100 ft)	140 130	Aircraft Carrier Flight Deck	
Commercial Jet Take-off (200 ft)	120		Threshold of Pain *32 times as loud
Pile Driver (50 ft)	110	Rock Music Concert	*16 times as loud
Ambulance Siren (100 ft) Power Lawn Mower (3 ft)	100		Very Loud *8 times as loud
Motorcycle (25 ft) Diesel Truck, 40 mph (50 ft)	90	Boiler Room	*4 times as loud
Garbage Disposal (3 ft)	80	High Urban Ambient Sound	*2 times as loud
Passenger Car, 65 mph (25 ft) Vacuum Cleaner (10 ft)	70		Moderately Loud *70 decibels (Reference Loudness)
Normal Conversation (5 ft) Air Conditioning Unit (100 ft)	60	Data Processing Center Department Store	*1/2 as loud
Light Traffic (100 ft)	50	Private Business Office	*1/4 as loud
Bird Calls (distant)	40	Lower Limit of Urban Ambient Sound	Quiet *1/8 as loud
Soft Whisper (5 ft)	30	Quiet Bedroom	
	20	Recording Studio	Very Quiet
	10		
	0		Threshold of Hearing

In addition to the above criteria, the Minnesota Pollution Control Agency (MPCA), through Minnesota Administrative Rules, Section 7030.0050, Subpart 3C, provides an exception that allows the L_{10} and L_{50} dBA limits of noise area

classification (NAC) 3 to apply to noise generated in a noise area classification of 1 if the following conditions are met:

> (1) the building is constructed in such a way that the exterior to interior sound level attenuation is at least 40 dB(A);
>
> (2) the building has year-round climate control; and
>
> (3) the building has no areas or accommodations that are intended for outdoor activities.

The closest residential building to the planned facility is on Parcel 6a (see **Figure 1**).

Also, the Port of Minneapolis is seeking an amendment to the City of Minneapolis amplified sound permitting ordinance (Minneapolis Ordinance Section 389.60 and 389.105) that would allow the CPAC to operate 54 commercial events at the facility as long as the sound is limited to an L_{eq} of 98 dBA as measured 134 feet from the source, without obtaining a permit from the City of Minneapolis for 54 commercial events. For this reason, the computer modeling for this facility assumes a limit of 98 dBA L_{eq} 134 feet from the stage.

2 Sample Noise Monitoring at a Similar Facility

Since the MPCA limits are in terms of L_{10} and L_{50}, and it's impossible to predict those types of statistical values from the variety of sounds that would be generated by the UHT venue, sound levels were recorded from a similar facility at which similar bands were performing, to determine a typical difference between average levels and those associated with L_{10} and L_{50}. This was accomplished on August 20, 2024, at the Bluestem Center for the Arts in Moorhead, MN. Sound pressure levels were measured continuously in 10-second intervals using a Soft dB Piccolo II Class 2 (re ANSI S1.4) integrating sound level meter, located 196 feet from the stage. Weather conditions during the monitoring were characterized by clear skies and winds less than 10 miles per hour.

There were two bands playing at the facility (Michigander and The Head and the Heart) and measurements were taken from 5:00 PM (doors open) to 10:00 PM (doors close), using a similar sound system and associated layout to what is expected for the new UHT facility.

The results of the monitoring are included in Appendix A, with the difference between the energy-averaged levels and the L10 and L50 values averaging 8.5 dBA and 10.5 dBA, respectively. These correction factors were incorporated into the computer model for this analysis to determine the predicted L_{10} and L_{50} levels shown in the figures shown later in this memo.

3 Outdoor Sound Propagation

Sound pressure levels outdoors generally dissipate at a rate of 3 to 6 decibels with each doubling of distance from a source due to the spreading of sound energy over a constantly increasing area as it travels away from the source in spherical pattern. In addition to this effect, sound energy travelling more than 500 feet from a source can be significantly affected by atmospheric absorption, ground cover, physical barriers, and atmospheric conditions such as changes in temperature and wind currents. Atmospheric absorption generally adds roughly 3 dBA of sound reduction with each 1,600 feet of sound travel. Ground cover can impede or enhance sound travel, depending on

whether it is acoustically absorptive or reflective. Soft ground cover, such as loose soil or fresh snow, can provide extra absorption in the sound travel path, thereby increasing the sound reduction with distance; whereas hard ground cover is acoustically reflective and minimizes sound reduction with distance. Included in the reflective ground cover category are still bodies of water and hard snow or ice. The Mississippi River to the east of the project site provides such an environment to enhance sound propagation in that direction.

Physical barriers that block the line-of-sight between a sound source and listener can provide between 5 and 15 dBA of sound reduction, depending on the distances between the source, barrier, and listener. The highest reductions occur close to the barrier, as long as the barrier is less than 100 feet from the source. Minimum sound reduction results from barriers that are more than 200 feet from listeners and sources, even if the line-of-sight is broken, due to diffraction (for which sound waves bend over and around barriers, similar to what happens to light when it is visually shielded by a barrier).

The atmospheric conditions that most affect sound travel at significant distances from sources are temperature and wind gradients, which can change continually over the course of a 24-hour period. Without wind current involvement, air temperatures typically decrease with increasing elevation during a cloudless day. The opposite tends to occur late at night since the ground tends to take longer to change temperature than does the air above it, causing a temperature inversion, for which air temperatures can be cooler closer to the ground than they are at higher elevations.

Refraction generally causes sound waves to bend toward regions with cooler temperatures. This results in shadow zones during clear afternoons, where sound waves bend upward through the atmosphere, yielding lower than expected sound levels more than 500 feet from sources at ground level. Temperature inversions generate the opposite results, with sound waves bending down toward the ground, enhancing sound travel over acoustically reflective ground cover (especially hard surfaces and still bodies of water). This is why conversations can sometimes be heard clearly from opposite sides of a still lake.

The audibility of a distant sound source depends on its magnitude, its directional characteristics, the background sound level in the listening area, and the factors mentioned above. Since this project will involve a powered loudspeaker system intended to deliver high levels of sound to a large audience, the sound clearly has the potential to be audible outside of the site; however, the elevated background sound levels generated by vehicles on the nearby highway (I-94 to the west) will reduce the potential audibility in the nearby residential communities. Audibility does not imply annoyance and that is why this evaluation relies more on the regulatory limits than mere audibility. Audibility is also very complicated and subjective, highly dependent on frequency characteristics in comparison with those of the background sound.

4 Amphitheater Characteristics and Potential Effects on the Closest Sensitive Locations

Figure 2 shows the conceptual layout of the amphitheater, with the stage facing to the north, away from the existing residential communities to the west and southeast.

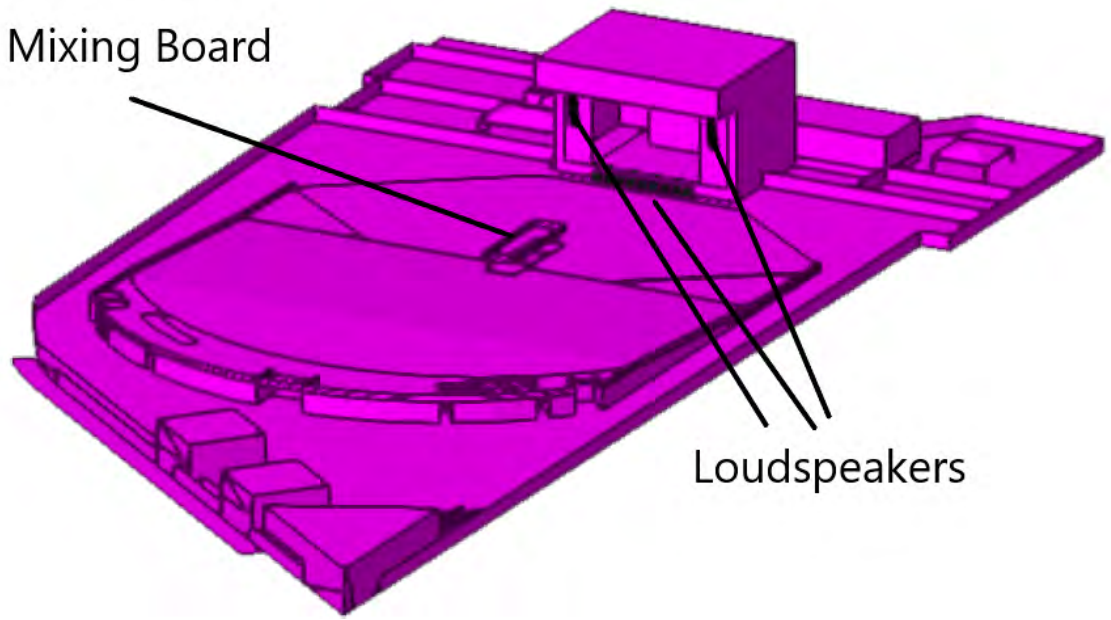


Figure 2. Conceptual amphitheater layout showing the mixing board and loudspeaker locations

Fifty-four major events are anticipated per year at the facility within an 18-week window, assuming 3 events per week at 3 hours each (6:30 PM to 9:30 PM), occurring within the City's defined "daytime" period of 7:00 AM to 10:00 PM. This schedule would result in a total of 9 hours per week or 36 hours per 4-week period, which complies with the City's limit of 12 hours in any single day, 24 hours in any week, and 36 hours in any 4-week period for sound amplifying equipment. Although the sound levels generated by the facility's loudspeaker system are adjustable and the sound from the loudspeakers can be focused to the audience area according to the loudspeaker selection and layout, the developer is planning to meet the City's noise ordinance amendment limit of 98 dBA at the sound mixing board (134 feet from the front of the stage). The sound system is planned to be comprised of two hanging loudspeaker line arrays (with 16 cabinets in each array) above each side of the stage, a row of 6 front-fill loudspeakers at the front edge of the stage, and a row of 18 subwoofer loudspeakers on the seating area floor in front of the stage, as shown conceptually in **Figure 2**. The loudspeakers are all planned to be d&b audiotechnik models – J-Series J8 and J12 speakers for the line arrays, V-Series for the front-fill speakers, and J-Series J-SUB for the subwoofers.

Using the loudspeaker manufacturer's coverage patterns along with 3-dimensional drawings of the facility layout supplied by the project architects, the CadnaA program (Version 2024 MR1) was used to calculate sound pressure level contours (lines of constant sound pressure level) between the expected dominant sound sources at the facility (the loudspeakers) and the surrounding communities. CadnaA is a commercially-available sound prediction program accepted internationally by the acoustics professional community for environmental noise assessments, based on ISO-9613 sound propagation algorithms. An assumption of a maximum L_{eq} of 98 dBA 134 feet from the stage was used in the analysis as the worst case, based on the anticipated amendment to the City's noise ordinance. The spectral composition of the signal was derived from *Supplement to the Saxon Leisure Noise Study*, Table 15 (Ederer, Handel, Nicht, Roy, Seifert, Stuber, Trepte, Zschaler 2018), which provides frequency weighting

data for a typical large outdoor concert line array and subwoofer system. Since wind currents can affect sound propagation, the neutral assumption of no wind was used for the analysis. The existing highway noise barrier along I-94 was also included in the model.

Figure 3 shows the frequency responses of the different types of loudspeakers, based on data from the manufacturer and the spectral composition reference mentioned above.

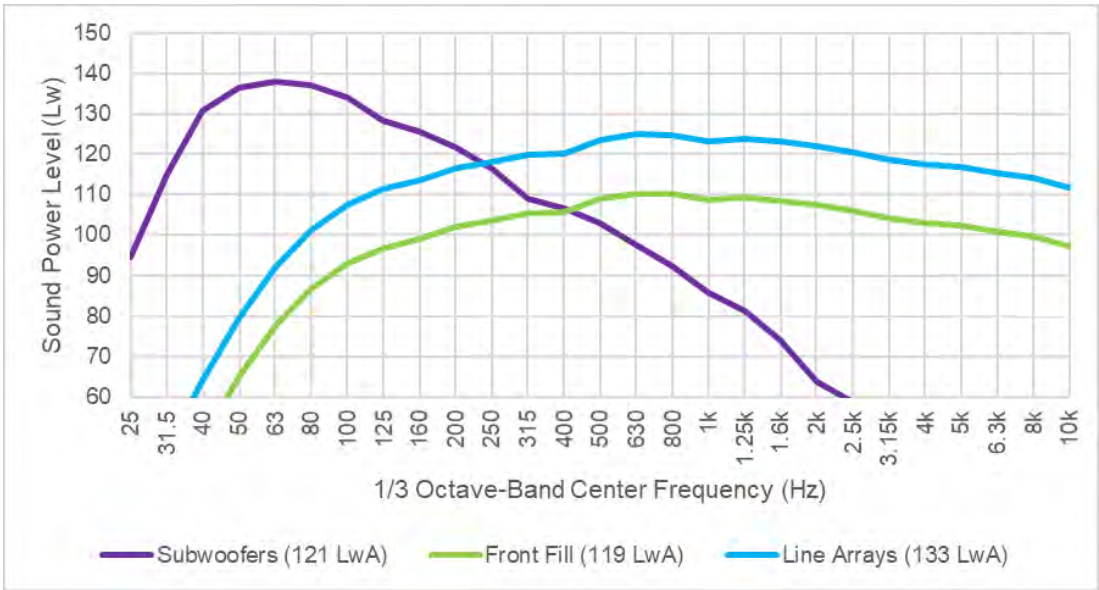


Figure 3. Modeled loudspeaker characteristics

Two site configurations were evaluated – one with and one without the planned building on Parcel 6b (shown in **Figure 1**), since the amphitheater will be the first parcel developed. **Figures 4** and **5** show maximum level noise contours for the operating facility with and without the Parcel 6b building, respectively. As **Figure 4** shows, the Parcel 6b building may provide some acoustical shielding for buildings to the north of the facility but, in the worst case, it will not provide acoustical shielding for upper floors or locations near the southeast corner of the building. The closest residential buildings are labeled with an "R" prefix in the figures, with spot calculated sound levels noted. **Figures 6** and **7** show L_{10} noise levels for the same conditions, and **Figures 8** and **9** show L_{50} noise levels for the same conditions, all to evaluate the expected noise levels with respect to the Minnesota state regulatory limits.

The modeling predicts the worst-case scenario L_{10} and L_{50} levels at Parcel 6a during a commercial event to be 69.7 dBA and 67.7 dBA, respectively. As a result, events at the facility would exceed the MPCA limit for land use in noise area classification 1, unless the proposed residential parcels closest to the facility meet the additional requirements listed in Minnesota Administrative Rules, Section 7030.0050 Subpart 3C. As the modeling predicts that the L_{50} levels outside parcel 6a will exceed 65 dBA, commercial operations at the facility will only comply with MAR Section 7030.0050 Subpart 3C if the residential parcels closest to the facility are constructed so that there is year-round climate control, there are no areas or accommodations intended for outdoor use, and the proposed residential buildings are built in a way that exterior-to-interior sound is attenuated by at least 40 dBA. As **Figures 6** through **9**

show, there are no locations for which it is predicted that L_{10} or L_{50} measurements for a commercial event will exceed 80 dBA or 75 dBA, respectively.

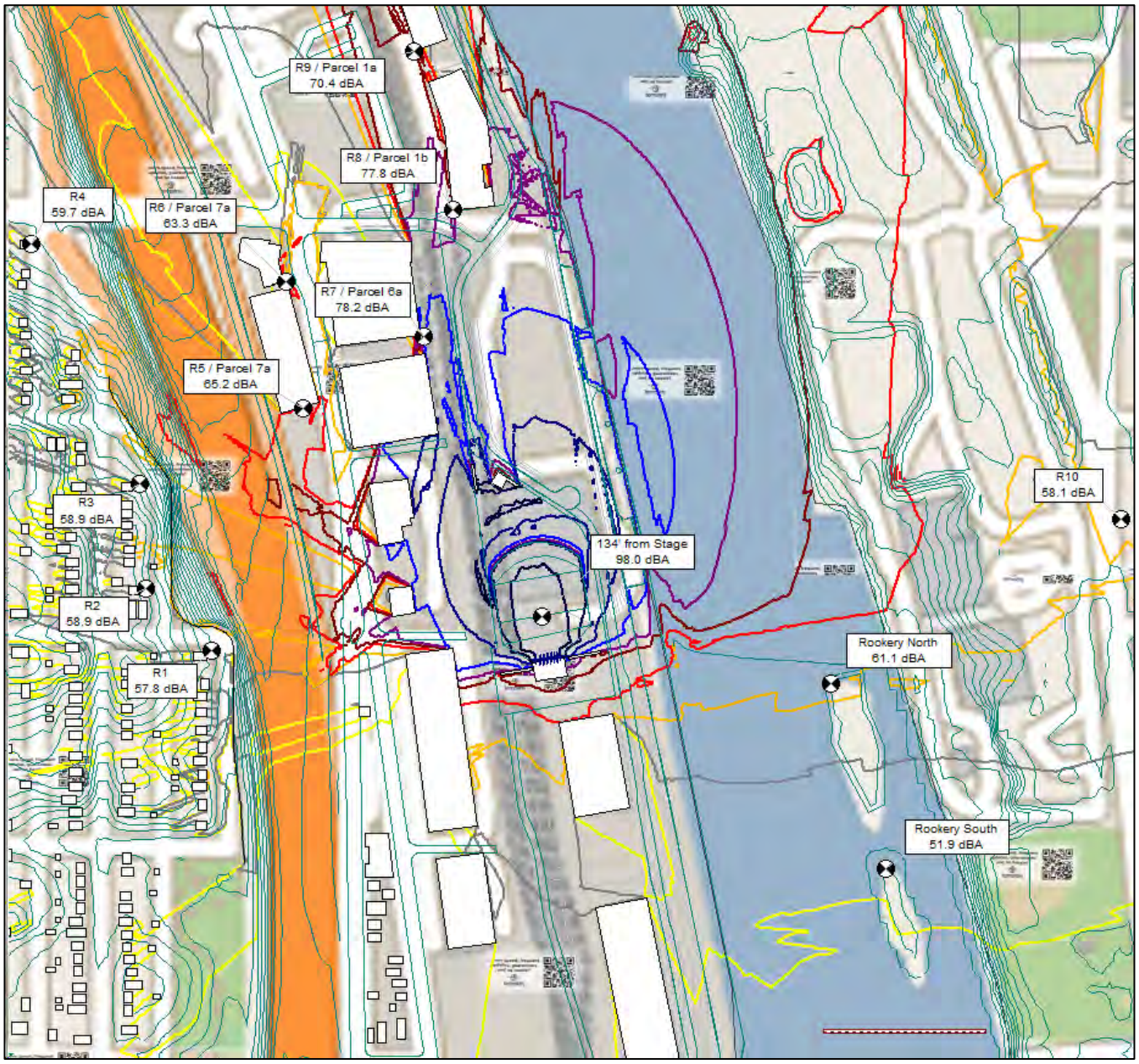


Figure 4. Predicted L_{eq} Noise Contours with a Typical Concert

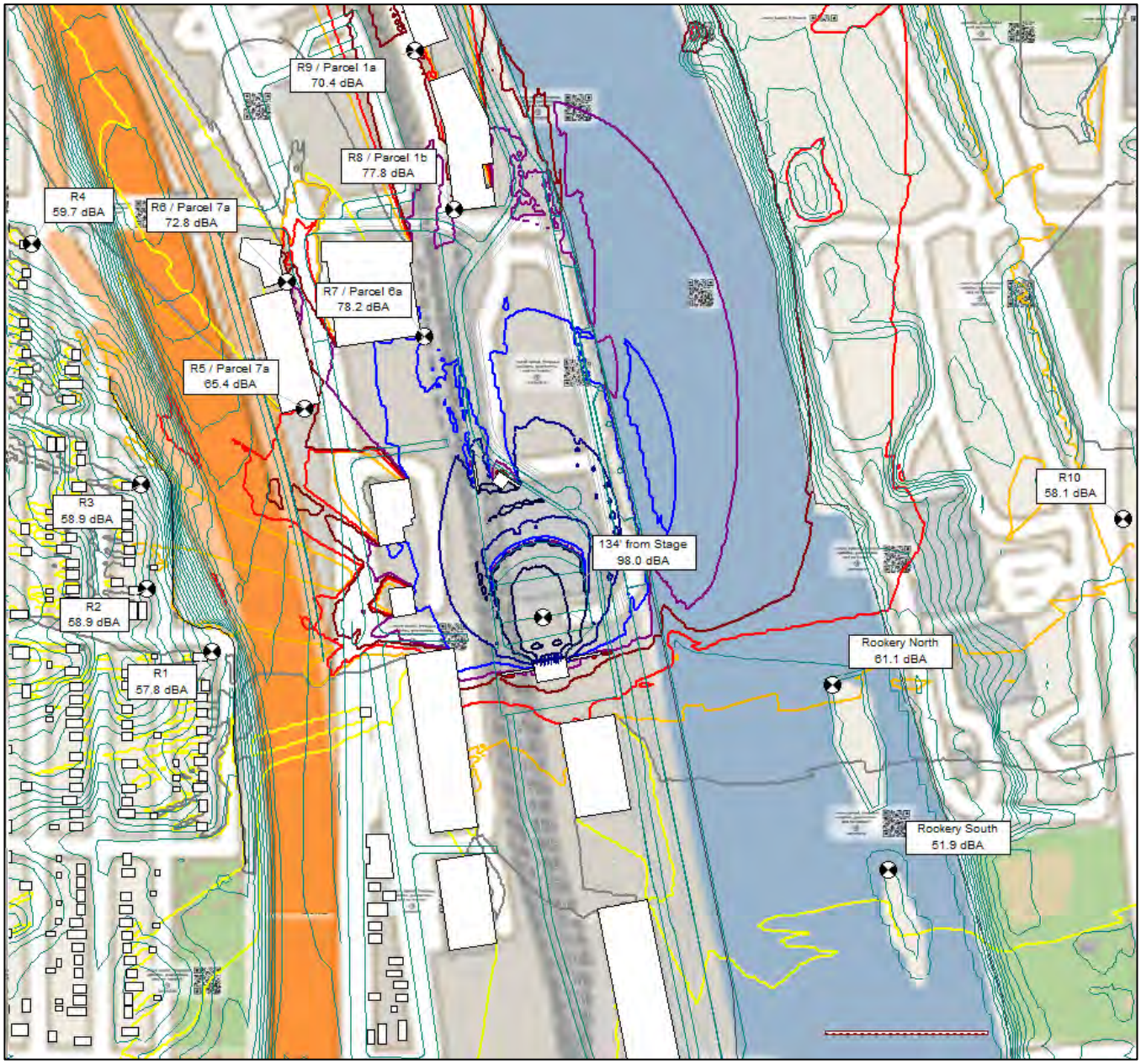


Figure 5. Predicted L_{eq} Noise Contours with a Typical Concert, Parcel 6b Building Removed

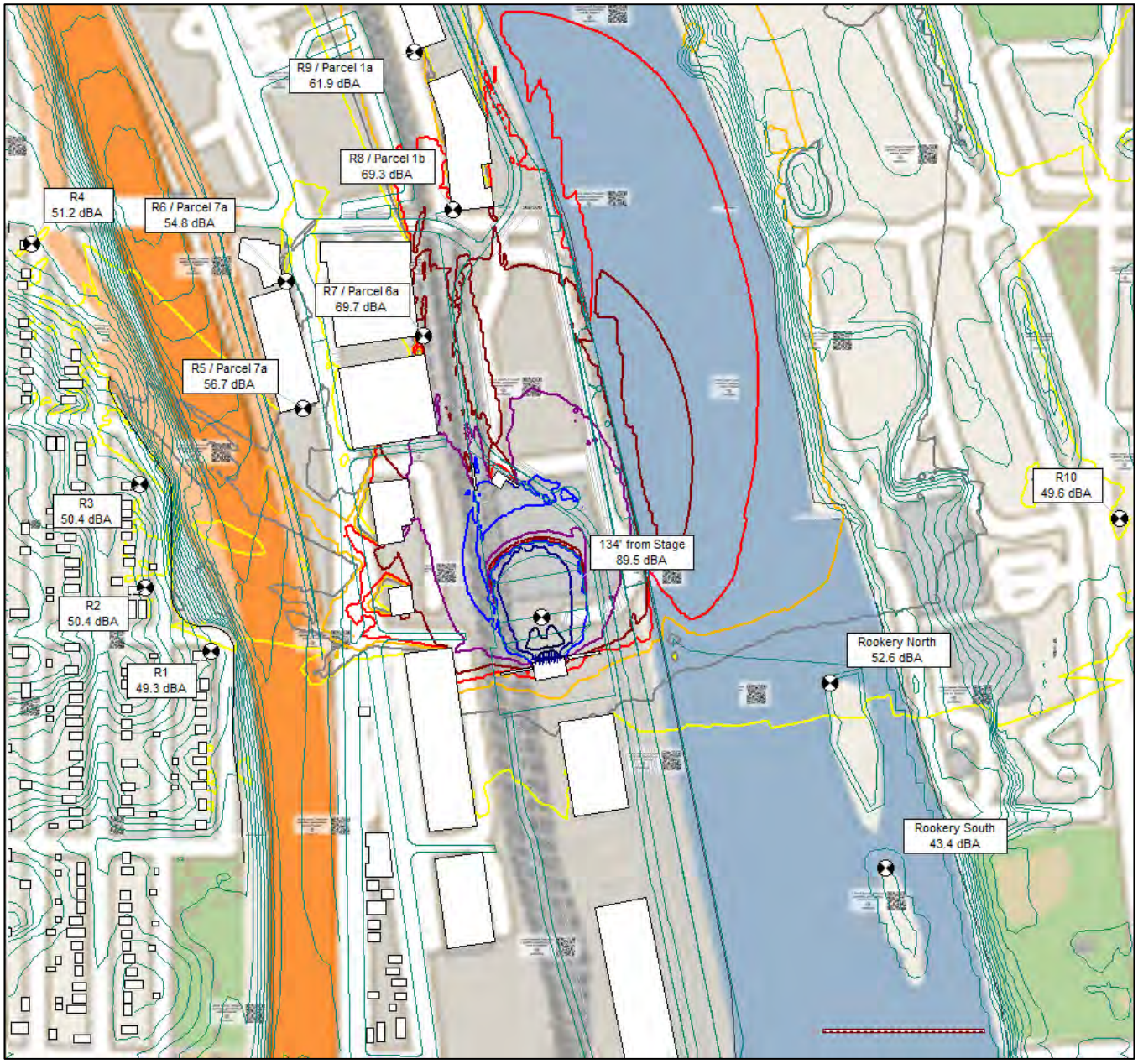


Figure 6. Predicted L_{10} Noise Contours with a Typical Concert

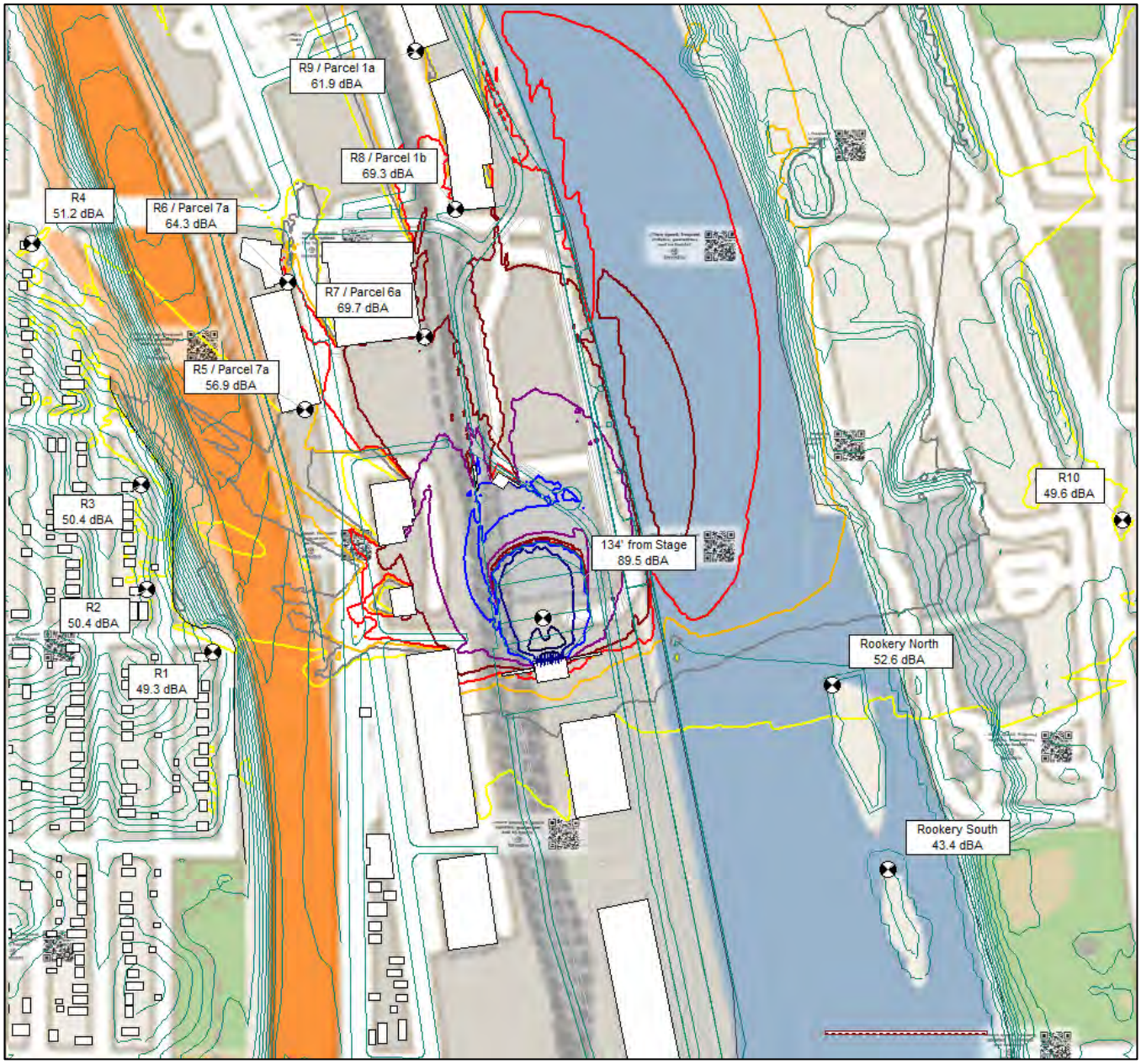


Figure 7. Predicted L_{10} Noise Contours with a Typical Concert, Parcel 6b Building Removed

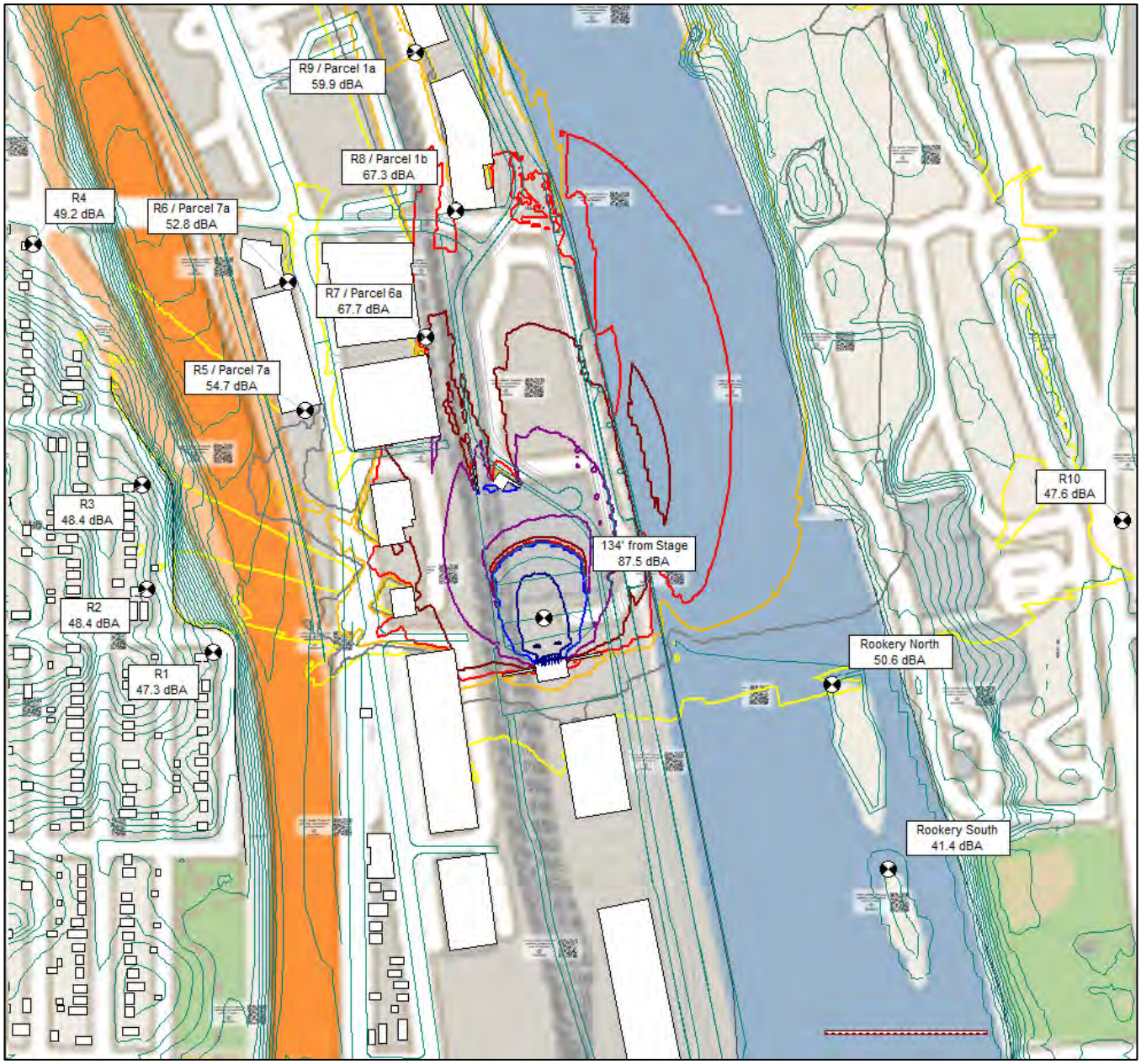


Figure 8. Predicted L_{50} Noise Contours with a Typical Concert

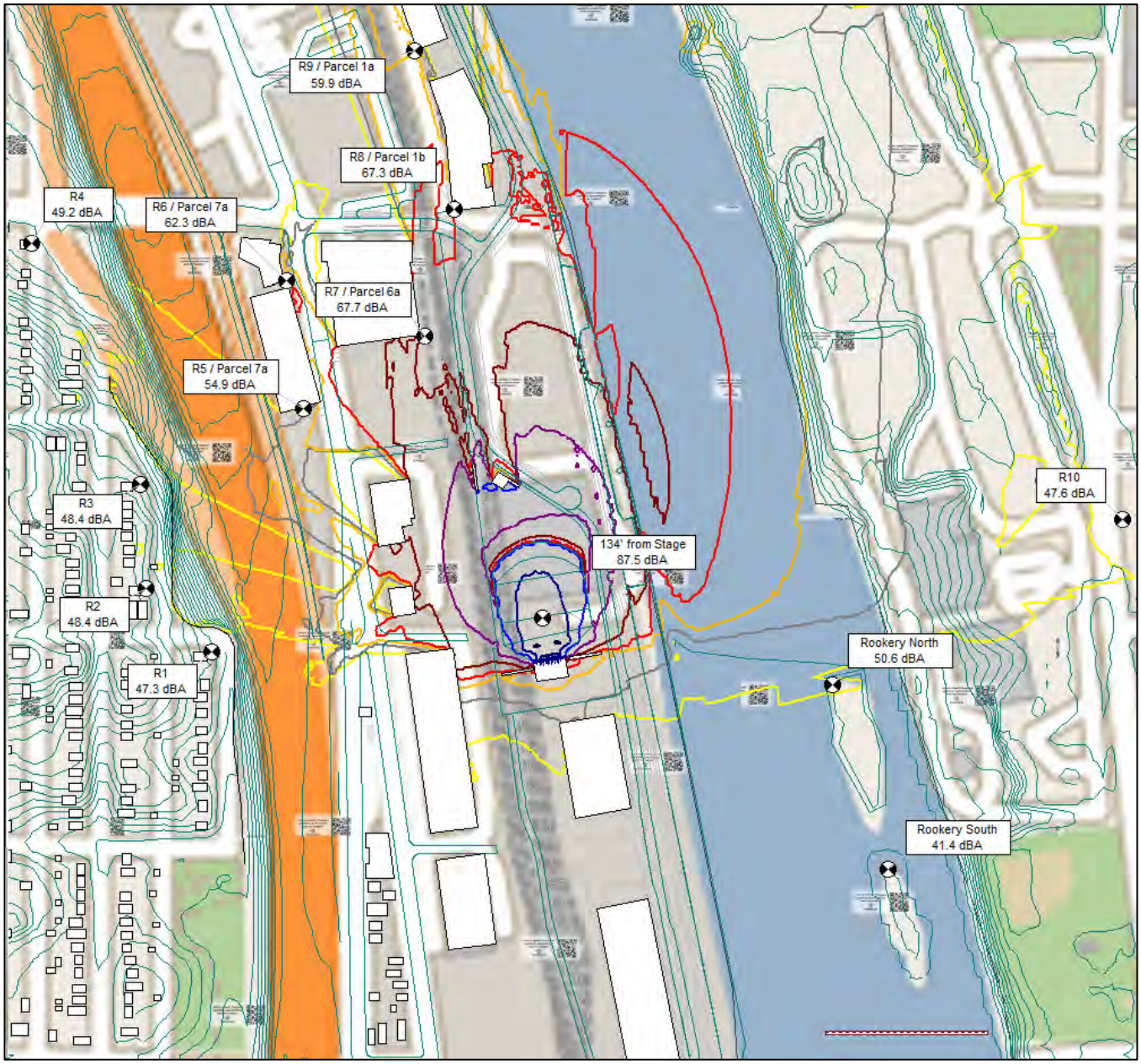


Figure 9. Predicted L_{50} Noise Contours with a Typical Concert, Parcel 6b Building Removed

5 Potential Effects on Wildlife

The only wildlife habitats near the amphitheater are the two islands to the southeast of the facility, labeled as "Rookery North" and "Rookery South" in **Figures 4** and **5**, which are known to be heron refuges. The effects of noise on birds has not been studied widely, but there are some references that have been used for these types of evaluations. One of those is *Technical Guidance for Assessment and Mitigation of the Effects of Highway and Road Construction Noise on Birds*, published in 2016 by the California Department of Transportation.[1] This guideline provides a comprehensive summary of current studies and provides noise limits for bird exposures in terms of hearing loss, communication disruption, and potential behavioral effects. Hearing loss is not an issue for the levels that would be generated by the facility at the refuge areas, and the communication disruption limit is considered to be a continuous level of 60 dBA or the ambient level without the new source. Behavioral effects can occur for any audible sounds, but these are generally of little concern.

Figures 4 and **5** show the predicted maximum sound levels (61 dBA for the north rookery and 52 dBA for the south rookery) associated with the proposed facility at the heron refuges, and they are unaffected by whether or not the building on Parcel 6b will remain. These are comparable to or less than minimum background levels (L_{50} values between 54 and 65 dBA) measured in the area in 2017 as part of a preliminary study for this project. Therefore, although sounds from the facility may be audible at times, there would be minimal behavioral effects expected for the heron refuges to the southeast.

6 Conclusions

The following general conclusions can be drawn from this evaluation:

Whether or not the building in Parcel 6b of the Upper Harbor Terminal site is directly to the south of Parcel 6a, the sound generated by the proposed amphitheater will meet the limits of the City of Minneapolis' noise ordinance Section 389.105 under the conditions listed in this report, assuming the proposed amendment to the City's amplified sound ordinance is adopted. Therefore, there are no adverse noise impacts predicted from the operation of the proposed amphitheater on the existing and proposed residential communities.

Whether not the building in Parcel 6b of the Upper Harbor Terminal site is directly to the south of Parcel 6a, the sound generated by the proposed amphitheater is not predicted to cause a significant impact to the heron refuges on the islands to the southeast of the facility under the conditions listed in this report.

[1] Dooling, R.J, and A.N. Popper, *Technical Guidance for Assessment and Mitigation of the Effects of Highway and Road Construction Noise on Birds*, Report No. CTHWANP-RT-15-306.04.2, California Department of Transportation, June 2016.

Appendix A – Monitored Sound Data at Bluestem Center for the Arts on August 20, 2024

Monitored Bluestem Data, August 20, 2024

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
Average			**90.6**	**82.9**	**82.2**	**80.1**	**78.0**
8/20/2024	4:57:50 PM	4:58:00 PM	72.8	74.7	74	72.6	70
8/20/2024	4:58:00 PM	4:58:10 PM	72.4	74.6	73.9	72.4	69.5
8/20/2024	4:58:10 PM	4:58:20 PM	72.6	75.5	74.4	72.5	70.8
8/20/2024	4:58:20 PM	4:58:30 PM	69.3	72.4	71.7	68.4	65.9
8/20/2024	4:58:30 PM	4:58:40 PM	70	72.3	71.8	69.9	67.9
8/20/2024	4:58:40 PM	4:58:50 PM	70.4	72.4	71.7	70.4	69.3
8/20/2024	4:58:50 PM	4:59:00 PM	69.9	72.4	71.6	69.8	67.4
8/20/2024	4:59:00 PM	4:59:10 PM	67.9	70	69.2	68	66.9
8/20/2024	4:59:10 PM	4:59:20 PM	69	72.1	70.5	68.3	66
8/20/2024	4:59:20 PM	4:59:30 PM	70.6	73.7	73.2	70.7	67.5
8/20/2024	4:59:30 PM	4:59:40 PM	67	69.6	67.4	66.5	64.5
8/20/2024	4:59:40 PM	4:59:50 PM	69.5	71	70.6	69.9	67.5
8/20/2024	4:59:50 PM	5:00:00 PM	68.9	70.9	70.4	68.9	67.4
8/20/2024	5:00:00 PM	5:00:10 PM	69.4	71.4	70.9	69.3	67.5
8/20/2024	5:00:10 PM	5:00:20 PM	69.6	72.1	71	69.3	66.5
8/20/2024	5:00:20 PM	5:00:30 PM	68.7	70.9	70.3	69.2	67
8/20/2024	5:00:30 PM	5:00:40 PM	70	72.1	71.6	69.9	63.7
8/20/2024	5:00:40 PM	5:00:50 PM	71.6	72.9	72.2	71.5	70.5
8/20/2024	5:00:50 PM	5:01:00 PM	68.3	72.2	70.5	68.4	67
8/20/2024	5:01:00 PM	5:01:10 PM	70.3	71.4	71.1	70.3	69.3
8/20/2024	5:01:10 PM	5:01:20 PM	70	71.7	71.2	69.7	67.7
8/20/2024	5:01:20 PM	5:01:30 PM	69.5	71.5	70.2	69.6	68.9
8/20/2024	5:01:30 PM	5:01:40 PM	69.9	72	71.8	69.7	66.8
8/20/2024	5:01:40 PM	5:01:50 PM	70.9	72.7	72	71.3	69.6
8/20/2024	5:01:50 PM	5:02:00 PM	69.2	71.3	71	69.5	63.5
8/20/2024	5:02:00 PM	5:02:10 PM	70.6	72.3	71.8	70.7	69.6
8/20/2024	5:02:10 PM	5:02:20 PM	70.9	72.5	72.1	70.9	69.1
8/20/2024	5:02:20 PM	5:02:30 PM	71.2	72.7	72.1	71.1	70.1
8/20/2024	5:02:30 PM	5:02:40 PM	68.3	70.7	70.5	68.5	67.1
8/20/2024	5:02:40 PM	5:02:50 PM	70	71.5	70.9	69.9	67.9
8/20/2024	5:02:50 PM	5:03:00 PM	69.4	71.5	70.8	69.3	67.1
8/20/2024	5:03:00 PM	5:03:10 PM	70.5	72.2	71.6	70.2	69.1
8/20/2024	5:03:10 PM	5:03:20 PM	68.8	71.5	70.9	69.1	67
8/20/2024	5:03:20 PM	5:03:30 PM	70	71.7	71	69.6	68.3
8/20/2024	5:03:30 PM	5:03:40 PM	68.5	72.7	72.2	68.2	64.6
8/20/2024	5:03:40 PM	5:03:50 PM	67.8	69.9	69	66.9	65.4
8/20/2024	5:03:50 PM	5:04:00 PM	69.5	71.2	70.9	69	67.7
8/20/2024	5:04:00 PM	5:04:10 PM	67.6	70.6	69	67.8	65.8
8/20/2024	5:04:10 PM	5:04:20 PM	68.7	70.5	70.2	68.5	66.5
8/20/2024	5:04:20 PM	5:04:30 PM	68.2	69.8	69.3	68.2	67.7
8/20/2024	5:04:30 PM	5:04:40 PM	68.5	69.4	69.2	68.5	67.6
8/20/2024	5:04:40 PM	5:04:50 PM	70.6	71.7	71.4	70.5	67.5
8/20/2024	5:04:50 PM	5:05:00 PM	71.2	73.4	72.8	71.1	69.8
8/20/2024	5:05:00 PM	5:05:10 PM	69.4	71.8	71.4	69.9	66.2
8/20/2024	5:05:10 PM	5:05:20 PM	68.7	70.5	70.1	68.5	67.2
8/20/2024	5:05:20 PM	5:05:30 PM	68.5	70.2	69.7	68.6	66.8
8/20/2024	5:05:30 PM	5:05:40 PM	68.5	70.1	69	68.2	67.7
8/20/2024	5:05:40 PM	5:05:50 PM	68.7	70.2	69.3	68.5	67.7
8/20/2024	5:05:50 PM	5:06:00 PM	71.1	72.4	71.9	71	70.1
8/20/2024	5:06:00 PM	5:06:10 PM	71.4	73	72.7	71.1	70.2
8/20/2024	5:06:10 PM	5:06:20 PM	68.6	70.3	69.9	68.9	67.9
8/20/2024	5:06:20 PM	5:06:30 PM	66	67.8	67.6	66.1	64.8
8/20/2024	5:06:30 PM	5:06:40 PM	65.2	67	66.3	65.2	63.6
8/20/2024	5:06:40 PM	5:06:50 PM	66.9	69.1	68.6	66.7	65
8/20/2024	5:06:50 PM	5:07:00 PM	66.8	68.7	68.2	67	64.8
8/20/2024	5:07:00 PM	5:07:10 PM	67.4	69.6	67.9	66.6	65.1
8/20/2024	5:07:10 PM	5:07:20 PM	68.2	70.8	69.9	68.2	66.4
8/20/2024	5:07:20 PM	5:07:30 PM	67.7	69.7	69.3	67.7	66.1
8/20/2024	5:07:30 PM	5:07:40 PM	65.9	68.6	67.8	65.5	63.9
8/20/2024	5:07:40 PM	5:07:50 PM	66.7	68.7	68	66.7	64.6
8/20/2024	5:07:50 PM	5:08:00 PM	66.8	69.5	68.8	66.5	65.2
8/20/2024	5:08:00 PM	5:08:10 PM	67.2	69	68.2	67	65.7
8/20/2024	5:08:10 PM	5:08:20 PM	67	69.4	68.2	66.9	65.2
8/20/2024	5:08:20 PM	5:08:30 PM	69	71.7	71.1	67.8	65.9
8/20/2024	5:08:30 PM	5:08:40 PM	68.3	71.3	70.6	68.1	66.6
8/20/2024	5:08:40 PM	5:08:50 PM	66.6	69.9	69.1	66.8	64.1
8/20/2024	5:08:50 PM	5:09:00 PM	69.3	71.7	71.1	69	67.4
8/20/2024	5:09:00 PM	5:09:10 PM	68.3	71	70	68	66.3
8/20/2024	5:09:10 PM	5:09:20 PM	62.1	68.1	66.7	60.3	57.8
8/20/2024	5:09:20 PM	5:09:30 PM	63.4	64.5	64.1	63.3	62.2
8/20/2024	5:09:30 PM	5:09:40 PM	64.5	66.1	65.5	64.3	63.1
8/20/2024	5:09:40 PM	5:09:50 PM	65.2	66.2	65.7	65.1	64.3
8/20/2024	5:09:50 PM	5:10:00 PM	66.7	68.2	67.7	66.3	65.6
8/20/2024	5:10:00 PM	5:10:10 PM	66.9	68.1	67.7	66.8	65.7
8/20/2024	5:10:10 PM	5:10:20 PM	68.3	70.1	69.6	67.9	67.4
8/20/2024	5:10:20 PM	5:10:30 PM	68	69.5	68.9	67.9	67.1
8/20/2024	5:10:30 PM	5:10:40 PM	68.3	69.6	69.1	68	67.4

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	5:10:40 PM	5:10:50 PM	70.7	71.8	71.2	70.2	69.5
8/20/2024	5:10:50 PM	5:11:00 PM	69	71.7	71	69.1	67.6
8/20/2024	5:11:00 PM	5:11:10 PM	69.3	70	69.7	69.3	68.5
8/20/2024	5:11:10 PM	5:11:20 PM	67.2	68.5	68.3	67.4	66.3
8/20/2024	5:11:20 PM	5:11:30 PM	67.6	68.4	68.1	67.5	66.6
8/20/2024	5:11:30 PM	5:11:40 PM	68.7	70.9	69.9	68.4	67.7
8/20/2024	5:11:40 PM	5:11:50 PM	68.3	70	69.3	68.1	67.4
8/20/2024	5:11:50 PM	5:12:00 PM	68.6	69.9	69.5	68.3	67.5
8/20/2024	5:12:00 PM	5:12:10 PM	69.8	70.9	70.2	69.6	69.2
8/20/2024	5:12:10 PM	5:12:20 PM	66.4	70.7	70.3	65.1	62.1
8/20/2024	5:12:20 PM	5:12:30 PM	64.7	67.6	67	63.2	62
8/20/2024	5:12:30 PM	5:12:40 PM	67.9	69.6	69.2	68.2	65.5
8/20/2024	5:12:40 PM	5:12:50 PM	69.6	71.4	71	69.6	68.2
8/20/2024	5:12:50 PM	5:13:00 PM	69.5	71.8	70.7	69.2	68.4
8/20/2024	5:13:00 PM	5:13:10 PM	69	70.8	70.3	69.5	66.8
8/20/2024	5:13:10 PM	5:13:20 PM	68.7	69.5	69.2	68.6	67.4
8/20/2024	5:13:20 PM	5:13:30 PM	69.2	70.2	69.9	69	68.5
8/20/2024	5:13:30 PM	5:13:40 PM	69.3	70.2	70.1	69.3	68.5
8/20/2024	5:13:40 PM	5:13:50 PM	69.5	71.2	70.5	69.5	67.8
8/20/2024	5:13:50 PM	5:14:00 PM	69	70.3	69.6	68.9	68.1
8/20/2024	5:14:00 PM	5:14:10 PM	68.7	70.1	69.8	68.8	67.4
8/20/2024	5:14:10 PM	5:14:20 PM	68.6	69.5	69.3	68.6	67.7
8/20/2024	5:14:20 PM	5:14:30 PM	69.5	70.4	69.9	69.4	68.7
8/20/2024	5:14:30 PM	5:14:40 PM	69.8	71.1	70.3	69.8	69.3
8/20/2024	5:14:40 PM	5:14:50 PM	69.7	70.9	70.6	69.8	68.4
8/20/2024	5:14:50 PM	5:15:00 PM	68.7	69.7	69.2	68.6	68.2
8/20/2024	5:15:00 PM	5:15:10 PM	68.5	69.4	69.1	68.4	67.9
8/20/2024	5:15:10 PM	5:15:20 PM	69.3	70.5	69.9	69.1	68.2
8/20/2024	5:15:20 PM	5:15:30 PM	68.3	69.7	69.5	68.5	67.4
8/20/2024	5:15:30 PM	5:15:40 PM	65.8	70.7	70	60.5	58.9
8/20/2024	5:15:40 PM	5:15:50 PM	70	71.4	70.8	70	69.1
8/20/2024	5:15:50 PM	5:16:00 PM	68.1	70.2	69.8	68.3	67.5
8/20/2024	5:16:00 PM	5:16:10 PM	67.4	69.5	68.8	66.8	65.9
8/20/2024	5:16:10 PM	5:16:20 PM	68.2	70	69.2	68	67.1
8/20/2024	5:16:20 PM	5:16:30 PM	67.2	68.4	68	67.3	65.4
8/20/2024	5:16:30 PM	5:16:40 PM	68.7	70.3	69.8	68.5	66.8
8/20/2024	5:16:40 PM	5:16:50 PM	68.6	71.7	70	68.4	66.7
8/20/2024	5:16:50 PM	5:17:00 PM	68.1	70.6	69.1	67.6	66.3
8/20/2024	5:17:00 PM	5:17:10 PM	70.8	72	71.4	70.7	70.1
8/20/2024	5:17:10 PM	5:17:20 PM	70.1	71.2	70.9	69.6	69.1
8/20/2024	5:17:20 PM	5:17:30 PM	70.6	72.8	72.3	70.5	69.5
8/20/2024	5:17:30 PM	5:17:40 PM	69.4	71.1	71	69.2	67.9
8/20/2024	5:17:40 PM	5:17:50 PM	67.1	68.7	68.4	67.2	66.2
8/20/2024	5:17:50 PM	5:18:00 PM	67.9	69.7	69.3	67.9	66.4
8/20/2024	5:18:00 PM	5:18:10 PM	68.9	70.3	70	68.4	67.4
8/20/2024	5:18:10 PM	5:18:20 PM	70	71.8	71.3	69.8	68.2
8/20/2024	5:18:20 PM	5:18:30 PM	70.4	71.7	71.4	70.6	69.5
8/20/2024	5:18:30 PM	5:18:40 PM	70.5	71.7	71.1	70.2	69.5
8/20/2024	5:18:40 PM	5:18:50 PM	69.9	71.4	71.1	70	69.1
8/20/2024	5:18:50 PM	5:19:00 PM	69.7	71.2	70.8	69.6	68
8/20/2024	5:19:00 PM	5:19:10 PM	71.5	72.4	72	71.4	70.8
8/20/2024	5:19:10 PM	5:19:20 PM	71.5	72.5	72.1	71.4	70.7
8/20/2024	5:19:20 PM	5:19:30 PM	71.4	72.6	72.3	71.6	70.2
8/20/2024	5:19:30 PM	5:19:40 PM	71.3	72.8	72.7	70.7	70
8/20/2024	5:19:40 PM	5:19:50 PM	66.5	70.3	69.5	65.9	65.1
8/20/2024	5:19:50 PM	5:20:00 PM	65.6	67.9	67.2	65.1	62.6
8/20/2024	5:20:00 PM	5:20:10 PM	68.6	70.4	69.6	68	66.8
8/20/2024	5:20:10 PM	5:20:20 PM	69.6	70.9	70.4	69.4	68.8
8/20/2024	5:20:20 PM	5:20:30 PM	70.6	72.5	71.7	70.5	68.1
8/20/2024	5:20:30 PM	5:20:40 PM	71	72.2	71.6	71	70.2
8/20/2024	5:20:40 PM	5:20:50 PM	70	71.7	71.4	70.2	69.3
8/20/2024	5:20:50 PM	5:21:00 PM	70.4	73.2	72	69.2	68.1
8/20/2024	5:21:00 PM	5:21:10 PM	69.9	71.3	70.7	70	69.3
8/20/2024	5:21:10 PM	5:21:20 PM	70.5	71.9	70.9	70.4	69.4
8/20/2024	5:21:20 PM	5:21:30 PM	71.2	72.9	72.3	71.2	70.5
8/20/2024	5:21:30 PM	5:21:40 PM	70.5	72.4	71.8	70.8	69.1
8/20/2024	5:21:40 PM	5:21:50 PM	68.9	69.7	69.5	68.7	67.8
8/20/2024	5:21:50 PM	5:22:00 PM	70.1	71.5	70.8	70	69.4
8/20/2024	5:22:00 PM	5:22:10 PM	69.2	71.3	70.3	68.9	67.9
8/20/2024	5:22:10 PM	5:22:20 PM	68.6	70.2	69.3	68.5	67.7
8/20/2024	5:22:20 PM	5:22:30 PM	67.9	69.9	69.2	67.8	66.2
8/20/2024	5:22:30 PM	5:22:40 PM	62.8	68.5	67.8	62.3	57.8
8/20/2024	5:22:40 PM	5:22:50 PM	66	68.6	68.1	65.7	60.5
8/20/2024	5:22:50 PM	5:23:00 PM	68.9	69.8	69.3	68.9	68.2
8/20/2024	5:23:00 PM	5:23:10 PM	70.8	73.1	72.2	70.6	68.5
8/20/2024	5:23:10 PM	5:23:20 PM	69.4	70.9	70.7	69.4	68.2
8/20/2024	5:23:20 PM	5:23:30 PM	70.4	71.8	71.4	70.4	68.5
8/20/2024	5:23:30 PM	5:23:40 PM	70.3	72.3	72.1	69.7	68.4

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	5:23:40 PM	5:23:50 PM	70.4	71.5	71.1	70.1	68.8
8/20/2024	5:23:50 PM	5:24:00 PM	71	72.2	71.9	70.8	70.1
8/20/2024	5:24:00 PM	5:24:10 PM	70.4	71.4	71.1	70.5	69.3
8/20/2024	5:24:10 PM	5:24:20 PM	70.5	71.4	71.1	70.7	70
8/20/2024	5:24:20 PM	5:24:30 PM	69.6	71.4	70.8	69.5	68
8/20/2024	5:24:30 PM	5:24:40 PM	69.6	71.6	71.4	69.3	68.8
8/20/2024	5:24:40 PM	5:24:50 PM	67.8	69.2	69.1	67.7	65.7
8/20/2024	5:24:50 PM	5:25:00 PM	70.7	71.7	71.2	70.5	69.7
8/20/2024	5:25:00 PM	5:25:10 PM	71.1	72.4	72.1	71	70
8/20/2024	5:25:10 PM	5:25:20 PM	71.4	72.6	72.1	71.3	70.1
8/20/2024	5:25:20 PM	5:25:30 PM	72.4	73.6	73.3	72.4	70.8
8/20/2024	5:25:30 PM	5:25:40 PM	71.6	72.7	72.2	71.6	71.1
8/20/2024	5:25:40 PM	5:25:50 PM	71.1	72.1	71.8	71.3	70.3
8/20/2024	5:25:50 PM	5:26:00 PM	70.9	71.9	71.6	71	70
8/20/2024	5:26:00 PM	5:26:10 PM	67.4	71	69.8	67.6	62.3
8/20/2024	5:26:10 PM	5:26:20 PM	68.3	70.8	70.4	69.2	64.5
8/20/2024	5:26:20 PM	5:26:30 PM	59	62.6	61.6	58.9	57.4
8/20/2024	5:26:30 PM	5:26:40 PM	59.3	62.6	61.1	57.1	56.5
8/20/2024	5:26:40 PM	5:26:50 PM	64	66	65	64.2	61.3
8/20/2024	5:26:50 PM	5:27:00 PM	64.9	68.5	66.9	64.9	62
8/20/2024	5:27:00 PM	5:27:10 PM	67.7	70.7	70	67.5	64.1
8/20/2024	5:27:10 PM	5:27:20 PM	69.2	71.5	70.6	68.9	66.5
8/20/2024	5:27:20 PM	5:27:30 PM	67.7	70.2	69.4	68.1	65.5
8/20/2024	5:27:30 PM	5:27:40 PM	65	68.2	66.8	64.9	62.6
8/20/2024	5:27:40 PM	5:27:50 PM	66.3	70.5	67.5	64.8	62.7
8/20/2024	5:27:50 PM	5:28:00 PM	67.9	72.5	71	66.8	64.9
8/20/2024	5:28:00 PM	5:28:10 PM	68.4	70.5	70.1	68.8	66.2
8/20/2024	5:28:10 PM	5:28:20 PM	68.4	69.8	69.4	68.3	66.5
8/20/2024	5:28:20 PM	5:28:30 PM	67.9	71.4	70.4	67.5	65.9
8/20/2024	5:28:30 PM	5:28:40 PM	66.9	68.7	68.2	66.8	65.9
8/20/2024	5:28:40 PM	5:28:50 PM	67.9	69.1	68.6	67.8	66.4
8/20/2024	5:28:50 PM	5:29:00 PM	68.1	69.5	69.1	68.1	66.9
8/20/2024	5:29:00 PM	5:29:10 PM	68.4	69.7	69.1	68	67.3
8/20/2024	5:29:10 PM	5:29:20 PM	67.8	70.3	69.7	68.5	65.3
8/20/2024	5:29:20 PM	5:29:30 PM	65.7	67.5	66.8	65.4	63.2
8/20/2024	5:29:30 PM	5:29:40 PM	65.8	67.3	67	65.8	64.7
8/20/2024	5:29:40 PM	5:29:50 PM	66	68.6	68.1	65.4	64.5
8/20/2024	5:29:50 PM	5:30:00 PM	66.1	68	67.5	66.1	64.1
8/20/2024	5:30:00 PM	5:30:10 PM	65.8	70	68.1	65.2	62.7
8/20/2024	5:30:10 PM	5:30:20 PM	61.5	65.5	64.7	61.1	57.6
8/20/2024	5:30:20 PM	5:30:30 PM	66.6	67.8	67.4	66.6	65
8/20/2024	5:30:30 PM	5:30:40 PM	65.5	66.9	66.4	65.6	64.9
8/20/2024	5:30:40 PM	5:30:50 PM	67.5	68.5	68	67.2	66.1
8/20/2024	5:30:50 PM	5:31:00 PM	68.3	71	68.7	67.5	66.9
8/20/2024	5:31:00 PM	5:31:10 PM	70.1	71.4	71	70.1	69.5
8/20/2024	5:31:10 PM	5:31:20 PM	69.2	71.2	70.8	69.4	67.3
8/20/2024	5:31:20 PM	5:31:30 PM	68	69.8	69.5	66.6	65.5
8/20/2024	5:31:30 PM	5:31:40 PM	69.5	70.7	70.1	69.5	68.9
8/20/2024	5:31:40 PM	5:31:50 PM	71.2	72.8	72.3	70.7	69.3
8/20/2024	5:31:50 PM	5:32:00 PM	70.9	72.2	71.6	71	70.5
8/20/2024	5:32:00 PM	5:32:10 PM	71.4	72.1	71.7	71.3	70.9
8/20/2024	5:32:10 PM	5:32:20 PM	71.3	72.8	72.1	71.3	70.7
8/20/2024	5:32:20 PM	5:32:30 PM	70.3	71.8	71.6	70.8	67.7
8/20/2024	5:32:30 PM	5:32:40 PM	67.3	69.1	68.4	67.3	66
8/20/2024	5:32:40 PM	5:32:50 PM	67.2	69.3	69.1	66.8	66.1
8/20/2024	5:32:50 PM	5:33:00 PM	68.4	70.3	69.7	68.4	65.8
8/20/2024	5:33:00 PM	5:33:10 PM	70	72.7	71.8	69.5	67.7
8/20/2024	5:33:10 PM	5:33:20 PM	71.3	72.5	72.1	71.2	69.8
8/20/2024	5:33:20 PM	5:33:30 PM	71.5	72.5	72.1	71.3	70.5
8/20/2024	5:33:30 PM	5:33:40 PM	71.4	72.2	71.9	71.5	71.1
8/20/2024	5:33:40 PM	5:33:50 PM	71.1	72	71.8	71.3	70.6
8/20/2024	5:33:50 PM	5:34:00 PM	63.8	68.7	66.5	64	61.8
8/20/2024	5:34:00 PM	5:34:10 PM	64.9	66.2	65.8	64.9	62.9
8/20/2024	5:34:10 PM	5:34:20 PM	66.3	68.4	67.5	65.9	63.2
8/20/2024	5:34:20 PM	5:34:30 PM	67.2	68.3	67.9	67.5	66.4
8/20/2024	5:34:30 PM	5:34:40 PM	67.9	68.9	68.3	67.8	67.3
8/20/2024	5:34:40 PM	5:34:50 PM	66	68.3	67.5	66.1	64.8
8/20/2024	5:34:50 PM	5:35:00 PM	66.3	66.9	66.8	66.3	65.7
8/20/2024	5:35:00 PM	5:35:10 PM	66.2	67.2	67	66.1	65.5
8/20/2024	5:35:10 PM	5:35:20 PM	64	66.8	66	64.1	61.9
8/20/2024	5:35:20 PM	5:35:30 PM	64.9	65.8	65.7	65.1	62.6
8/20/2024	5:35:30 PM	5:35:40 PM	67.7	68.7	68.5	68	64.4
8/20/2024	5:35:40 PM	5:35:50 PM	68.1	69.6	68.9	68.1	67.3
8/20/2024	5:35:50 PM	5:36:00 PM	67.4	68.8	68.5	68	65.6
8/20/2024	5:36:00 PM	5:36:10 PM	65.3	66.8	66.4	65.2	64
8/20/2024	5:36:10 PM	5:36:20 PM	65.4	67.2	66.7	65.6	64
8/20/2024	5:36:20 PM	5:36:30 PM	65.1	67.3	66.8	64.7	63
8/20/2024	5:36:30 PM	5:36:40 PM	65.2	67.5	66.5	65.1	61.1

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	5:36:40 PM	5:36:50 PM	67.7	69.3	68.9	66.9	66.4
8/20/2024	5:36:50 PM	5:37:00 PM	69	69.6	69.4	68.9	68.2
8/20/2024	5:37:00 PM	5:37:10 PM	67.5	69.3	68.9	68.2	66.5
8/20/2024	5:37:10 PM	5:37:20 PM	59.4	63.9	61.6	59.6	57.9
8/20/2024	5:37:20 PM	5:37:30 PM	64.8	69.6	67.9	61.9	60.5
8/20/2024	5:37:30 PM	5:37:40 PM	68.9	71.5	70.4	68.5	66.9
8/20/2024	5:37:40 PM	5:37:50 PM	67.6	69.7	69.4	67.4	65.8
8/20/2024	5:37:50 PM	5:38:00 PM	68.2	69.6	69.3	68.1	66
8/20/2024	5:38:00 PM	5:38:10 PM	67.3	69.1	68.6	67.3	65.9
8/20/2024	5:38:10 PM	5:38:20 PM	67.6	68.9	68.4	67.7	66.3
8/20/2024	5:38:20 PM	5:38:30 PM	70.3	71.5	71.2	70.4	67.7
8/20/2024	5:38:30 PM	5:38:40 PM	70.1	71.4	71	69.9	68.2
8/20/2024	5:38:40 PM	5:38:50 PM	70.1	72.2	71.4	70.3	69.1
8/20/2024	5:38:50 PM	5:39:00 PM	69	71.5	70.8	68.6	66.6
8/20/2024	5:39:00 PM	5:39:10 PM	69	71.1	70.4	69.3	65.9
8/20/2024	5:39:10 PM	5:39:20 PM	68	70.8	69.7	67.7	64.9
8/20/2024	5:39:20 PM	5:39:30 PM	70.3	73	72.3	70.4	68
8/20/2024	5:39:30 PM	5:39:40 PM	69.6	70.6	70.3	69.3	68.4
8/20/2024	5:39:40 PM	5:39:50 PM	70.4	71.6	71.4	70.5	67.9
8/20/2024	5:39:50 PM	5:40:00 PM	70.3	72.1	71.3	70.3	69.4
8/20/2024	5:40:00 PM	5:40:10 PM	70.5	72.3	71.5	70.3	69.6
8/20/2024	5:40:10 PM	5:40:20 PM	68	69.9	69.3	68	67.2
8/20/2024	5:40:20 PM	5:40:30 PM	70	72.6	71.5	68.5	67.1
8/20/2024	5:40:30 PM	5:40:40 PM	71.8	73.6	73.1	72.2	70.3
8/20/2024	5:40:40 PM	5:40:50 PM	69.6	71.7	71.4	70.2	65.7
8/20/2024	5:40:50 PM	5:41:00 PM	59.9	65.3	63.7	60.2	58
8/20/2024	5:41:00 PM	5:41:10 PM	62.5	66.6	65.7	57.2	56.7
8/20/2024	5:41:10 PM	5:41:20 PM	66.3	66.9	66.7	66.5	65.8
8/20/2024	5:41:20 PM	5:41:30 PM	69.5	71.8	70.9	69.4	65.8
8/20/2024	5:41:30 PM	5:41:40 PM	68.1	70.5	69.6	68.1	66.1
8/20/2024	5:41:40 PM	5:41:50 PM	69.3	71.3	70.2	69.2	68.2
8/20/2024	5:41:50 PM	5:42:00 PM	69.8	72.5	71.9	68.8	66.2
8/20/2024	5:42:00 PM	5:42:10 PM	69.9	72.6	71.7	69.3	68.2
8/20/2024	5:42:10 PM	5:42:20 PM	69.9	72.5	71.9	69.7	68.5
8/20/2024	5:42:20 PM	5:42:30 PM	69.7	70.5	70.2	69.9	69.5
8/20/2024	5:42:30 PM	5:42:40 PM	69.7	71.2	70.7	69.8	68.7
8/20/2024	5:42:40 PM	5:42:50 PM	67.2	68.4	68.1	67.4	65.8
8/20/2024	5:42:50 PM	5:43:00 PM	67.5	69.1	68.4	67.5	65.2
8/20/2024	5:43:00 PM	5:43:10 PM	68.1	69.9	68.9	67.8	66.6
8/20/2024	5:43:10 PM	5:43:20 PM	69.9	72.6	71.5	69.8	68.4
8/20/2024	5:43:20 PM	5:43:30 PM	69.4	71.9	71.4	68.7	68
8/20/2024	5:43:30 PM	5:43:40 PM	69.6	71.1	70.7	69.5	68.4
8/20/2024	5:43:40 PM	5:43:50 PM	69.6	70.7	70.5	69.8	69.2
8/20/2024	5:43:50 PM	5:44:00 PM	62.8	67.6	65.7	63.2	59.5
8/20/2024	5:44:00 PM	5:44:10 PM	67.1	69.2	68.8	66.6	65.6
8/20/2024	5:44:10 PM	5:44:20 PM	68.3	69.3	69	68	67.2
8/20/2024	5:44:20 PM	5:44:30 PM	68.6	69.9	69.6	68.3	67.3
8/20/2024	5:44:30 PM	5:44:40 PM	68.5	69.5	69.4	68.6	67.5
8/20/2024	5:44:40 PM	5:44:50 PM	67.5	69.3	68.7	67.8	66.7
8/20/2024	5:44:50 PM	5:45:00 PM	66.5	67.5	67.3	66.5	65.7
8/20/2024	5:45:00 PM	5:45:10 PM	67	68.1	67.7	66.8	65
8/20/2024	5:45:10 PM	5:45:20 PM	68.2	69	68.7	68.1	67.6
8/20/2024	5:45:20 PM	5:45:30 PM	68.2	70	69.3	67.9	67.4
8/20/2024	5:45:30 PM	5:45:40 PM	68	69.3	68.9	67.8	66.7
8/20/2024	5:45:40 PM	5:45:50 PM	68	69.1	68.8	67.9	67.4
8/20/2024	5:45:50 PM	5:46:00 PM	68.3	69.1	68.9	68.2	67.4
8/20/2024	5:46:00 PM	5:46:10 PM	68.7	69.5	69.4	68.7	68.1
8/20/2024	5:46:10 PM	5:46:20 PM	68.5	69.4	69	68.4	67.9
8/20/2024	5:46:20 PM	5:46:30 PM	68.8	70.4	69.8	69	67.9
8/20/2024	5:46:30 PM	5:46:40 PM	64.3	66.6	65.5	64.3	63.4
8/20/2024	5:46:40 PM	5:46:50 PM	65	67.2	66.7	64.9	63.5
8/20/2024	5:46:50 PM	5:47:00 PM	66.2	67.8	67	66	65.3
8/20/2024	5:47:00 PM	5:47:10 PM	67.4	69.2	68.9	67.2	65.6
8/20/2024	5:47:10 PM	5:47:20 PM	67.3	68.9	68.5	66.9	66.1
8/20/2024	5:47:20 PM	5:47:30 PM	67.7	68.9	68.5	67.6	66.4
8/20/2024	5:47:30 PM	5:47:40 PM	66.4	69	68	66.2	65.1
8/20/2024	5:47:40 PM	5:47:50 PM	68.4	69.6	69.3	68.3	66.3
8/20/2024	5:47:50 PM	5:48:00 PM	68.8	70.1	69.4	68.8	68
8/20/2024	5:48:00 PM	5:48:10 PM	68.3	69.5	69.2	68.4	67.7
8/20/2024	5:48:10 PM	5:48:20 PM	67.5	68.7	68.4	67.1	66.4
8/20/2024	5:48:20 PM	5:48:30 PM	68.2	70	69.4	68.4	67.4
8/20/2024	5:48:30 PM	5:48:40 PM	68.4	69.7	69.4	68.3	67.3
8/20/2024	5:48:40 PM	5:48:50 PM	69.6	70.5	70.2	69.4	68.5
8/20/2024	5:48:50 PM	5:49:00 PM	68.8	72	71.4	69.2	65.3
8/20/2024	5:49:00 PM	5:49:10 PM	67.6	69.6	69.1	67.3	65.7
8/20/2024	5:49:10 PM	5:49:20 PM	68.4	70.4	69.6	68.4	66.7
8/20/2024	5:49:20 PM	5:49:30 PM	69.3	70.7	70.6	69.3	67.2
8/20/2024	5:49:30 PM	5:49:40 PM	69.9	70.9	70.6	69.9	68.4

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	5:49:40 PM	5:49:50 PM	69.5	71.2	70.7	69.5	68.2
8/20/2024	5:49:50 PM	5:50:00 PM	66.6	69.6	68.4	66.7	65.2
8/20/2024	5:50:00 PM	5:50:10 PM	67.9	69.8	69.4	67.7	65.7
8/20/2024	5:50:10 PM	5:50:20 PM	68.3	69.7	69.4	68	67.4
8/20/2024	5:50:20 PM	5:50:30 PM	69.4	70.2	69.9	69.4	68.7
8/20/2024	5:50:30 PM	5:50:40 PM	67.8	70.3	69.2	68	66.2
8/20/2024	5:50:40 PM	5:50:50 PM	69	70.2	69.7	68.9	67
8/20/2024	5:50:50 PM	5:51:00 PM	69.9	72.3	70.8	70	69
8/20/2024	5:51:00 PM	5:51:10 PM	69.6	70.8	70.3	69.5	68.9
8/20/2024	5:51:10 PM	5:51:20 PM	69	71.3	70.8	69	67.2
8/20/2024	5:51:20 PM	5:51:30 PM	66.4	68.9	68.4	66.5	64.8
8/20/2024	5:51:30 PM	5:51:40 PM	69.9	72.3	71.3	70.1	64.2
8/20/2024	5:51:40 PM	5:51:50 PM	70.1	71.3	71	70.1	69.2
8/20/2024	5:51:50 PM	5:52:00 PM	69.9	72.1	70.8	70	68.5
8/20/2024	5:52:00 PM	5:52:10 PM	61.4	70	68.2	60	56.8
8/20/2024	5:52:10 PM	5:52:20 PM	69	70.4	69.9	68.9	66.4
8/20/2024	5:52:20 PM	5:52:30 PM	68.3	71.2	69.8	67.8	65.8
8/20/2024	5:52:30 PM	5:52:40 PM	68.9	71.8	70.7	69	67.4
8/20/2024	5:52:40 PM	5:52:50 PM	69.3	70.2	70	69.3	68.1
8/20/2024	5:52:50 PM	5:53:00 PM	70.2	71.8	71.5	70.4	68.4
8/20/2024	5:53:00 PM	5:53:10 PM	66.8	69.7	69.4	66.9	63.6
8/20/2024	5:53:10 PM	5:53:20 PM	67.9	69.5	68.6	67.6	66.7
8/20/2024	5:53:20 PM	5:53:30 PM	70.5	71.5	71.1	70.3	68.8
8/20/2024	5:53:30 PM	5:53:40 PM	70.8	71.9	71.5	70.8	69.9
8/20/2024	5:53:40 PM	5:53:50 PM	70.8	71.6	71.4	70.9	69.9
8/20/2024	5:53:50 PM	5:54:00 PM	71.2	72.1	71.9	71.3	70
8/20/2024	5:54:00 PM	5:54:10 PM	70.2	72.3	71.9	69.9	68.7
8/20/2024	5:54:10 PM	5:54:20 PM	68.5	70.5	70.1	68.5	66.7
8/20/2024	5:54:20 PM	5:54:30 PM	67.9	69.1	68.8	68	66.8
8/20/2024	5:54:30 PM	5:54:40 PM	68.4	70	69.4	68.3	65.6
8/20/2024	5:54:40 PM	5:54:50 PM	67.9	69.2	68.9	67.8	66.9
8/20/2024	5:54:50 PM	5:55:00 PM	68.2	69.3	68.8	68.3	67.2
8/20/2024	5:55:00 PM	5:55:10 PM	68	69.7	69.4	68.1	66.5
8/20/2024	5:55:10 PM	5:55:20 PM	67.5	70.1	69	67.2	64.7
8/20/2024	5:55:20 PM	5:55:30 PM	70.9	71.5	71.4	70.7	69.8
8/20/2024	5:55:30 PM	5:55:40 PM	69.6	71.2	70.8	69.4	68.9
8/20/2024	5:55:40 PM	5:55:50 PM	70.5	71.3	71.1	70.4	69.9
8/20/2024	5:55:50 PM	5:56:00 PM	68.8	70.6	70.2	68.9	67.4
8/20/2024	5:56:00 PM	5:56:10 PM	68.7	70.5	69.5	68.7	67.9
8/20/2024	5:56:10 PM	5:56:20 PM	69.6	73.2	72	69.1	67
8/20/2024	5:56:20 PM	5:56:30 PM	69.2	70.5	70	69.2	67.2
8/20/2024	5:56:30 PM	5:56:40 PM	70.3	70.9	70.7	70.1	69.5
8/20/2024	5:56:40 PM	5:56:50 PM	70.5	71.7	71.3	70.6	69.7
8/20/2024	5:56:50 PM	5:57:00 PM	71	72.1	71.6	70.7	70.1
8/20/2024	5:57:00 PM	5:57:10 PM	71.3	72.2	71.8	71.5	70.9
8/20/2024	5:57:10 PM	5:57:20 PM	71.4	72.4	72.1	71.7	70.1
8/20/2024	5:57:20 PM	5:57:30 PM	70.1	70.9	70.7	70	69.6
8/20/2024	5:57:30 PM	5:57:40 PM	69.4	71.1	70.8	70.1	67.8
8/20/2024	5:57:40 PM	5:57:50 PM	67.7	69	68.7	67.7	67.2
8/20/2024	5:57:50 PM	5:58:00 PM	67.4	69.1	68.5	66.7	65.6
8/20/2024	5:58:00 PM	5:58:10 PM	68	71	69	67.6	64
8/20/2024	5:58:10 PM	5:58:20 PM	70	71.3	71	69.8	68.9
8/20/2024	5:58:20 PM	5:58:30 PM	69.9	71.5	71.4	70	68.9
8/20/2024	5:58:30 PM	5:58:40 PM	69.5	71.5	71.2	68.7	68.2
8/20/2024	5:58:40 PM	5:58:50 PM	70.3	71.2	70.9	70.4	69.6
8/20/2024	5:58:50 PM	5:59:00 PM	70.7	71.9	71.6	70.6	69.8
8/20/2024	5:59:00 PM	5:59:10 PM	67.5	69	68.8	67.5	66.6
8/20/2024	5:59:10 PM	5:59:20 PM	68	69.3	69	68.1	65.2
8/20/2024	5:59:20 PM	5:59:30 PM	69.3	70.4	69.9	69.6	67.9
8/20/2024	5:59:30 PM	5:59:40 PM	70.3	72.1	71	69.6	68.9
8/20/2024	5:59:40 PM	5:59:50 PM	70.5	73.2	72.8	70.5	69.3
8/20/2024	5:59:50 PM	6:00:00 PM	70.4	71.7	71	70.3	69.4
8/20/2024	6:00:00 PM	6:00:10 PM	68.2	70.8	70.4	67.8	66.8
8/20/2024	6:00:10 PM	6:00:20 PM	71	75.2	74.5	68.9	67.2
8/20/2024	6:00:20 PM	6:00:30 PM	67.9	69.9	69.2	67.6	66.3
8/20/2024	6:00:30 PM	6:00:40 PM	67.7	69.1	68.7	68.1	66.2
8/20/2024	6:00:40 PM	6:00:50 PM	69.5	70.7	70.5	68.9	67.9
8/20/2024	6:00:50 PM	6:01:00 PM	68.7	70.5	69.8	69	67.9
8/20/2024	6:01:00 PM	6:01:10 PM	68.7	70.2	70	68.2	67.4
8/20/2024	6:01:10 PM	6:01:20 PM	64.7	70.8	69.8	63.2	57.7
8/20/2024	6:01:20 PM	6:01:30 PM	70.1	71	70.8	70.1	64.3
8/20/2024	6:01:30 PM	6:01:40 PM	69.7	70.6	70.3	70	69.4
8/20/2024	6:01:40 PM	6:01:50 PM	67.9	69.3	68.8	68	66.8
8/20/2024	6:01:50 PM	6:02:00 PM	68.1	69.2	68.9	67.9	67.2
8/20/2024	6:02:00 PM	6:02:10 PM	68.3	70.1	69.4	68.5	66.7
8/20/2024	6:02:10 PM	6:02:20 PM	70.7	72.5	72	70	69.3
8/20/2024	6:02:20 PM	6:02:30 PM	70.5	72.2	71.5	70.7	68.7
8/20/2024	6:02:30 PM	6:02:40 PM	70.5	72.7	71.9	70.5	69.8

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	6:02:40 PM	6:02:50 PM	70.3	71.1	70.8	70.1	69.2
8/20/2024	6:02:50 PM	6:03:00 PM	70.2	71.4	71.1	70.1	69.6
8/20/2024	6:03:00 PM	6:03:10 PM	69.6	72.3	70.9	69.7	67.9
8/20/2024	6:03:10 PM	6:03:20 PM	68.8	69.9	69.7	68.4	67.7
8/20/2024	6:03:20 PM	6:03:30 PM	69.2	70.7	70.1	69.4	68.6
8/20/2024	6:03:30 PM	6:03:40 PM	69.1	70.8	69.9	68.8	67.7
8/20/2024	6:03:40 PM	6:03:50 PM	70.4	72.2	71.6	70.3	68.5
8/20/2024	6:03:50 PM	6:04:00 PM	70.2	71.5	71	70	69.4
8/20/2024	6:04:00 PM	6:04:10 PM	70	71.7	71.1	70.1	68.8
8/20/2024	6:04:10 PM	6:04:20 PM	70.2	71	70.7	70.1	69.4
8/20/2024	6:04:20 PM	6:04:30 PM	70.3	71.1	70.9	70.3	69.6
8/20/2024	6:04:30 PM	6:04:40 PM	68.3	70.5	70.4	68.8	66.4
8/20/2024	6:04:40 PM	6:04:50 PM	60.9	65.5	65	60.6	59.1
8/20/2024	6:04:50 PM	6:05:00 PM	64.2	66.4	66	63.7	58.6
8/20/2024	6:05:00 PM	6:05:10 PM	66.5	68	67.6	66.3	65.3
8/20/2024	6:05:10 PM	6:05:20 PM	68.3	69.8	69.2	68.5	66.2
8/20/2024	6:05:20 PM	6:05:30 PM	67.6	69	68.5	67.7	66.9
8/20/2024	6:05:30 PM	6:05:40 PM	67.5	68.6	68.2	67.6	66.5
8/20/2024	6:05:40 PM	6:05:50 PM	68.6	69.2	68.9	68.4	67.9
8/20/2024	6:05:50 PM	6:06:00 PM	69	70.5	70.1	69.3	67.5
8/20/2024	6:06:00 PM	6:06:10 PM	66.6	67.5	67.3	66.5	66
8/20/2024	6:06:10 PM	6:06:20 PM	67.3	68	67.6	67.3	66.7
8/20/2024	6:06:20 PM	6:06:30 PM	67.5	68.7	68.4	67.5	66.7
8/20/2024	6:06:30 PM	6:06:40 PM	67.1	68	67.7	67.1	66.6
8/20/2024	6:06:40 PM	6:06:50 PM	67.9	69	68.5	68	66.4
8/20/2024	6:06:50 PM	6:07:00 PM	68.9	69.7	69.5	69.1	67.5
8/20/2024	6:07:00 PM	6:07:10 PM	69.3	70.2	70	69.4	68.4
8/20/2024	6:07:10 PM	6:07:20 PM	68.2	69.9	69.7	68.1	66.7
8/20/2024	6:07:20 PM	6:07:30 PM	67.9	69.3	69.1	68	66.6
8/20/2024	6:07:30 PM	6:07:40 PM	68.2	70	69.1	68.2	67
8/20/2024	6:07:40 PM	6:07:50 PM	69.4	70.3	70	69.3	68.6
8/20/2024	6:07:50 PM	6:08:00 PM	70.7	72.4	71.9	70.2	69
8/20/2024	6:08:00 PM	6:08:10 PM	67.9	71.2	70.1	68.6	65.8
8/20/2024	6:08:10 PM	6:08:20 PM	66.2	69.3	68.2	65.2	63.7
8/20/2024	6:08:20 PM	6:08:30 PM	68.3	70.1	69.6	68	67.3
8/20/2024	6:08:30 PM	6:08:40 PM	69.1	71.8	70.9	68.3	67.2
8/20/2024	6:08:40 PM	6:08:50 PM	69.7	71.7	71	69.7	68.8
8/20/2024	6:08:50 PM	6:09:00 PM	70.4	72.1	71.6	70.4	68.9
8/20/2024	6:09:00 PM	6:09:10 PM	68.8	70.3	69.9	69	67.6
8/20/2024	6:09:10 PM	6:09:20 PM	68.7	70.1	69.7	68.2	67.7
8/20/2024	6:09:20 PM	6:09:30 PM	69.4	72.7	71.6	69.6	66.6
8/20/2024	6:09:30 PM	6:09:40 PM	66.5	68.7	68	66	63.2
8/20/2024	6:09:40 PM	6:09:50 PM	69.6	71.8	71.5	69.3	68.3
8/20/2024	6:09:50 PM	6:10:00 PM	69	71.4	70.2	68.3	67.6
8/20/2024	6:10:00 PM	6:10:10 PM	69.9	72.2	71.9	69.9	67
8/20/2024	6:10:10 PM	6:10:20 PM	70.8	73.5	72.8	70.5	69.2
8/20/2024	6:10:20 PM	6:10:30 PM	65.6	68.4	67.5	65.7	64
8/20/2024	6:10:30 PM	6:10:40 PM	67.8	69.3	68.9	67.9	63.5
8/20/2024	6:10:40 PM	6:10:50 PM	67.9	69.6	69.3	68	67
8/20/2024	6:10:50 PM	6:11:00 PM	67.5	69.5	68.7	67	65.8
8/20/2024	6:11:00 PM	6:11:10 PM	68	69.6	69.2	68	67.2
8/20/2024	6:11:10 PM	6:11:20 PM	69.5	70.7	70.3	69.4	68.1
8/20/2024	6:11:20 PM	6:11:30 PM	71.2	73.1	72.3	70.8	70.4
8/20/2024	6:11:30 PM	6:11:40 PM	69.4	70.6	70.5	70.1	68
8/20/2024	6:11:40 PM	6:11:50 PM	68	69.4	68.9	67.8	66.6
8/20/2024	6:11:50 PM	6:12:00 PM	68.2	69	68.8	68.3	67.6
8/20/2024	6:12:00 PM	6:12:10 PM	69.4	70.4	70	69.2	68.4
8/20/2024	6:12:10 PM	6:12:20 PM	70.7	72	71.1	70.5	70.1
8/20/2024	6:12:20 PM	6:12:30 PM	69.1	71.7	71.1	70	66.6
8/20/2024	6:12:30 PM	6:12:40 PM	67.5	68.4	68.1	67.6	66.9
8/20/2024	6:12:40 PM	6:12:50 PM	68	68.8	68.5	67.9	67.5
8/20/2024	6:12:50 PM	6:13:00 PM	70.7	72.2	71.8	70.3	68.5
8/20/2024	6:13:00 PM	6:13:10 PM	71.5	72.9	72.4	71.2	70.2
8/20/2024	6:13:10 PM	6:13:20 PM	70.2	71.6	71.5	71	68.3
8/20/2024	6:13:20 PM	6:13:30 PM	67.3	68.7	68.4	67.6	65.6
8/20/2024	6:13:30 PM	6:13:40 PM	67.3	69.2	68.5	66.9	65.7
8/20/2024	6:13:40 PM	6:13:50 PM	66.6	68.7	68.4	66.3	65.2
8/20/2024	6:13:50 PM	6:14:00 PM	68.8	71.4	70.8	68.3	66.8
8/20/2024	6:14:00 PM	6:14:10 PM	68	69.1	68.6	68	67.4
8/20/2024	6:14:10 PM	6:14:20 PM	68.5	70	69.6	68.3	67.6
8/20/2024	6:14:20 PM	6:14:30 PM	70.4	73.1	71.6	69.5	67.9
8/20/2024	6:14:30 PM	6:14:40 PM	72.2	74.4	73.6	72.3	70.7
8/20/2024	6:14:40 PM	6:14:50 PM	69.2	71.6	70.6	69.3	68.1
8/20/2024	6:14:50 PM	6:15:00 PM	70	71.4	71	69.9	69
8/20/2024	6:15:00 PM	6:15:10 PM	70.8	72.6	72.3	70.8	68.2
8/20/2024	6:15:10 PM	6:15:20 PM	70.6	71.4	71.2	70.6	68.9
8/20/2024	6:15:20 PM	6:15:30 PM	71.2	72.2	71.9	71.2	70.3
8/20/2024	6:15:30 PM	6:15:40 PM	71.7	73.4	72.6	71.6	70.1

Monitored Bluestem Data, August 20, 2024

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	6:15:40 PM	6:15:50 PM	72	73.5	72.9	72.3	70.1
8/20/2024	6:15:50 PM	6:16:00 PM	72.5	73.9	73.6	72.4	70.4
8/20/2024	6:16:00 PM	6:16:10 PM	72.9	74.2	74	73.2	71.5
8/20/2024	6:16:10 PM	6:16:20 PM	72.1	73.9	73	72.2	70.9
8/20/2024	6:16:20 PM	6:16:30 PM	72.2	75	74	72.2	71.1
8/20/2024	6:16:30 PM	6:16:40 PM	71.6	73.9	73.3	72	68.4
8/20/2024	6:16:40 PM	6:16:50 PM	71.7	74.3	73.3	71.8	69.2
8/20/2024	6:16:50 PM	6:17:00 PM	70.9	73.3	72.3	71.1	68.7
8/20/2024	6:17:00 PM	6:17:10 PM	66.8	70.2	69.1	67.2	61.9
8/20/2024	6:17:10 PM	6:17:20 PM	67.8	70.1	68.7	67.5	66.6
8/20/2024	6:17:20 PM	6:17:30 PM	67.4	69.3	68.8	67.4	64.1
8/20/2024	6:17:30 PM	6:17:40 PM	68.9	70.6	70.2	68.7	67.5
8/20/2024	6:17:40 PM	6:17:50 PM	70.2	72.1	71.2	69.6	68.1
8/20/2024	6:17:50 PM	6:18:00 PM	70.5	74.4	72.4	69.1	68.7
8/20/2024	6:18:00 PM	6:18:10 PM	68.7	73.6	71.2	69	68.3
8/20/2024	6:18:10 PM	6:18:20 PM	70	73.8	72	69.2	68.1
8/20/2024	6:18:20 PM	6:18:30 PM	69.1	70.7	69.6	69	68.2
8/20/2024	6:18:30 PM	6:18:40 PM	68.8	69.5	69.3	68.9	68.4
8/20/2024	6:18:40 PM	6:18:50 PM	69.6	72.6	71.1	69.1	68.5
8/20/2024	6:18:50 PM	6:19:00 PM	70.3	74.1	72.6	69.5	68.7
8/20/2024	6:19:00 PM	6:19:10 PM	67.9	70.3	69.1	67.7	66.9
8/20/2024	6:19:10 PM	6:19:20 PM	66.9	67.6	67.3	66.9	66.4
8/20/2024	6:19:20 PM	6:19:30 PM	67.1	68.3	67.9	67.1	66.3
8/20/2024	6:19:30 PM	6:19:40 PM	64.3	67.6	66.4	64.2	63.2
8/20/2024	6:19:40 PM	6:19:50 PM	66.1	68.8	68.4	64.9	61.9
8/20/2024	6:19:50 PM	6:20:00 PM	69.2	70.7	70.3	69.2	68.1
8/20/2024	6:20:00 PM	6:20:10 PM	68.8	70.3	69.8	68.6	67.8
8/20/2024	6:20:10 PM	6:20:20 PM	68.8	70.9	70.4	68.4	67.4
8/20/2024	6:20:20 PM	6:20:30 PM	69.7	71	70.4	69.2	68.5
8/20/2024	6:20:30 PM	6:20:40 PM	69.8	70.9	70.6	70	69.1
8/20/2024	6:20:40 PM	6:20:50 PM	68	70.4	69.9	68	67
8/20/2024	6:20:50 PM	6:21:00 PM	66.5	67.9	67.5	66.5	65.8
8/20/2024	6:21:00 PM	6:21:10 PM	67.4	68.9	68.6	67.5	65.8
8/20/2024	6:21:10 PM	6:21:20 PM	69.9	71.1	70.4	69.8	66.7
8/20/2024	6:21:20 PM	6:21:30 PM	69.1	70.2	70	69.3	68.3
8/20/2024	6:21:30 PM	6:21:40 PM	66.8	68.7	68.3	67.2	65.1
8/20/2024	6:21:40 PM	6:21:50 PM	63.4	66.9	65	62.2	61.4
8/20/2024	6:21:50 PM	6:22:00 PM	67	68.8	67.7	66.9	66.5
8/20/2024	6:22:00 PM	6:22:10 PM	66.5	68	67.4	66.3	65.5
8/20/2024	6:22:10 PM	6:22:20 PM	66.2	67.1	66.8	66.4	65.3
8/20/2024	6:22:20 PM	6:22:30 PM	67.2	68.7	68.1	67	66.2
8/20/2024	6:22:30 PM	6:22:40 PM	68	69.2	68.8	68.1	67.1
8/20/2024	6:22:40 PM	6:22:50 PM	68.8	70.6	70.5	67.8	65.1
8/20/2024	6:22:50 PM	6:23:00 PM	69.6	70.5	70.3	69.5	68.7
8/20/2024	6:23:00 PM	6:23:10 PM	70	70.8	70.6	70	69
8/20/2024	6:23:10 PM	6:23:20 PM	69	70.3	70.1	69.2	68.2
8/20/2024	6:23:20 PM	6:23:30 PM	68.2	69.9	69.4	68	67
8/20/2024	6:23:30 PM	6:23:40 PM	67.9	69.1	68.6	68	67.2
8/20/2024	6:23:40 PM	6:23:50 PM	68.3	70	69.9	67.7	65.9
8/20/2024	6:23:50 PM	6:24:00 PM	68.9	70.3	69.8	68.9	67.8
8/20/2024	6:24:00 PM	6:24:10 PM	67.3	68.8	68.5	67.4	64.9
8/20/2024	6:24:10 PM	6:24:20 PM	70.3	70.8	70.6	70.3	69.2
8/20/2024	6:24:20 PM	6:24:30 PM	69.6	70.8	70.2	69.4	69
8/20/2024	6:24:30 PM	6:24:40 PM	69.2	70.2	70.1	69.3	68.5
8/20/2024	6:24:40 PM	6:24:50 PM	68.3	69.5	69.1	68.2	67.1
8/20/2024	6:24:50 PM	6:25:00 PM	69.4	70.6	70.2	69.4	68.1
8/20/2024	6:25:00 PM	6:25:10 PM	67.1	69.8	69.7	67.6	63.4
8/20/2024	6:25:10 PM	6:25:20 PM	67.1	69.3	68.4	66.9	65.5
8/20/2024	6:25:20 PM	6:25:30 PM	67.9	68.8	68.6	67.9	66.7
8/20/2024	6:25:30 PM	6:25:40 PM	69.5	71	70.2	69.9	67.5
8/20/2024	6:25:40 PM	6:25:50 PM	69.7	70.6	70.3	69.7	68.7
8/20/2024	6:25:50 PM	6:26:00 PM	69.9	70.4	70.4	70	69.1
8/20/2024	6:26:00 PM	6:26:10 PM	68.4	70.3	69.9	68.5	66.8
8/20/2024	6:26:10 PM	6:26:20 PM	66	68.1	67.6	66.2	65.3
8/20/2024	6:26:20 PM	6:26:30 PM	67	70.2	68.7	66.2	64.9
8/20/2024	6:26:30 PM	6:26:40 PM	67.9	69.4	69	67.8	66.9
8/20/2024	6:26:40 PM	6:26:50 PM	68.6	70	69.6	69.1	65.9
8/20/2024	6:26:50 PM	6:27:00 PM	69.3	70	69.8	69.4	68.3
8/20/2024	6:27:00 PM	6:27:10 PM	69.2	70.2	69.8	69.3	68.7
8/20/2024	6:27:10 PM	6:27:20 PM	68.9	70.3	70	68.8	68.1
8/20/2024	6:27:20 PM	6:27:30 PM	67.5	68.9	68.5	68.1	65.8
8/20/2024	6:27:30 PM	6:27:40 PM	64.8	66.3	66.1	65.5	63.2
8/20/2024	6:27:40 PM	6:27:50 PM	65.1	67.2	65.9	64.9	63.4
8/20/2024	6:27:50 PM	6:28:00 PM	66.2	68.5	67.4	65.6	63.8
8/20/2024	6:28:00 PM	6:28:10 PM	65.4	68	66.4	65.5	64.8
8/20/2024	6:28:10 PM	6:28:20 PM	65	66.6	66.2	65.2	63.7
8/20/2024	6:28:20 PM	6:28:30 PM	66.1	67.4	66.7	65.9	64.6
8/20/2024	6:28:30 PM	6:28:40 PM	66.9	68	67.6	66.9	66.3

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	6:28:40 PM	6:28:50 PM	68.6	69.3	69.1	68.7	66.3
8/20/2024	6:28:50 PM	6:29:00 PM	69.4	70.6	70.3	69.1	68.3
8/20/2024	6:29:00 PM	6:29:10 PM	67.4	69.9	69.5	67.1	66
8/20/2024	6:29:10 PM	6:29:20 PM	67.9	69.7	68.9	67.7	65.9
8/20/2024	6:29:20 PM	6:29:30 PM	70.2	70.9	70.7	70.3	69.1
8/20/2024	6:29:30 PM	6:29:40 PM	70.9	72.4	72.1	70.4	69.5
8/20/2024	6:29:40 PM	6:29:50 PM	70.6	71.6	71.3	70.6	70.3
8/20/2024	6:29:50 PM	6:30:00 PM	69.6	70.7	70.5	69.7	68.6
8/20/2024	6:30:00 PM	6:30:10 PM	70.1	71.8	71.6	69.9	68.6
8/20/2024	6:30:10 PM	6:30:20 PM	70	71.9	71.3	70.1	68.7
8/20/2024	6:30:20 PM	6:30:30 PM	68.3	70.2	69.9	68.1	67.3
8/20/2024	6:30:30 PM	6:30:40 PM	67.2	67.9	67.6	67.2	66.5
8/20/2024	6:30:40 PM	6:30:50 PM	68.9	70.1	70	68.2	67.8
8/20/2024	6:30:50 PM	6:31:00 PM	69.8	70.8	70.7	69.7	68.9
8/20/2024	6:31:00 PM	6:31:10 PM	70.2	70.8	70.5	70.2	69.6
8/20/2024	6:31:10 PM	6:31:20 PM	69.7	70.8	70.7	69.9	69.1
8/20/2024	6:31:20 PM	6:31:30 PM	68.6	69.6	69.1	68.4	68
8/20/2024	6:31:30 PM	6:31:40 PM	68	68.6	68.5	68	67.4
8/20/2024	6:31:40 PM	6:31:50 PM	68.6	70.2	69.4	68.3	67.4
8/20/2024	6:31:50 PM	6:32:00 PM	71.3	71.9	71.7	71.3	70.6
8/20/2024	6:32:00 PM	6:32:10 PM	70.7	71.6	71.1	70.7	70.3
8/20/2024	6:32:10 PM	6:32:20 PM	71.2	71.8	71.6	71	70.3
8/20/2024	6:32:20 PM	6:32:30 PM	68.8	71.9	71	68.8	68
8/20/2024	6:32:30 PM	6:32:40 PM	67.6	68.7	68.3	67.8	66.8
8/20/2024	6:32:40 PM	6:32:50 PM	67.6	68.4	68.2	67.7	67.1
8/20/2024	6:32:50 PM	6:33:00 PM	70	70.9	70.7	70.2	66.6
8/20/2024	6:33:00 PM	6:33:10 PM	70.7	71.7	71.4	70.6	70.1
8/20/2024	6:33:10 PM	6:33:20 PM	71	71.5	71.4	71	69.9
8/20/2024	6:33:20 PM	6:33:30 PM	70.1	71.2	70.7	70.3	69.5
8/20/2024	6:33:30 PM	6:33:40 PM	69	70.1	69.7	69	68.6
8/20/2024	6:33:40 PM	6:33:50 PM	69.2	69.9	69.7	69.2	68.6
8/20/2024	6:33:50 PM	6:34:00 PM	70.9	73.7	72.2	70.4	69.3
8/20/2024	6:34:00 PM	6:34:10 PM	70.6	71.3	71	70.6	69.6
8/20/2024	6:34:10 PM	6:34:20 PM	70.7	71.6	71.3	70.8	70.2
8/20/2024	6:34:20 PM	6:34:30 PM	70.7	71.6	71.5	70.5	69.5
8/20/2024	6:34:30 PM	6:34:40 PM	70.9	72.3	71.9	70.8	69.8
8/20/2024	6:34:40 PM	6:34:50 PM	68.4	70.1	69.7	68.6	67
8/20/2024	6:34:50 PM	6:35:00 PM	63	66.1	65.5	62.5	61.5
8/20/2024	6:35:00 PM	6:35:10 PM	60.1	61.7	60.7	59.6	58.9
8/20/2024	6:35:10 PM	6:35:20 PM	63	64.7	64.5	62.4	61.7
8/20/2024	6:35:20 PM	6:35:30 PM	64.9	68.2	67.4	63.5	62.7
8/20/2024	6:35:30 PM	6:35:40 PM	65.6	67.9	67.4	65.2	63.9
8/20/2024	6:35:40 PM	6:35:50 PM	65.5	67.5	67	65.7	62.9
8/20/2024	6:35:50 PM	6:36:00 PM	66.9	70.4	69.8	66.8	63.8
8/20/2024	6:36:00 PM	6:36:10 PM	68.6	69.6	69.4	68.5	65.2
8/20/2024	6:36:10 PM	6:36:20 PM	70.3	71.6	71.1	70.2	68.3
8/20/2024	6:36:20 PM	6:36:30 PM	71.3	72.7	71.8	71.2	70.9
8/20/2024	6:36:30 PM	6:36:40 PM	70.9	71.5	71.3	71	70.6
8/20/2024	6:36:40 PM	6:36:50 PM	67.7	70.9	70.6	67.7	64
8/20/2024	6:36:50 PM	6:37:00 PM	66.1	68.1	67.3	65.7	64.5
8/20/2024	6:37:00 PM	6:37:10 PM	65.6	67.3	66.6	65.7	64.9
8/20/2024	6:37:10 PM	6:37:20 PM	68.4	70.6	70.3	67.3	65.8
8/20/2024	6:37:20 PM	6:37:30 PM	69.3	70.6	70.3	69.3	66.6
8/20/2024	6:37:30 PM	6:37:40 PM	70.4	71.5	71.3	70.8	68.3
8/20/2024	6:37:40 PM	6:37:50 PM	71.1	72.3	71.9	71	69.5
8/20/2024	6:37:50 PM	6:38:00 PM	71.1	72	71.9	71.3	70.6
8/20/2024	6:38:00 PM	6:38:10 PM	68.6	69.7	69.6	68.8	67.5
8/20/2024	6:38:10 PM	6:38:20 PM	65.9	69	68.5	65.4	64.7
8/20/2024	6:38:20 PM	6:38:30 PM	65.3	66.2	65.7	65.3	64.4
8/20/2024	6:38:30 PM	6:38:40 PM	66.7	68	67.5	66.1	65.2
8/20/2024	6:38:40 PM	6:38:50 PM	67.3	68.8	68.2	67.3	66.6
8/20/2024	6:38:50 PM	6:39:00 PM	67.7	68.8	68.5	67.3	66.9
8/20/2024	6:39:00 PM	6:39:10 PM	66.5	67.7	67.3	66.6	65.7
8/20/2024	6:39:10 PM	6:39:20 PM	67.1	68.3	67.9	66.9	66.4
8/20/2024	6:39:20 PM	6:39:30 PM	66.9	69.5	67.9	66.1	65.6
8/20/2024	6:39:30 PM	6:39:40 PM	69.8	72.1	71.3	69.4	68.2
8/20/2024	6:39:40 PM	6:39:50 PM	68.1	69.8	69.6	68.4	67.1
8/20/2024	6:39:50 PM	6:40:00 PM	66.8	67.5	67.3	66.8	66.3
8/20/2024	6:40:00 PM	6:40:10 PM	68.2	69.6	69	67.6	67.1
8/20/2024	6:40:10 PM	6:40:20 PM	66.5	68.3	67.9	67.1	65.5
8/20/2024	6:40:20 PM	6:40:30 PM	64.3	66.2	65.7	64.4	60.9
8/20/2024	6:40:30 PM	6:40:40 PM	69.2	70.3	70	69.1	67.4
8/20/2024	6:40:40 PM	6:40:50 PM	69.1	70.2	69.9	69	67.8
8/20/2024	6:40:50 PM	6:41:00 PM	68.3	70.7	70.5	67.3	65.9
8/20/2024	6:41:00 PM	6:41:10 PM	71.8	74.2	73.4	70.8	70.1
8/20/2024	6:41:10 PM	6:41:20 PM	69	71.8	70.3	69.4	67.5
8/20/2024	6:41:20 PM	6:41:30 PM	70.8	71.9	71.7	70.2	69.3
8/20/2024	6:41:30 PM	6:41:40 PM	70.5	71.7	71.5	70.6	69.8

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	6:41:40 PM	6:41:50 PM	71.4	72.5	72.1	71.1	69.7
8/20/2024	6:41:50 PM	6:42:00 PM	70.1	72.6	72.2	70.2	68.3
8/20/2024	6:42:00 PM	6:42:10 PM	69.7	70.9	70.7	69.8	67.9
8/20/2024	6:42:10 PM	6:42:20 PM	69.5	70.7	70.3	69.4	68.4
8/20/2024	6:42:20 PM	6:42:30 PM	68	70.7	70.3	67.3	65.7
8/20/2024	6:42:30 PM	6:42:40 PM	67.4	69.4	68.3	66.5	65.9
8/20/2024	6:42:40 PM	6:42:50 PM	67.7	70.7	69.7	67.8	64.9
8/20/2024	6:42:50 PM	6:43:00 PM	69.6	70.5	70.1	69.7	67.7
8/20/2024	6:43:00 PM	6:43:10 PM	69.2	70.6	70.2	69.2	67.8
8/20/2024	6:43:10 PM	6:43:20 PM	69.2	70.6	70.2	69.4	67.9
8/20/2024	6:43:20 PM	6:43:30 PM	67.6	68.7	68.5	67.7	66.8
8/20/2024	6:43:30 PM	6:43:40 PM	68.2	69.8	69.7	68.2	67.2
8/20/2024	6:43:40 PM	6:43:50 PM	68.7	70.5	70.1	68.5	66.5
8/20/2024	6:43:50 PM	6:44:00 PM	68.1	69.4	69.2	68.1	67.5
8/20/2024	6:44:00 PM	6:44:10 PM	65.1	68.2	68	65.4	62.5
8/20/2024	6:44:10 PM	6:44:20 PM	62.8	65.1	64.6	62.4	61.2
8/20/2024	6:44:20 PM	6:44:30 PM	64.4	66.6	66.3	63.6	62.7
8/20/2024	6:44:30 PM	6:44:40 PM	64.4	65.6	65.4	64.4	62.2
8/20/2024	6:44:40 PM	6:44:50 PM	65.1	67.3	66.9	64.7	61.8
8/20/2024	6:44:50 PM	6:45:00 PM	66.1	67.8	67.7	65.5	64.4
8/20/2024	6:45:00 PM	6:45:10 PM	66	67.7	67.4	65.8	63.7
8/20/2024	6:45:10 PM	6:45:20 PM	67.3	69.1	68.8	67.2	64.8
8/20/2024	6:45:20 PM	6:45:30 PM	69.2	70	69.8	69.1	68.4
8/20/2024	6:45:30 PM	6:45:40 PM	69.8	70.8	70.4	69.6	68.5
8/20/2024	6:45:40 PM	6:45:50 PM	70.3	71.2	71	70.3	69.8
8/20/2024	6:45:50 PM	6:46:00 PM	69.3	72	71.3	69.6	66.7
8/20/2024	6:46:00 PM	6:46:10 PM	67.6	69.5	68.9	67.2	66.3
8/20/2024	6:46:10 PM	6:46:20 PM	67.4	69.1	68.8	67.4	66.5
8/20/2024	6:46:20 PM	6:46:30 PM	68.4	69.8	69.5	68.5	66.3
8/20/2024	6:46:30 PM	6:46:40 PM	68.5	70.7	70.1	68.4	64.5
8/20/2024	6:46:40 PM	6:46:50 PM	69.5	70.5	70.3	69.7	68.7
8/20/2024	6:46:50 PM	6:47:00 PM	70.3	71.9	71.2	69.9	69.1
8/20/2024	6:47:00 PM	6:47:10 PM	70.2	71.7	71.3	70.6	68.5
8/20/2024	6:47:10 PM	6:47:20 PM	67.7	70.3	69.8	68.3	62.1
8/20/2024	6:47:20 PM	6:47:30 PM	65.4	67.2	66.4	64.8	62.9
8/20/2024	6:47:30 PM	6:47:40 PM	67.1	68	67.6	67.1	66.5
8/20/2024	6:47:40 PM	6:47:50 PM	67.5	69.7	68.6	67.1	66.8
8/20/2024	6:47:50 PM	6:48:00 PM	68.1	69.8	69.5	67.6	66.4
8/20/2024	6:48:00 PM	6:48:10 PM	69.3	70.5	70.3	68.9	68.2
8/20/2024	6:48:10 PM	6:48:20 PM	68.5	70.3	69.9	68.5	67.3
8/20/2024	6:48:20 PM	6:48:30 PM	67.6	68.9	68.6	67.6	66.4
8/20/2024	6:48:30 PM	6:48:40 PM	68.3	69.3	69	68.6	66.5
8/20/2024	6:48:40 PM	6:48:50 PM	68.2	69.2	69	68.2	67.5
8/20/2024	6:48:50 PM	6:49:00 PM	68.4	69.9	69.7	68.3	67.3
8/20/2024	6:49:00 PM	6:49:10 PM	67.5	68.5	68.2	67.4	66.8
8/20/2024	6:49:10 PM	6:49:20 PM	68.9	70.1	69.7	68.8	67.7
8/20/2024	6:49:20 PM	6:49:30 PM	68.8	69.3	69.1	68.8	68.2
8/20/2024	6:49:30 PM	6:49:40 PM	67.3	69.6	69.2	67	66.1
8/20/2024	6:49:40 PM	6:49:50 PM	67.1	68.1	67.3	66.9	66.3
8/20/2024	6:49:50 PM	6:50:00 PM	69.4	70.6	70.2	69.1	67.9
8/20/2024	6:50:00 PM	6:50:10 PM	68.5	70.3	69.6	68.8	67.3
8/20/2024	6:50:10 PM	6:50:20 PM	67.4	68.5	68.2	67.5	65.9
8/20/2024	6:50:20 PM	6:50:30 PM	69.3	72	70	68.2	67.7
8/20/2024	6:50:30 PM	6:50:40 PM	68.6	72.3	70.9	68.4	67.6
8/20/2024	6:50:40 PM	6:50:50 PM	69	70.4	69.9	68.5	67.9
8/20/2024	6:50:50 PM	6:51:00 PM	70.6	72.1	71.5	70.4	69.5
8/20/2024	6:51:00 PM	6:51:10 PM	72.4	74.8	73.9	72.5	70.7
8/20/2024	6:51:10 PM	6:51:20 PM	72.1	73.3	72.8	72.1	70.7
8/20/2024	6:51:20 PM	6:51:30 PM	69.9	72.4	71	70	69.1
8/20/2024	6:51:30 PM	6:51:40 PM	71.3	72.5	72.2	71.2	69.1
8/20/2024	6:51:40 PM	6:51:50 PM	73	74.6	74.5	73.2	71.1
8/20/2024	6:51:50 PM	6:52:00 PM	65.5	69.4	68.9	65.7	62.4
8/20/2024	6:52:00 PM	6:52:10 PM	62.7	65.4	65	61	60.3
8/20/2024	6:52:10 PM	6:52:20 PM	66.5	68.2	67.4	66.3	65.2
8/20/2024	6:52:20 PM	6:52:30 PM	71.1	75.8	73.8	70	67.2
8/20/2024	6:52:30 PM	6:52:40 PM	69.5	71.8	71.5	69.1	68.2
8/20/2024	6:52:40 PM	6:52:50 PM	71.1	73.1	72.7	70.5	69.1
8/20/2024	6:52:50 PM	6:53:00 PM	72	74.9	74.1	71.3	66.7
8/20/2024	6:53:00 PM	6:53:10 PM	71.1	72.7	72.4	71.2	69.6
8/20/2024	6:53:10 PM	6:53:20 PM	71.8	74.5	74	71.9	67.6
8/20/2024	6:53:20 PM	6:53:30 PM	69.7	71.7	71.5	69.9	67
8/20/2024	6:53:30 PM	6:53:40 PM	70.9	73	72.7	70.5	66.8
8/20/2024	6:53:40 PM	6:53:50 PM	73	73.9	73.6	73	72.1
8/20/2024	6:53:50 PM	6:54:00 PM	73.1	74.2	73.9	73.1	72.6
8/20/2024	6:54:00 PM	6:54:10 PM	69.5	71.8	71	69.3	67.6
8/20/2024	6:54:10 PM	6:54:20 PM	71.9	74.3	73.7	72.1	69.4
8/20/2024	6:54:20 PM	6:54:30 PM	71.2	73.6	72.7	70.7	67
8/20/2024	6:54:30 PM	6:54:40 PM	70.6	73.4	72.3	70.9	70

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	6:54:40 PM	6:54:50 PM	70.3	72.3	71.9	69.6	66.9
8/20/2024	6:54:50 PM	6:55:00 PM	70.3	72.4	71.9	70.7	67.5
8/20/2024	6:55:00 PM	6:55:10 PM	71.3	73.2	72.9	72.4	66.5
8/20/2024	6:55:10 PM	6:55:20 PM	71.9	73.4	72.8	71.4	70.3
8/20/2024	6:55:20 PM	6:55:30 PM	72.1	73.5	73	71.8	70.5
8/20/2024	6:55:30 PM	6:55:40 PM	68.2	72.9	71.6	68.6	64.6
8/20/2024	6:55:40 PM	6:55:50 PM	65.7	68.9	68	64.2	62.6
8/20/2024	6:55:50 PM	6:56:00 PM	70.8	71.3	71	70.7	70
8/20/2024	6:56:00 PM	6:56:10 PM	72	75.6	73.9	70.4	69.9
8/20/2024	6:56:10 PM	6:56:20 PM	74.3	76.4	75.7	74.2	72.1
8/20/2024	6:56:20 PM	6:56:30 PM	73.3	75.8	75.2	73.2	71.6
8/20/2024	6:56:30 PM	6:56:40 PM	72.6	77.7	76.1	72.1	69.4
8/20/2024	6:56:40 PM	6:56:50 PM	70.8	71.7	71.5	70.7	69.2
8/20/2024	6:56:50 PM	6:57:00 PM	70.7	71.8	71.5	70.8	69.5
8/20/2024	6:57:00 PM	6:57:10 PM	70.7	71.7	71.5	70.4	69.9
8/20/2024	6:57:10 PM	6:57:20 PM	71.4	72.2	72.1	71.6	69.8
8/20/2024	6:57:20 PM	6:57:30 PM	71.9	72.5	72.3	72	71.5
8/20/2024	6:57:30 PM	6:57:40 PM	71.3	72.3	72.1	71.5	70.6
8/20/2024	6:57:40 PM	6:57:50 PM	70	72	71.7	69.9	68.4
8/20/2024	6:57:50 PM	6:58:00 PM	71.3	73	72.6	71.1	68.6
8/20/2024	6:58:00 PM	6:58:10 PM	71.8	73.3	73	71.6	70
8/20/2024	6:58:10 PM	6:58:20 PM	72	74.4	72.2	71.6	70.9
8/20/2024	6:58:20 PM	6:58:30 PM	71.3	73.8	73	72.2	69.4
8/20/2024	6:58:30 PM	6:58:40 PM	68.8	71.3	70	68.5	66.6
8/20/2024	6:58:40 PM	6:58:50 PM	71.9	73.3	73.1	71.2	70
8/20/2024	6:58:50 PM	6:59:00 PM	72.6	74.3	73.2	72.6	71.7
8/20/2024	6:59:00 PM	6:59:10 PM	72.7	73.6	73.5	72.7	72
8/20/2024	6:59:10 PM	6:59:20 PM	72.9	74.8	74	72.9	71.9
8/20/2024	6:59:20 PM	6:59:30 PM	72	72.7	72.5	72.1	71.4
8/20/2024	6:59:30 PM	6:59:40 PM	72.1	73.5	73.1	72	71.6
8/20/2024	6:59:40 PM	6:59:50 PM	70.8	73	72.6	71.2	68.2
8/20/2024	6:59:50 PM	7:00:00 PM	64.6	66.8	65.9	64.7	64
8/20/2024	7:00:00 PM	7:00:10 PM	81.5	88.6	82.3	72.9	67.6
8/20/2024	7:00:10 PM	7:00:20 PM	83.3	91.4	89.1	81.6	79.9
8/20/2024	7:00:20 PM	7:00:30 PM	79.7	83	81.8	79.7	76.3
8/20/2024	7:00:30 PM	7:00:40 PM	91.1	93.1	92.3	90.8	85.3
8/20/2024	7:00:40 PM	7:00:50 PM	91.2	92.3	92	91.1	90.4
8/20/2024	7:00:50 PM	7:01:00 PM	92.4	93.9	93.2	91.9	91.1
8/20/2024	7:01:00 PM	7:01:10 PM	93.2	94.4	94.1	93.2	92.8
8/20/2024	7:01:10 PM	7:01:20 PM	94	95.4	95.2	93.6	92.8
8/20/2024	7:01:20 PM	7:01:30 PM	93.9	95.4	94.9	93.5	92.6
8/20/2024	7:01:30 PM	7:01:40 PM	93.6	95.6	94.9	93.4	92.4
8/20/2024	7:01:40 PM	7:01:50 PM	93.3	95.5	95.1	93.2	92
8/20/2024	7:01:50 PM	7:02:00 PM	93.2	95.2	94.7	92.7	91.5
8/20/2024	7:02:00 PM	7:02:10 PM	95	97.8	96.8	94.6	92.7
8/20/2024	7:02:10 PM	7:02:20 PM	93.6	95.8	94.6	93.3	92.4
8/20/2024	7:02:20 PM	7:02:30 PM	95.6	97.3	96.8	95.3	94.2
8/20/2024	7:02:30 PM	7:02:40 PM	95.2	97	96.7	95.3	92.9
8/20/2024	7:02:40 PM	7:02:50 PM	93.7	95.7	95.4	93.7	92.8
8/20/2024	7:02:50 PM	7:03:00 PM	92.6	94.8	94.4	92.3	91.7
8/20/2024	7:03:00 PM	7:03:10 PM	92.7	94.7	93.9	92.2	90.7
8/20/2024	7:03:10 PM	7:03:20 PM	93.1	95.7	95.4	93.3	89.9
8/20/2024	7:03:20 PM	7:03:30 PM	94.1	96.3	94.4	93.4	93
8/20/2024	7:03:30 PM	7:03:40 PM	95.1	96.5	96.4	95.1	93.6
8/20/2024	7:03:40 PM	7:03:50 PM	94.6	96.5	96	94.2	92.6
8/20/2024	7:03:50 PM	7:04:00 PM	94.6	97.1	96.2	94.3	93.3
8/20/2024	7:04:00 PM	7:04:10 PM	95.1	97.4	96.6	95.2	93.6
8/20/2024	7:04:10 PM	7:04:20 PM	94.9	97.1	96.1	94.7	92.7
8/20/2024	7:04:20 PM	7:04:30 PM	94.7	96.5	95.9	94.2	93.7
8/20/2024	7:04:30 PM	7:04:40 PM	94.1	95.8	94.9	93.9	92.8
8/20/2024	7:04:40 PM	7:04:50 PM	94.6	97.2	96.5	94.3	93.1
8/20/2024	7:04:50 PM	7:05:00 PM	94.9	97.3	96.8	94.5	93.2
8/20/2024	7:05:00 PM	7:05:10 PM	93.4	94.5	94.3	93.6	92.4
8/20/2024	7:05:10 PM	7:05:20 PM	94.3	95.3	95.1	94.1	93.4
8/20/2024	7:05:20 PM	7:05:30 PM	92.7	94.1	93.9	93.2	91.1
8/20/2024	7:05:30 PM	7:05:40 PM	90.6	93	92.2	89.7	88.8
8/20/2024	7:05:40 PM	7:05:50 PM	93.9	95.1	94.5	93.7	92.9
8/20/2024	7:05:50 PM	7:06:00 PM	91.4	94.7	93.8	91.6	90.2
8/20/2024	7:06:00 PM	7:06:10 PM	92.8	94.8	93.7	93.1	89.7
8/20/2024	7:06:10 PM	7:06:20 PM	97.2	100.5	98.8	96.2	94.7
8/20/2024	7:06:20 PM	7:06:30 PM	97.8	99.9	99.6	97.8	96.6
8/20/2024	7:06:30 PM	7:06:40 PM	94.8	98	97.4	95	91.9
8/20/2024	7:06:40 PM	7:06:50 PM	94.1	96	95	93.7	92.8
8/20/2024	7:06:50 PM	7:07:00 PM	95.8	97.9	96.8	95.5	95.1
8/20/2024	7:07:00 PM	7:07:10 PM	96.8	98.9	97.7	96.2	94.5
8/20/2024	7:07:10 PM	7:07:20 PM	96	98.6	98	96.4	94.4
8/20/2024	7:07:20 PM	7:07:30 PM	94.5	97.4	96.7	94.6	91.2
8/20/2024	7:07:30 PM	7:07:40 PM	96	98.9	98.2	96.2	88.9

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	7:07:40 PM	7:07:50 PM	94.7	97.4	96.6	94.4	91.2
8/20/2024	7:07:50 PM	7:08:00 PM	96.2	97.1	96.8	96.2	95.6
8/20/2024	7:08:00 PM	7:08:10 PM	97.2	99	98.5	96.5	95.6
8/20/2024	7:08:10 PM	7:08:20 PM	96.4	98.3	97.9	96.8	95.3
8/20/2024	7:08:20 PM	7:08:30 PM	95.2	95.9	95.5	95	94.8
8/20/2024	7:08:30 PM	7:08:40 PM	92.4	96	95.5	93.3	86.6
8/20/2024	7:08:40 PM	7:08:50 PM	90.8	94.7	93.9	86.8	83.7
8/20/2024	7:08:50 PM	7:09:00 PM	96.8	97.7	97.4	96.8	95.5
8/20/2024	7:09:00 PM	7:09:10 PM	97.1	97.6	97.4	97	96.6
8/20/2024	7:09:10 PM	7:09:20 PM	95.8	97	96.8	96.1	94.7
8/20/2024	7:09:20 PM	7:09:30 PM	93.1	96.5	95.2	93.3	90.8
8/20/2024	7:09:30 PM	7:09:40 PM	92	94	93.1	92	90.5
8/20/2024	7:09:40 PM	7:09:50 PM	93.7	96.2	95.4	93.1	92.3
8/20/2024	7:09:50 PM	7:10:00 PM	97.8	99	98.7	97.5	95.2
8/20/2024	7:10:00 PM	7:10:10 PM	96.8	99.3	98.3	96.6	96
8/20/2024	7:10:10 PM	7:10:20 PM	95.2	98	97.3	95.6	92.1
8/20/2024	7:10:20 PM	7:10:30 PM	93.4	95.8	95.1	93.2	90.7
8/20/2024	7:10:30 PM	7:10:40 PM	95.9	98.1	97.5	96.1	92.1
8/20/2024	7:10:40 PM	7:10:50 PM	97.2	98.9	98	97.2	96.4
8/20/2024	7:10:50 PM	7:11:00 PM	97.9	98.8	98.4	97.8	96.9
8/20/2024	7:11:00 PM	7:11:10 PM	97	98.3	97.5	97.1	96.1
8/20/2024	7:11:10 PM	7:11:20 PM	95.5	98.2	96.9	96	92.7
8/20/2024	7:11:20 PM	7:11:30 PM	95.2	97.2	96.8	94.9	90.7
8/20/2024	7:11:30 PM	7:11:40 PM	97.3	98.5	98.1	97.4	96.4
8/20/2024	7:11:40 PM	7:11:50 PM	97.9	99.8	98.7	97.8	96.6
8/20/2024	7:11:50 PM	7:12:00 PM	97.6	99	98.2	97.7	96.3
8/20/2024	7:12:00 PM	7:12:10 PM	95.5	98	97.7	95.9	93.4
8/20/2024	7:12:10 PM	7:12:20 PM	86.8	91.6	90.8	86	77.7
8/20/2024	7:12:20 PM	7:12:30 PM	85.3	88.4	88.1	85.8	82.5
8/20/2024	7:12:30 PM	7:12:40 PM	84.3	87.8	87	83.5	81.4
8/20/2024	7:12:40 PM	7:12:50 PM	81	85.6	84.2	80.9	77.5
8/20/2024	7:12:50 PM	7:13:00 PM	81	84.5	83.7	80.5	77.1
8/20/2024	7:13:00 PM	7:13:10 PM	92.2	95.4	94.8	91.5	85.6
8/20/2024	7:13:10 PM	7:13:20 PM	85.1	90.3	86.5	82.7	79.8
8/20/2024	7:13:20 PM	7:13:30 PM	90	93.7	92.1	88.3	83.3
8/20/2024	7:13:30 PM	7:13:40 PM	89.7	94.2	91.8	89.7	88.7
8/20/2024	7:13:40 PM	7:13:50 PM	89.9	92.9	91.2	89.8	88.5
8/20/2024	7:13:50 PM	7:14:00 PM	90.8	94.7	93	90.4	88.3
8/20/2024	7:14:00 PM	7:14:10 PM	93.4	96.1	94.8	92.3	91.1
8/20/2024	7:14:10 PM	7:14:20 PM	95.6	97.6	96.6	95.4	93.2
8/20/2024	7:14:20 PM	7:14:30 PM	93.7	97	95.6	93.9	92.4
8/20/2024	7:14:30 PM	7:14:40 PM	94	97.2	95.6	93.9	92.4
8/20/2024	7:14:40 PM	7:14:50 PM	92.9	94.1	93.8	92.8	91.6
8/20/2024	7:14:50 PM	7:15:00 PM	92.2	94.6	93.9	92.2	90.8
8/20/2024	7:15:00 PM	7:15:10 PM	92.5	93.5	93.3	92.3	91.2
8/20/2024	7:15:10 PM	7:15:20 PM	94.6	97.3	95.9	94.1	93
8/20/2024	7:15:20 PM	7:15:30 PM	94.9	97.1	96.4	94.6	93
8/20/2024	7:15:30 PM	7:15:40 PM	96.2	98.2	97.5	96.3	94
8/20/2024	7:15:40 PM	7:15:50 PM	96.3	97.2	97	95.9	94.7
8/20/2024	7:15:50 PM	7:16:00 PM	96	97.5	97.1	96	95.5
8/20/2024	7:16:00 PM	7:16:10 PM	96.2	96.8	96.7	96.3	95.5
8/20/2024	7:16:10 PM	7:16:20 PM	94.2	97	96.7	94.5	91.1
8/20/2024	7:16:20 PM	7:16:30 PM	92.4	95.1	94.4	91.9	88.5
8/20/2024	7:16:30 PM	7:16:40 PM	94.8	97.8	96.9	94.2	91.5
8/20/2024	7:16:40 PM	7:16:50 PM	97.3	99.4	98.7	97	95.3
8/20/2024	7:16:50 PM	7:17:00 PM	96.9	98.1	97.4	97.2	96.2
8/20/2024	7:17:00 PM	7:17:10 PM	96.5	98.1	97.6	96.4	95
8/20/2024	7:17:10 PM	7:17:20 PM	96	97.2	97	95.9	95.2
8/20/2024	7:17:20 PM	7:17:30 PM	96.1	97.7	97.2	95.8	94.4
8/20/2024	7:17:30 PM	7:17:40 PM	94.7	98.5	98.1	95.1	89.8
8/20/2024	7:17:40 PM	7:17:50 PM	92.1	95.1	94.7	91.7	87.8
8/20/2024	7:17:50 PM	7:18:00 PM	84.3	91.4	88.1	78.2	73.2
8/20/2024	7:18:00 PM	7:18:10 PM	87.3	91.2	90	88.4	82.4
8/20/2024	7:18:10 PM	7:18:20 PM	86.9	91.1	89.7	86.7	77.7
8/20/2024	7:18:20 PM	7:18:30 PM	86.9	90.1	89.4	86.3	83.2
8/20/2024	7:18:30 PM	7:18:40 PM	85.7	90.1	88.3	84.5	81
8/20/2024	7:18:40 PM	7:18:50 PM	86.6	90.8	90.6	84	80.7
8/20/2024	7:18:50 PM	7:19:00 PM	93.8	96.9	95.5	92.3	91.2
8/20/2024	7:19:00 PM	7:19:10 PM	92.2	95.4	94.5	92.6	90.8
8/20/2024	7:19:10 PM	7:19:20 PM	93.1	96	94.9	92.7	90.4
8/20/2024	7:19:20 PM	7:19:30 PM	95.1	96.6	96.1	94.3	93.6
8/20/2024	7:19:30 PM	7:19:40 PM	96.5	97.9	97.5	96.2	95.4
8/20/2024	7:19:40 PM	7:19:50 PM	97.3	99.4	98.4	97.4	96.1
8/20/2024	7:19:50 PM	7:20:00 PM	96.2	97.7	97.4	96.4	94.5
8/20/2024	7:20:00 PM	7:20:10 PM	95.9	99.5	98.5	94.8	92.8
8/20/2024	7:20:10 PM	7:20:20 PM	97.1	100.3	99.5	96.2	95
8/20/2024	7:20:20 PM	7:20:30 PM	97	100.2	97.6	96.1	94.8
8/20/2024	7:20:30 PM	7:20:40 PM	97.3	100.3	99.2	97.1	96.1

Monitored Bluestem Data, August 20, 2024

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	7:20:40 PM	7:20:50 PM	96.1	98.4	97.2	96.3	95.1
8/20/2024	7:20:50 PM	7:21:00 PM	95.9	98.1	97	95.7	95.2
8/20/2024	7:21:00 PM	7:21:10 PM	95.3	95.9	95.7	95.3	94.3
8/20/2024	7:21:10 PM	7:21:20 PM	97.3	97.8	97.5	97.2	96.4
8/20/2024	7:21:20 PM	7:21:30 PM	98	99.1	98.8	97.8	97
8/20/2024	7:21:30 PM	7:21:40 PM	97	98.3	97.7	97.1	96.6
8/20/2024	7:21:40 PM	7:21:50 PM	96.3	97.4	96.9	96.2	95.6
8/20/2024	7:21:50 PM	7:22:00 PM	96.6	98	97.6	96.6	95.3
8/20/2024	7:22:00 PM	7:22:10 PM	94.4	97	96.2	94.5	93.7
8/20/2024	7:22:10 PM	7:22:20 PM	93.7	94.7	94.6	94	92.5
8/20/2024	7:22:20 PM	7:22:30 PM	92.6	94	93.8	92.8	90.7
8/20/2024	7:22:30 PM	7:22:40 PM	81.1	90.4	88.3	80.7	74.1
8/20/2024	7:22:40 PM	7:22:50 PM	80.9	83.9	83.6	79.8	74.2
8/20/2024	7:22:50 PM	7:23:00 PM	82.7	84.3	83.8	82.6	81
8/20/2024	7:23:00 PM	7:23:10 PM	88.1	92.7	92.3	83.1	81.2
8/20/2024	7:23:10 PM	7:23:20 PM	92	94.8	93.6	91.7	90.8
8/20/2024	7:23:20 PM	7:23:30 PM	88.7	93	92.6	87.9	84.1
8/20/2024	7:23:30 PM	7:23:40 PM	94.5	97.9	96.1	94.4	91.4
8/20/2024	7:23:40 PM	7:23:50 PM	93.8	97.3	95.8	93.1	86.1
8/20/2024	7:23:50 PM	7:24:00 PM	96.2	101	100.1	95	86.9
8/20/2024	7:24:00 PM	7:24:10 PM	87.9	88.8	88.4	87.7	85.8
8/20/2024	7:24:10 PM	7:24:20 PM	89	90.8	90.1	88.9	87.5
8/20/2024	7:24:20 PM	7:24:30 PM	90.8	92.9	92.5	90.3	89.4
8/20/2024	7:24:30 PM	7:24:40 PM	91.2	93.9	93.6	90.6	88.5
8/20/2024	7:24:40 PM	7:24:50 PM	93	95.3	94.3	92.4	91.6
8/20/2024	7:24:50 PM	7:25:00 PM	92.6	94.7	94.2	92.4	90.7
8/20/2024	7:25:00 PM	7:25:10 PM	92	93.1	92.9	92.1	90.3
8/20/2024	7:25:10 PM	7:25:20 PM	92.7	93.9	93.4	92.8	91.4
8/20/2024	7:25:20 PM	7:25:30 PM	94.3	95.1	94.7	94.2	93.6
8/20/2024	7:25:30 PM	7:25:40 PM	93.9	94.8	94.5	93.8	92.9
8/20/2024	7:25:40 PM	7:25:50 PM	93.2	96.6	94.8	93	91.8
8/20/2024	7:25:50 PM	7:26:00 PM	94.1	95.7	95.3	94	92.5
8/20/2024	7:26:00 PM	7:26:10 PM	94.2	96.1	95.4	94.2	92.6
8/20/2024	7:26:10 PM	7:26:20 PM	92.3	93.9	93.2	92.5	91.3
8/20/2024	7:26:20 PM	7:26:30 PM	92.8	94.3	94.1	92.3	91.2
8/20/2024	7:26:30 PM	7:26:40 PM	94.7	96.8	96.1	94.5	93.1
8/20/2024	7:26:40 PM	7:26:50 PM	93	94.7	94	93.2	92.6
8/20/2024	7:26:50 PM	7:27:00 PM	89.6	93.2	92.5	89.4	85.7
8/20/2024	7:27:00 PM	7:27:10 PM	89.3	91.4	90.7	88.1	86.9
8/20/2024	7:27:10 PM	7:27:20 PM	94.4	96.3	95.9	94.2	91.2
8/20/2024	7:27:20 PM	7:27:30 PM	95.8	96.9	96.4	95.7	94.4
8/20/2024	7:27:30 PM	7:27:40 PM	95.8	96.6	96.5	95.7	95.2
8/20/2024	7:27:40 PM	7:27:50 PM	95.2	96	95.7	95.1	94.6
8/20/2024	7:27:50 PM	7:28:00 PM	96.6	97.8	97.5	96.4	94.8
8/20/2024	7:28:00 PM	7:28:10 PM	98.2	100.5	99.3	97.9	95.7
8/20/2024	7:28:10 PM	7:28:20 PM	98.2	100.2	99.7	98.4	97.1
8/20/2024	7:28:20 PM	7:28:30 PM	98.3	101.2	100.1	98.2	96.4
8/20/2024	7:28:30 PM	7:28:40 PM	96.3	97.4	97.1	96	95.4
8/20/2024	7:28:40 PM	7:28:50 PM	96.8	97.3	97.1	96.9	96.6
8/20/2024	7:28:50 PM	7:29:00 PM	92.9	96.1	95.4	93.3	90.5
8/20/2024	7:29:00 PM	7:29:10 PM	93.6	94.7	94.4	93.6	92.5
8/20/2024	7:29:10 PM	7:29:20 PM	93.8	94.2	94	93.7	93.3
8/20/2024	7:29:20 PM	7:29:30 PM	93.5	94.8	94.2	93.6	92.8
8/20/2024	7:29:30 PM	7:29:40 PM	86.6	93	91.9	84.5	81
8/20/2024	7:29:40 PM	7:29:50 PM	85.7	90.2	88.3	84	75.9
8/20/2024	7:29:50 PM	7:30:00 PM	83.7	89.7	87.2	83.9	77.2
8/20/2024	7:30:00 PM	7:30:10 PM	79.6	84.5	82.9	79.8	74.7
8/20/2024	7:30:10 PM	7:30:20 PM	87	91.3	89.4	85.7	81.7
8/20/2024	7:30:20 PM	7:30:30 PM	86.7	89.7	89.5	87.4	81.9
8/20/2024	7:30:30 PM	7:30:40 PM	81.1	86.4	85.2	78.2	76
8/20/2024	7:30:40 PM	7:30:50 PM	83.5	87.4	86.7	80.9	78.1
8/20/2024	7:30:50 PM	7:31:00 PM	85.1	88.3	87.4	85	81.5
8/20/2024	7:31:00 PM	7:31:10 PM	87.6	91.7	91.5	86.2	81.9
8/20/2024	7:31:10 PM	7:31:20 PM	87.8	90.4	90.2	87.5	83.3
8/20/2024	7:31:20 PM	7:31:30 PM	88.3	90.8	89.1	88.2	82.8
8/20/2024	7:31:30 PM	7:31:40 PM	89.6	93.4	92.4	88.8	86.6
8/20/2024	7:31:40 PM	7:31:50 PM	94.7	97.4	97.1	94.3	90.2
8/20/2024	7:31:50 PM	7:32:00 PM	92.2	95.9	95	89.5	83.5
8/20/2024	7:32:00 PM	7:32:10 PM	95.4	97.7	96.6	95.4	94.1
8/20/2024	7:32:10 PM	7:32:20 PM	95.9	98.1	97.7	95.8	92.4
8/20/2024	7:32:20 PM	7:32:30 PM	96.2	98.2	97.5	96.2	94.6
8/20/2024	7:32:30 PM	7:32:40 PM	96.4	97.9	97.5	95.8	94.9
8/20/2024	7:32:40 PM	7:32:50 PM	96.7	99	98.3	96.9	94.9
8/20/2024	7:32:50 PM	7:33:00 PM	97.2	99.1	98.5	97.3	94.8
8/20/2024	7:33:00 PM	7:33:10 PM	96.1	98.1	97.6	96.2	95
8/20/2024	7:33:10 PM	7:33:20 PM	95.2	96.9	96.6	94.8	94.2
8/20/2024	7:33:20 PM	7:33:30 PM	96	97.7	97.3	95.6	94.3
8/20/2024	7:33:30 PM	7:33:40 PM	94	96.2	95.1	94.4	93.4

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	7:33:40 PM	7:33:50 PM	95.8	97.2	97	95.2	93.6
8/20/2024	7:33:50 PM	7:34:00 PM	96.7	98.7	97.7	97	95.3
8/20/2024	7:34:00 PM	7:34:10 PM	97.4	99.4	98.1	97.4	95.8
8/20/2024	7:34:10 PM	7:34:20 PM	96	98.2	97.4	96	95.1
8/20/2024	7:34:20 PM	7:34:30 PM	96.9	97.7	97.6	96.8	95.7
8/20/2024	7:34:30 PM	7:34:40 PM	96.4	98.1	97.8	96.3	94.9
8/20/2024	7:34:40 PM	7:34:50 PM	94.5	97.1	96.8	94.9	91.1
8/20/2024	7:34:50 PM	7:35:00 PM	94.9	96.8	96.2	94.7	89.8
8/20/2024	7:35:00 PM	7:35:10 PM	96.2	99	98.4	95.6	94.1
8/20/2024	7:35:10 PM	7:35:20 PM	96.4	97.6	97.3	96.3	95.2
8/20/2024	7:35:20 PM	7:35:30 PM	96.1	98.6	97.4	96.4	94.6
8/20/2024	7:35:30 PM	7:35:40 PM	96.8	98.5	98.2	96.5	95.2
8/20/2024	7:35:40 PM	7:35:50 PM	95.1	96.2	95.7	95	94.6
8/20/2024	7:35:50 PM	7:36:00 PM	93.3	95.2	94.8	93.5	92.5
8/20/2024	7:36:00 PM	7:36:10 PM	90.9	93.8	92.8	90.7	89.3
8/20/2024	7:36:10 PM	7:36:20 PM	90.8	93	92.4	90.1	89.4
8/20/2024	7:36:20 PM	7:36:30 PM	93.9	95.5	95.2	92.9	91.6
8/20/2024	7:36:30 PM	7:36:40 PM	95.3	97	96.6	94.7	93.8
8/20/2024	7:36:40 PM	7:36:50 PM	94.4	96.4	96	94.7	93.1
8/20/2024	7:36:50 PM	7:37:00 PM	95.2	96.7	96.3	95	92.5
8/20/2024	7:37:00 PM	7:37:10 PM	95.8	96.8	96.5	95.8	95.3
8/20/2024	7:37:10 PM	7:37:20 PM	94.4	96.2	95.7	94	93
8/20/2024	7:37:20 PM	7:37:30 PM	95	96.6	96.1	94.7	94
8/20/2024	7:37:30 PM	7:37:40 PM	95.4	97.5	96.7	95.4	93.8
8/20/2024	7:37:40 PM	7:37:50 PM	96.8	98	97.9	97	94.9
8/20/2024	7:37:50 PM	7:38:00 PM	96.9	99.1	98.6	96.7	95.1
8/20/2024	7:38:00 PM	7:38:10 PM	94.3	97.3	96.3	94.3	93.2
8/20/2024	7:38:10 PM	7:38:20 PM	94.2	97.2	96.2	94.5	90.4
8/20/2024	7:38:20 PM	7:38:30 PM	95.9	98.6	96.9	95.1	94
8/20/2024	7:38:30 PM	7:38:40 PM	95.6	98	97.5	95.5	94.4
8/20/2024	7:38:40 PM	7:38:50 PM	97.1	100.1	99.5	96.9	94.8
8/20/2024	7:38:50 PM	7:39:00 PM	90.9	95.5	93.6	91.6	88
8/20/2024	7:39:00 PM	7:39:10 PM	89.1	92	91.3	88.7	82.3
8/20/2024	7:39:10 PM	7:39:20 PM	89.6	93.1	92	89.4	86.6
8/20/2024	7:39:20 PM	7:39:30 PM	90.6	93.1	92.1	91	86.8
8/20/2024	7:39:30 PM	7:39:40 PM	88.7	91.6	91.4	89.2	85.6
8/20/2024	7:39:40 PM	7:39:50 PM	88.4	92.5	91.6	86.9	79.9
8/20/2024	7:39:50 PM	7:40:00 PM	91	93.5	93	91.3	88.5
8/20/2024	7:40:00 PM	7:40:10 PM	90.8	93.8	92.1	89.9	87.2
8/20/2024	7:40:10 PM	7:40:20 PM	87.7	94.1	92.8	86.3	81.8
8/20/2024	7:40:20 PM	7:40:30 PM	91.1	96	95	86.8	83.3
8/20/2024	7:40:30 PM	7:40:40 PM	93.1	94.9	94.2	93.3	92.2
8/20/2024	7:40:40 PM	7:40:50 PM	92.8	94.2	93.9	92.6	91.4
8/20/2024	7:40:50 PM	7:41:00 PM	92.2	93.5	92.9	92.2	90.4
8/20/2024	7:41:00 PM	7:41:10 PM	91.5	94.2	92.9	91.5	90.1
8/20/2024	7:41:10 PM	7:41:20 PM	91.2	92.3	91.8	91.2	90
8/20/2024	7:41:20 PM	7:41:30 PM	93.5	94.9	94.2	93.6	92.6
8/20/2024	7:41:30 PM	7:41:40 PM	95.2	96.5	96	94.8	93.7
8/20/2024	7:41:40 PM	7:41:50 PM	92.2	94.9	93.8	92.5	89.6
8/20/2024	7:41:50 PM	7:42:00 PM	93.9	95.2	94.8	94.1	92.8
8/20/2024	7:42:00 PM	7:42:10 PM	95	96.6	95.7	94.9	93.4
8/20/2024	7:42:10 PM	7:42:20 PM	94.2	95.7	95.3	94.3	92.3
8/20/2024	7:42:20 PM	7:42:30 PM	95.5	96.4	96.3	95.4	94.9
8/20/2024	7:42:30 PM	7:42:40 PM	95.8	96.7	96.4	95.6	94.9
8/20/2024	7:42:40 PM	7:42:50 PM	96.7	99.4	98	96.2	95
8/20/2024	7:42:50 PM	7:43:00 PM	97	99.1	98.5	97.3	95.2
8/20/2024	7:43:00 PM	7:43:10 PM	97.5	99.6	98.8	97.1	95.3
8/20/2024	7:43:10 PM	7:43:20 PM	95.9	98.7	98.2	95.5	94.6
8/20/2024	7:43:20 PM	7:43:30 PM	95.8	96.5	96.2	95.7	94.7
8/20/2024	7:43:30 PM	7:43:40 PM	94.4	96.5	96.1	94.9	92.7
8/20/2024	7:43:40 PM	7:43:50 PM	95.6	97.9	97.5	94.6	91.8
8/20/2024	7:43:50 PM	7:44:00 PM	94.4	97.6	96.4	94.2	92.5
8/20/2024	7:44:00 PM	7:44:10 PM	93.4	97.1	96.5	94	87.3
8/20/2024	7:44:10 PM	7:44:20 PM	91.5	95.5	93.9	90	80.9
8/20/2024	7:44:20 PM	7:44:30 PM	95.3	96.5	96	95.2	94.7
8/20/2024	7:44:30 PM	7:44:40 PM	93.8	96	95.6	93.6	92.8
8/20/2024	7:44:40 PM	7:44:50 PM	92.2	94.2	93.3	92.2	91.3
8/20/2024	7:44:50 PM	7:45:00 PM	87.1	91.2	90.4	87	85.6
8/20/2024	7:45:00 PM	7:45:10 PM	81.5	85.5	84.1	82.1	79.4
8/20/2024	7:45:10 PM	7:45:20 PM	75.8	77.6	77.4	75	73.4
8/20/2024	7:45:20 PM	7:45:30 PM	78.3	80.1	79.9	78	75.4
8/20/2024	7:45:30 PM	7:45:40 PM	79.2	81.9	81.2	78.9	77.8
8/20/2024	7:45:40 PM	7:45:50 PM	76	78.6	78	76.1	74.2
8/20/2024	7:45:50 PM	7:46:00 PM	75.1	76.1	75.8	74.9	74.1
8/20/2024	7:46:00 PM	7:46:10 PM	75	76.3	75.9	74.8	74.1
8/20/2024	7:46:10 PM	7:46:20 PM	78.2	81.6	80.2	76.7	75.8
8/20/2024	7:46:20 PM	7:46:30 PM	76.6	78.9	77.8	76.9	76.1
8/20/2024	7:46:30 PM	7:46:40 PM	78.2	82.8	81	76.8	76.2

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	7:46:40 PM	7:46:50 PM	76.9	78.6	77.4	76.9	76.4
8/20/2024	7:46:50 PM	7:47:00 PM	77.7	78.7	78.4	77.5	77.1
8/20/2024	7:47:00 PM	7:47:10 PM	78.3	80.8	79.4	77.9	77.1
8/20/2024	7:47:10 PM	7:47:20 PM	78.4	79.1	78.9	78.3	77.7
8/20/2024	7:47:20 PM	7:47:30 PM	78	79	78.7	78.1	77.2
8/20/2024	7:47:30 PM	7:47:40 PM	77.3	78.1	77.9	77.2	76.6
8/20/2024	7:47:40 PM	7:47:50 PM	77.6	78.5	78.3	77.5	76.8
8/20/2024	7:47:50 PM	7:48:00 PM	76.1	78.1	77.5	76.2	74.9
8/20/2024	7:48:00 PM	7:48:10 PM	74.4	75.5	75.2	74.6	72.9
8/20/2024	7:48:10 PM	7:48:20 PM	75.3	77.2	76.7	74.9	73.8
8/20/2024	7:48:20 PM	7:48:30 PM	75.4	76.2	76	75.5	74.7
8/20/2024	7:48:30 PM	7:48:40 PM	75.7	76.4	76.2	75.5	75.1
8/20/2024	7:48:40 PM	7:48:50 PM	76.8	78.6	78.1	76.5	74.6
8/20/2024	7:48:50 PM	7:49:00 PM	76.7	78.3	77.9	76.5	75.9
8/20/2024	7:49:00 PM	7:49:10 PM	77.9	79.9	79	77.2	76.6
8/20/2024	7:49:10 PM	7:49:20 PM	77.2	79.3	78.4	77.4	76.5
8/20/2024	7:49:20 PM	7:49:30 PM	76.8	78.6	78.3	76.9	75.1
8/20/2024	7:49:30 PM	7:49:40 PM	75.8	78.2	77.2	75.7	74.2
8/20/2024	7:49:40 PM	7:49:50 PM	76.6	79.6	78.1	76.1	74.2
8/20/2024	7:49:50 PM	7:50:00 PM	77.3	79.1	78.6	77.3	75.7
8/20/2024	7:50:00 PM	7:50:10 PM	75.1	78	76.7	75.3	74.2
8/20/2024	7:50:10 PM	7:50:20 PM	75.7	77.6	76.9	75.3	74.7
8/20/2024	7:50:20 PM	7:50:30 PM	75.9	78	77.4	75.6	72.8
8/20/2024	7:50:30 PM	7:50:40 PM	76.6	77.6	77.3	76.5	76.1
8/20/2024	7:50:40 PM	7:50:50 PM	76.2	77.7	77.3	76.5	75
8/20/2024	7:50:50 PM	7:51:00 PM	74.1	76.2	75.7	73.5	71.3
8/20/2024	7:51:00 PM	7:51:10 PM	76.3	77.2	76.9	76.3	75.3
8/20/2024	7:51:10 PM	7:51:20 PM	77.7	78.6	78.4	77.5	76.5
8/20/2024	7:51:20 PM	7:51:30 PM	77.5	79.7	78.9	77.7	76.1
8/20/2024	7:51:30 PM	7:51:40 PM	77.2	77.9	77.6	77.1	76.3
8/20/2024	7:51:40 PM	7:51:50 PM	77.5	79.3	78.8	77.4	76.2
8/20/2024	7:51:50 PM	7:52:00 PM	76.7	77.9	77.5	76.6	76.2
8/20/2024	7:52:00 PM	7:52:10 PM	76	77	76.8	76.1	75.3
8/20/2024	7:52:10 PM	7:52:20 PM	77.2	78	77.8	77.1	75.8
8/20/2024	7:52:20 PM	7:52:30 PM	77.5	78.5	78.2	77.7	76.9
8/20/2024	7:52:30 PM	7:52:40 PM	76.4	78	77.6	76.6	74.8
8/20/2024	7:52:40 PM	7:52:50 PM	75.3	76.3	76	75.3	73.8
8/20/2024	7:52:50 PM	7:53:00 PM	78.1	80	79.2	77.8	76.8
8/20/2024	7:53:00 PM	7:53:10 PM	76.6	77.6	77.4	76.4	75.7
8/20/2024	7:53:10 PM	7:53:20 PM	77.5	78.7	78.2	77.7	77
8/20/2024	7:53:20 PM	7:53:30 PM	77.3	78	77.8	77.3	76.4
8/20/2024	7:53:30 PM	7:53:40 PM	75.8	79.1	78.1	76.3	72.4
8/20/2024	7:53:40 PM	7:53:50 PM	75.2	77.9	77.4	73.8	72.8
8/20/2024	7:53:50 PM	7:54:00 PM	76.3	78.1	77.7	76.1	74.5
8/20/2024	7:54:00 PM	7:54:10 PM	78.5	80.6	80	77.6	75.8
8/20/2024	7:54:10 PM	7:54:20 PM	77.3	79.5	79.1	77.3	76.5
8/20/2024	7:54:20 PM	7:54:30 PM	75.9	77.7	77.5	75.7	74.8
8/20/2024	7:54:30 PM	7:54:40 PM	77	78.7	78.2	76.6	75.5
8/20/2024	7:54:40 PM	7:54:50 PM	77.2	78.1	77.9	77.2	76.4
8/20/2024	7:54:50 PM	7:55:00 PM	77.1	78.4	77.8	77	75.9
8/20/2024	7:55:00 PM	7:55:10 PM	76.6	78.9	78.2	76.5	75.3
8/20/2024	7:55:10 PM	7:55:20 PM	75.6	76.8	76.6	75.6	74.6
8/20/2024	7:55:20 PM	7:55:30 PM	78.9	80.3	80.1	79.3	74.8
8/20/2024	7:55:30 PM	7:55:40 PM	78	79.7	79.3	78	77.1
8/20/2024	7:55:40 PM	7:55:50 PM	77.1	79.2	77.8	76.7	75.8
8/20/2024	7:55:50 PM	7:56:00 PM	79.9	82.4	82	79.4	77.5
8/20/2024	7:56:00 PM	7:56:10 PM	80.4	81.5	81	80.2	79.4
8/20/2024	7:56:10 PM	7:56:20 PM	79	80.9	80	79.1	78.2
8/20/2024	7:56:20 PM	7:56:30 PM	79.2	81.4	80.7	78.8	77.8
8/20/2024	7:56:30 PM	7:56:40 PM	80	81.5	80.9	79.9	78.9
8/20/2024	7:56:40 PM	7:56:50 PM	80.6	83.4	81.5	80.2	79.2
8/20/2024	7:56:50 PM	7:57:00 PM	85.3	89.8	87.8	84.6	80.7
8/20/2024	7:57:00 PM	7:57:10 PM	79.4	83.1	81.2	79.7	78.7
8/20/2024	7:57:10 PM	7:57:20 PM	80.5	84.1	82.9	80.3	77.2
8/20/2024	7:57:20 PM	7:57:30 PM	79.1	80.7	79.9	79	77.1
8/20/2024	7:57:30 PM	7:57:40 PM	87.1	92.4	91.8	83.6	78.8
8/20/2024	7:57:40 PM	7:57:50 PM	81.2	85.3	84.8	81.3	76.6
8/20/2024	7:57:50 PM	7:58:00 PM	79.4	83.1	82.2	78	77.2
8/20/2024	7:58:00 PM	7:58:10 PM	83.9	89.3	87.9	79.2	76.5
8/20/2024	7:58:10 PM	7:58:20 PM	77.8	89.4	86.2	78.1	75.9
8/20/2024	7:58:20 PM	7:58:30 PM	81.3	86.3	80.1	79.1	78.2
8/20/2024	7:58:30 PM	7:58:40 PM	79.6	86.4	84.6	79	76.9
8/20/2024	7:58:40 PM	7:58:50 PM	79.5	82.5	81.7	78.8	76.5
8/20/2024	7:58:50 PM	7:59:00 PM	77.5	80.3	79.9	76.8	75.9
8/20/2024	7:59:00 PM	7:59:10 PM	78.6	81.3	80.6	78.5	77.3
8/20/2024	7:59:10 PM	7:59:20 PM	79.7	81.4	80.9	79.6	77.9
8/20/2024	7:59:20 PM	7:59:30 PM	78.8	80.4	79.9	78.7	77.9
8/20/2024	7:59:30 PM	7:59:40 PM	81	82.1	81.7	80.9	79.1

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	7:59:40 PM	7:59:50 PM	79.8	81.7	81	79.9	78.6
8/20/2024	7:59:50 PM	8:00:00 PM	87.2	94	92.7	79.4	78.4
8/20/2024	8:00:00 PM	8:00:10 PM	77.3	85.4	82.4	77.6	76.2
8/20/2024	8:00:10 PM	8:00:20 PM	84.8	92.4	90	77.6	75.2
8/20/2024	8:00:20 PM	8:00:30 PM	79	87.5	84.6	80.3	77
8/20/2024	8:00:30 PM	8:00:40 PM	81.7	83.2	82.6	81.5	80
8/20/2024	8:00:40 PM	8:00:50 PM	78.5	82.4	82	78	76.9
8/20/2024	8:00:50 PM	8:01:00 PM	79.6	81.1	80.7	79.4	77.7
8/20/2024	8:01:00 PM	8:01:10 PM	78.6	80.4	80.1	78.6	76.7
8/20/2024	8:01:10 PM	8:01:20 PM	77.8	80	79.5	77.1	76
8/20/2024	8:01:20 PM	8:01:30 PM	78.8	81	80.4	78.4	76.3
8/20/2024	8:01:30 PM	8:01:40 PM	82.9	87.4	87.1	78.9	76.4
8/20/2024	8:01:40 PM	8:01:50 PM	80.6	82.9	82.5	79.9	78.8
8/20/2024	8:01:50 PM	8:02:00 PM	91.4	96.6	96.2	81.9	80.6
8/20/2024	8:02:00 PM	8:02:10 PM	79.2	89.4	86.2	80.6	77.6
8/20/2024	8:02:10 PM	8:02:20 PM	77.6	79.9	78.6	77.8	75.8
8/20/2024	8:02:20 PM	8:02:30 PM	77	80.5	80.2	75.7	74.8
8/20/2024	8:02:30 PM	8:02:40 PM	78.5	81.2	80.7	76.7	74.3
8/20/2024	8:02:40 PM	8:02:50 PM	80.5	81.9	81.4	80.2	79.2
8/20/2024	8:02:50 PM	8:03:00 PM	78.2	80.7	80.3	77.8	76.8
8/20/2024	8:03:00 PM	8:03:10 PM	78.6	79.4	79.1	78.4	77.8
8/20/2024	8:03:10 PM	8:03:20 PM	74.4	79.1	77.9	74.7	69.7
8/20/2024	8:03:20 PM	8:03:30 PM	76	79.9	79	75.7	67.5
8/20/2024	8:03:30 PM	8:03:40 PM	79.1	81.3	81	79.6	72.9
8/20/2024	8:03:40 PM	8:03:50 PM	79.4	82.9	82.2	78.7	77.3
8/20/2024	8:03:50 PM	8:04:00 PM	81	82.9	82.5	80.4	78.4
8/20/2024	8:04:00 PM	8:04:10 PM	80.8	84.1	82.9	80.6	78.2
8/20/2024	8:04:10 PM	8:04:20 PM	79.4	80.7	80.4	79.7	77.4
8/20/2024	8:04:20 PM	8:04:30 PM	79.8	80.8	80.6	79.7	78.9
8/20/2024	8:04:30 PM	8:04:40 PM	81	81.8	81.6	81.3	79.9
8/20/2024	8:04:40 PM	8:04:50 PM	80.2	82.4	81.7	80.3	77.7
8/20/2024	8:04:50 PM	8:05:00 PM	78	79.8	79.1	78.1	76.6
8/20/2024	8:05:00 PM	8:05:10 PM	78.9	79.3	79.2	78.8	78.3
8/20/2024	8:05:10 PM	8:05:20 PM	77.4	78.9	78.5	77.3	76.4
8/20/2024	8:05:20 PM	8:05:30 PM	78.7	79.4	79.2	78.6	78
8/20/2024	8:05:30 PM	8:05:40 PM	78.5	79.6	79.4	78.8	77.6
8/20/2024	8:05:40 PM	8:05:50 PM	78.6	80.9	80.4	79.1	75.2
8/20/2024	8:05:50 PM	8:06:00 PM	78.5	81.7	81.2	77.4	75
8/20/2024	8:06:00 PM	8:06:10 PM	81.5	83.2	82.6	81.7	78.8
8/20/2024	8:06:10 PM	8:06:20 PM	82	83.8	83.4	82.1	79.4
8/20/2024	8:06:20 PM	8:06:30 PM	79.9	81.7	81.1	80	78.9
8/20/2024	8:06:30 PM	8:06:40 PM	79.6	82.7	82.2	79.5	75.7
8/20/2024	8:06:40 PM	8:06:50 PM	80.8	82.7	82.5	80.9	75.4
8/20/2024	8:06:50 PM	8:07:00 PM	79.8	81.5	80.9	79.8	78.7
8/20/2024	8:07:00 PM	8:07:10 PM	79.8	81.4	80.9	79.9	79
8/20/2024	8:07:10 PM	8:07:20 PM	79.1	80.7	80.3	78.9	78.4
8/20/2024	8:07:20 PM	8:07:30 PM	78.7	80.1	79.6	78.6	77.9
8/20/2024	8:07:30 PM	8:07:40 PM	81.4	83	82.7	80.9	79.6
8/20/2024	8:07:40 PM	8:07:50 PM	78.6	81.2	80	78.5	77.4
8/20/2024	8:07:50 PM	8:08:00 PM	80.2	81.7	81.3	80.1	77.7
8/20/2024	8:08:00 PM	8:08:10 PM	81.9	83.4	83	81.6	80.6
8/20/2024	8:08:10 PM	8:08:20 PM	81.1	82.5	82.2	81	79.9
8/20/2024	8:08:20 PM	8:08:30 PM	80.5	82.9	82.2	80.5	78.8
8/20/2024	8:08:30 PM	8:08:40 PM	78.3	80.1	79.3	77.9	76.3
8/20/2024	8:08:40 PM	8:08:50 PM	79.3	81.3	79.5	78.9	78.2
8/20/2024	8:08:50 PM	8:09:00 PM	78.7	81.3	80.4	78.9	78.2
8/20/2024	8:09:00 PM	8:09:10 PM	76.7	79.1	78.8	77.3	74.3
8/20/2024	8:09:10 PM	8:09:20 PM	78.7	80.7	80.4	78.9	74
8/20/2024	8:09:20 PM	8:09:30 PM	77.9	80.6	80.2	78.2	75.4
8/20/2024	8:09:30 PM	8:09:40 PM	76.8	79	77.2	76.3	74.9
8/20/2024	8:09:40 PM	8:09:50 PM	76.8	79.3	78	76.7	76.1
8/20/2024	8:09:50 PM	8:10:00 PM	78.4	79.6	79.1	78.3	77.7
8/20/2024	8:10:00 PM	8:10:10 PM	79.1	80.4	80.2	78.7	77.7
8/20/2024	8:10:10 PM	8:10:20 PM	79.2	80.8	80.6	79.1	78.5
8/20/2024	8:10:20 PM	8:10:30 PM	77.9	79	78.4	78	77.1
8/20/2024	8:10:30 PM	8:10:40 PM	80.7	82.3	82	80.1	78.3
8/20/2024	8:10:40 PM	8:10:50 PM	79.9	82	81.4	80.3	78.3
8/20/2024	8:10:50 PM	8:11:00 PM	80.7	82.2	81.7	80.5	79.6
8/20/2024	8:11:00 PM	8:11:10 PM	81.5	83	82.6	81.3	79.5
8/20/2024	8:11:10 PM	8:11:20 PM	78.4	82.8	82.3	78.8	75.2
8/20/2024	8:11:20 PM	8:11:30 PM	80.6	83	82.4	79.9	78.2
8/20/2024	8:11:30 PM	8:11:40 PM	81	82.4	81.7	80.6	79.7
8/20/2024	8:11:40 PM	8:11:50 PM	81.2	82.6	82.3	81.1	80.5
8/20/2024	8:11:50 PM	8:12:00 PM	80.5	81.8	81.4	80.4	79.3
8/20/2024	8:12:00 PM	8:12:10 PM	77.8	81.4	79.7	78	76.2
8/20/2024	8:12:10 PM	8:12:20 PM	76.1	79.5	78.8	75.3	72.6
8/20/2024	8:12:20 PM	8:12:30 PM	75.9	79.3	77.9	76.2	74.3
8/20/2024	8:12:30 PM	8:12:40 PM	78	80	79.6	77.6	75.9

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	8:12:40 PM	8:12:50 PM	79.5	81.1	80.9	79	78.2
8/20/2024	8:12:50 PM	8:13:00 PM	80	81.7	81	79.9	78.8
8/20/2024	8:13:00 PM	8:13:10 PM	78.6	80.5	79.7	78.5	77.2
8/20/2024	8:13:10 PM	8:13:20 PM	79.3	82.1	81.2	78.4	77.1
8/20/2024	8:13:20 PM	8:13:30 PM	80.2	82.9	82.5	79.7	78.1
8/20/2024	8:13:30 PM	8:13:40 PM	79.5	80.8	80.2	79.5	78.3
8/20/2024	8:13:40 PM	8:13:50 PM	78.9	80.5	80.1	78.9	77.7
8/20/2024	8:13:50 PM	8:14:00 PM	79.6	80.7	80.6	79.5	77.8
8/20/2024	8:14:00 PM	8:14:10 PM	78.7	80.7	80.4	78.7	77.4
8/20/2024	8:14:10 PM	8:14:20 PM	79.9	82.5	81.8	79.2	77.8
8/20/2024	8:14:20 PM	8:14:30 PM	81.4	82.6	82.2	81.3	80.2
8/20/2024	8:14:30 PM	8:14:40 PM	81.2	83.2	82.9	81.2	79.4
8/20/2024	8:14:40 PM	8:14:50 PM	80	82.1	81.7	80.1	79.1
8/20/2024	8:14:50 PM	8:15:00 PM	79	79.8	79.5	79.3	78
8/20/2024	8:15:00 PM	8:15:10 PM	78.6	80.1	79.4	78.5	77.8
8/20/2024	8:15:10 PM	8:15:20 PM	78.1	80.6	79.7	78.1	76.5
8/20/2024	8:15:20 PM	8:15:30 PM	76	78.4	77.3	75.5	74.2
8/20/2024	8:15:30 PM	8:15:40 PM	78.1	82.3	81.4	76.7	72.9
8/20/2024	8:15:40 PM	8:15:50 PM	76	78.8	78.6	75.2	70.6
8/20/2024	8:15:50 PM	8:16:00 PM	87.9	91	90.7	84.7	79.1
8/20/2024	8:16:00 PM	8:16:10 PM	88.6	90.7	90.2	88.4	87.3
8/20/2024	8:16:10 PM	8:16:20 PM	85.8	88.1	87.7	85.9	84.6
8/20/2024	8:16:20 PM	8:16:30 PM	86	90.8	88.8	85.2	81.2
8/20/2024	8:16:30 PM	8:16:40 PM	86.6	89.9	89.2	85.2	79.3
8/20/2024	8:16:40 PM	8:16:50 PM	89.1	94	91.5	88	86.2
8/20/2024	8:16:50 PM	8:17:00 PM	87.6	89.5	89.2	87.7	85.8
8/20/2024	8:17:00 PM	8:17:10 PM	91.2	92.6	92.1	90.9	88.3
8/20/2024	8:17:10 PM	8:17:20 PM	94.8	98.2	96.4	94.5	92.1
8/20/2024	8:17:20 PM	8:17:30 PM	93.9	96.6	95.5	93.8	92
8/20/2024	8:17:30 PM	8:17:40 PM	92.9	94.3	93.6	92.7	92.1
8/20/2024	8:17:40 PM	8:17:50 PM	92.1	93.9	93.3	92.3	91.4
8/20/2024	8:17:50 PM	8:18:00 PM	92.5	95	94	92	91.5
8/20/2024	8:18:00 PM	8:18:10 PM	93.7	96	95	93.5	92
8/20/2024	8:18:10 PM	8:18:20 PM	93.7	95.5	94.9	93.3	93
8/20/2024	8:18:20 PM	8:18:30 PM	94.7	97.1	95.6	94.7	92.9
8/20/2024	8:18:30 PM	8:18:40 PM	93.7	96.8	95.4	93.6	92.4
8/20/2024	8:18:40 PM	8:18:50 PM	91.3	93	92.8	92.2	87.8
8/20/2024	8:18:50 PM	8:19:00 PM	91.1	93.2	92.7	90	86.1
8/20/2024	8:19:00 PM	8:19:10 PM	93.3	94.3	93.9	93.2	92.5
8/20/2024	8:19:10 PM	8:19:20 PM	93.5	94.9	94.3	93.3	92.3
8/20/2024	8:19:20 PM	8:19:30 PM	93.9	96.3	95.5	93.7	92.6
8/20/2024	8:19:30 PM	8:19:40 PM	94.2	96.5	95.6	94	93
8/20/2024	8:19:40 PM	8:19:50 PM	94.5	96.1	95	94.3	93.6
8/20/2024	8:19:50 PM	8:20:00 PM	94.5	95.7	95.1	94.3	93.5
8/20/2024	8:20:00 PM	8:20:10 PM	93.9	94.9	94.6	94.1	93.6
8/20/2024	8:20:10 PM	8:20:20 PM	91.3	95.3	94.5	91.9	85
8/20/2024	8:20:20 PM	8:20:30 PM	89.9	92.9	92.4	90.2	80.7
8/20/2024	8:20:30 PM	8:20:40 PM	93.8	98	97.7	91.8	87.8
8/20/2024	8:20:40 PM	8:20:50 PM	91.8	92.8	92.6	92.1	85.4
8/20/2024	8:20:50 PM	8:21:00 PM	92.5	94	92.9	92.3	91.5
8/20/2024	8:21:00 PM	8:21:10 PM	93.2	95.8	93.6	92.6	92
8/20/2024	8:21:10 PM	8:21:20 PM	93.3	96.5	95.4	93.5	92.3
8/20/2024	8:21:20 PM	8:21:30 PM	93.6	95.3	94.9	93	91.7
8/20/2024	8:21:30 PM	8:21:40 PM	93.2	94.5	93.9	93.3	92.7
8/20/2024	8:21:40 PM	8:21:50 PM	93.5	94.2	93.7	93.4	93.1
8/20/2024	8:21:50 PM	8:22:00 PM	93.2	94.4	94	93.1	92.3
8/20/2024	8:22:00 PM	8:22:10 PM	92.9	94.5	94.1	92.9	91.9
8/20/2024	8:22:10 PM	8:22:20 PM	93.1	95.1	94.5	93	92.2
8/20/2024	8:22:20 PM	8:22:30 PM	93.5	94.8	94.3	92.9	92
8/20/2024	8:22:30 PM	8:22:40 PM	93.8	94.7	94.5	93.7	93.3
8/20/2024	8:22:40 PM	8:22:50 PM	93.9	94.9	94.4	93.9	93.3
8/20/2024	8:22:50 PM	8:23:00 PM	94.1	95.1	94.4	94	93.7
8/20/2024	8:23:00 PM	8:23:10 PM	94.3	95.3	95	94.1	93.5
8/20/2024	8:23:10 PM	8:23:20 PM	94.9	96.2	95.1	94.7	94
8/20/2024	8:23:20 PM	8:23:30 PM	94.7	97.4	96.4	94.6	93.7
8/20/2024	8:23:30 PM	8:23:40 PM	95.8	96.7	96.2	95.8	94.9
8/20/2024	8:23:40 PM	8:23:50 PM	95.8	97.3	96.5	95.8	95.2
8/20/2024	8:23:50 PM	8:24:00 PM	94.8	95.7	95.4	94.9	94.3
8/20/2024	8:24:00 PM	8:24:10 PM	95.2	96	95.6	95.2	94.6
8/20/2024	8:24:10 PM	8:24:20 PM	95.2	96	95.8	95.2	94.8
8/20/2024	8:24:20 PM	8:24:30 PM	96.7	99.8	98.7	95.6	95
8/20/2024	8:24:30 PM	8:24:40 PM	90.1	99	97.4	91.1	81.3
8/20/2024	8:24:40 PM	8:24:50 PM	87	90.9	88.6	85.2	84.1
8/20/2024	8:24:50 PM	8:25:00 PM	90.3	93.1	91.7	90.7	88.6
8/20/2024	8:25:00 PM	8:25:10 PM	90	92.3	90.9	89.5	88.7
8/20/2024	8:25:10 PM	8:25:20 PM	87.3	89.6	88.5	87.5	86.8
8/20/2024	8:25:20 PM	8:25:30 PM	92	94.4	94	92	86.9
8/20/2024	8:25:30 PM	8:25:40 PM	93.5	95.2	94.2	93.4	92.2

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	8:25:40 PM	8:25:50 PM	92.5	93.5	93.2	92.5	91.8
8/20/2024	8:25:50 PM	8:26:00 PM	93.5	94.3	94.1	93.7	91.5
8/20/2024	8:26:00 PM	8:26:10 PM	94.5	96.5	95.4	94.2	93.5
8/20/2024	8:26:10 PM	8:26:20 PM	93.9	95.7	95	93.8	93.1
8/20/2024	8:26:20 PM	8:26:30 PM	91.4	94.5	94	91.6	87.6
8/20/2024	8:26:30 PM	8:26:40 PM	91.9	92.7	92.3	92	91.1
8/20/2024	8:26:40 PM	8:26:50 PM	92.1	93.2	92.8	92	91.3
8/20/2024	8:26:50 PM	8:27:00 PM	92.5	93.7	93.2	92.3	91.5
8/20/2024	8:27:00 PM	8:27:10 PM	93.8	96.7	95.8	93.2	92.5
8/20/2024	8:27:10 PM	8:27:20 PM	93.1	94.6	94	93.2	92.5
8/20/2024	8:27:20 PM	8:27:30 PM	89	90.5	90	89.3	87.6
8/20/2024	8:27:30 PM	8:27:40 PM	92.6	94.9	94.3	92.9	86.6
8/20/2024	8:27:40 PM	8:27:50 PM	94.2	96.1	95.8	94.2	92.4
8/20/2024	8:27:50 PM	8:28:00 PM	94.8	96.2	95.6	94.7	92.7
8/20/2024	8:28:00 PM	8:28:10 PM	93.1	96.1	95.4	92.7	92
8/20/2024	8:28:10 PM	8:28:20 PM	93.6	95	94.5	93.1	92.1
8/20/2024	8:28:20 PM	8:28:30 PM	94.6	95.6	95.4	94.8	93.7
8/20/2024	8:28:30 PM	8:28:40 PM	95	96	95.6	94.9	94.1
8/20/2024	8:28:40 PM	8:28:50 PM	95.7	97.1	96.5	95.5	94.7
8/20/2024	8:28:50 PM	8:29:00 PM	90.2	96.5	94.4	91	85.5
8/20/2024	8:29:00 PM	8:29:10 PM	86.9	91.5	87.3	85.1	83.1
8/20/2024	8:29:10 PM	8:29:20 PM	86	92.5	92	84.2	79.4
8/20/2024	8:29:20 PM	8:29:30 PM	86.7	91	90.8	84.5	77.1
8/20/2024	8:29:30 PM	8:29:40 PM	89.9	93	92.5	87.8	85.7
8/20/2024	8:29:40 PM	8:29:50 PM	91.1	93.7	93.3	91.3	87.7
8/20/2024	8:29:50 PM	8:30:00 PM	92	95.4	94.8	91.9	88.2
8/20/2024	8:30:00 PM	8:30:10 PM	92.6	94.9	94.3	92.5	89.4
8/20/2024	8:30:10 PM	8:30:20 PM	92.1	94.3	94	91.9	90.6
8/20/2024	8:30:20 PM	8:30:30 PM	93.6	96.2	95.3	93.3	91.1
8/20/2024	8:30:30 PM	8:30:40 PM	93.4	95.6	95.3	93.4	88.7
8/20/2024	8:30:40 PM	8:30:50 PM	94.6	97.9	97.1	93.9	93.4
8/20/2024	8:30:50 PM	8:31:00 PM	92.9	96.4	95.6	93.3	87.8
8/20/2024	8:31:00 PM	8:31:10 PM	92	95.1	94.6	91.4	82.7
8/20/2024	8:31:10 PM	8:31:20 PM	93.1	96.6	95.6	92	89.5
8/20/2024	8:31:20 PM	8:31:30 PM	93.3	97.5	96.2	93	89.3
8/20/2024	8:31:30 PM	8:31:40 PM	95.1	97.2	96.7	94.6	91.5
8/20/2024	8:31:40 PM	8:31:50 PM	94.3	96.8	96.5	93.9	92.7
8/20/2024	8:31:50 PM	8:32:00 PM	95.4	98	97.1	94.8	93.4
8/20/2024	8:32:00 PM	8:32:10 PM	92.2	96.5	95.8	93.1	83.4
8/20/2024	8:32:10 PM	8:32:20 PM	90.1	97.3	95.1	85.5	82
8/20/2024	8:32:20 PM	8:32:30 PM	86.2	89.9	89.3	86	83
8/20/2024	8:32:30 PM	8:32:40 PM	85.8	90.5	89	84.3	80.9
8/20/2024	8:32:40 PM	8:32:50 PM	91.5	95.5	94	89.8	84.6
8/20/2024	8:32:50 PM	8:33:00 PM	95	96.8	96	94.6	93.5
8/20/2024	8:33:00 PM	8:33:10 PM	95.9	96.8	96.7	95.8	94.9
8/20/2024	8:33:10 PM	8:33:20 PM	97	100	98.4	96.2	95.8
8/20/2024	8:33:20 PM	8:33:30 PM	95.8	98.1	97.5	96.1	93.4
8/20/2024	8:33:30 PM	8:33:40 PM	96.7	98.5	97.9	96.9	95.6
8/20/2024	8:33:40 PM	8:33:50 PM	87.4	94.7	93	86.3	82.5
8/20/2024	8:33:50 PM	8:34:00 PM	93.1	97.3	96.7	91	88.5
8/20/2024	8:34:00 PM	8:34:10 PM	85.3	90.8	89.8	86.6	78.5
8/20/2024	8:34:10 PM	8:34:20 PM	80.8	86.4	84.9	76.4	66.5
8/20/2024	8:34:20 PM	8:34:30 PM	90.7	94.8	94.4	89.2	86
8/20/2024	8:34:30 PM	8:34:40 PM	89.5	95.1	93.5	87.4	85.2
8/20/2024	8:34:40 PM	8:34:50 PM	85.4	88.6	87.3	85.1	82.4
8/20/2024	8:34:50 PM	8:35:00 PM	89.3	93.2	92.7	87.8	83.9
8/20/2024	8:35:00 PM	8:35:10 PM	84.7	88.3	87.6	84.5	83.1
8/20/2024	8:35:10 PM	8:35:20 PM	83.6	86.4	85.1	83.8	81.6
8/20/2024	8:35:20 PM	8:35:30 PM	82.3	87.5	86.5	80	72.8
8/20/2024	8:35:30 PM	8:35:40 PM	77.5	79.1	78.9	76.6	75.1
8/20/2024	8:35:40 PM	8:35:50 PM	82.9	85.8	84.7	81.6	80.1
8/20/2024	8:35:50 PM	8:36:00 PM	83.3	88.4	86.8	81.9	79.8
8/20/2024	8:36:00 PM	8:36:10 PM	86.5	91.4	89.6	83.9	82.4
8/20/2024	8:36:10 PM	8:36:20 PM	88.9	93.1	91.7	87.8	81.8
8/20/2024	8:36:20 PM	8:36:30 PM	89.2	93	92.3	87.5	84.5
8/20/2024	8:36:30 PM	8:36:40 PM	93.4	98.3	97	91.4	89.8
8/20/2024	8:36:40 PM	8:36:50 PM	94	96.8	96	94.4	87.9
8/20/2024	8:36:50 PM	8:37:00 PM	92.9	95.5	94.5	93.1	91.2
8/20/2024	8:37:00 PM	8:37:10 PM	93.2	96.5	95	93.9	88.8
8/20/2024	8:37:10 PM	8:37:20 PM	91.1	93.7	93.3	90.3	89.3
8/20/2024	8:37:20 PM	8:37:30 PM	91.9	95.1	93.9	91.5	89.8
8/20/2024	8:37:30 PM	8:37:40 PM	93.2	95.8	94.8	92.8	91.9
8/20/2024	8:37:40 PM	8:37:50 PM	94.3	96.7	96.1	94.5	89.2
8/20/2024	8:37:50 PM	8:38:00 PM	93.9	95.7	95.1	93.9	91.7
8/20/2024	8:38:00 PM	8:38:10 PM	93.5	96.8	96.3	94	89.9
8/20/2024	8:38:10 PM	8:38:20 PM	89.1	90.6	90.4	89	87.5
8/20/2024	8:38:20 PM	8:38:30 PM	90.6	92.4	92	90.7	86.5
8/20/2024	8:38:30 PM	8:38:40 PM	92.4	93.6	93.1	92.3	90.8

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	8:38:40 PM	8:38:50 PM	95.9	99.7	98.1	95.2	93.9
8/20/2024	8:38:50 PM	8:39:00 PM	97.2	99.6	99.2	96.4	94.3
8/20/2024	8:39:00 PM	8:39:10 PM	100.3	102.5	102	99.5	97.2
8/20/2024	8:39:10 PM	8:39:20 PM	100.3	102.5	101.8	100.5	98.3
8/20/2024	8:39:20 PM	8:39:30 PM	98.7	101.4	100.3	98.6	96.4
8/20/2024	8:39:30 PM	8:39:40 PM	97.5	99.8	99.4	97.2	94.2
8/20/2024	8:39:40 PM	8:39:50 PM	97.1	101	100.5	96.8	95.1
8/20/2024	8:39:50 PM	8:40:00 PM	89.2	95	94.4	87.4	80.7
8/20/2024	8:40:00 PM	8:40:10 PM	87	92.6	88.6	79	72.4
8/20/2024	8:40:10 PM	8:40:20 PM	89.2	92.3	91.8	89.2	87
8/20/2024	8:40:20 PM	8:40:30 PM	91.6	96.5	95	90.6	88
8/20/2024	8:40:30 PM	8:40:40 PM	92.8	95.4	94.2	91.8	88.7
8/20/2024	8:40:40 PM	8:40:50 PM	96.8	100.9	99.8	94.7	92.2
8/20/2024	8:40:50 PM	8:41:00 PM	97.8	102.1	101	97.3	92.5
8/20/2024	8:41:00 PM	8:41:10 PM	95.8	100.5	99.6	95.8	93.1
8/20/2024	8:41:10 PM	8:41:20 PM	96.2	99.3	97.8	96.3	93.2
8/20/2024	8:41:20 PM	8:41:30 PM	93.5	96.5	95.7	93.9	90.1
8/20/2024	8:41:30 PM	8:41:40 PM	97	99.4	99.1	94.1	91.9
8/20/2024	8:41:40 PM	8:41:50 PM	94.9	98.3	97.6	94.8	90.7
8/20/2024	8:41:50 PM	8:42:00 PM	97.7	103.2	101.5	96.5	93.8
8/20/2024	8:42:00 PM	8:42:10 PM	97.8	101.8	100	96.5	94.9
8/20/2024	8:42:10 PM	8:42:20 PM	95.9	99.1	97.9	95.5	92.9
8/20/2024	8:42:20 PM	8:42:30 PM	97.2	99.9	98.9	96.7	94.2
8/20/2024	8:42:30 PM	8:42:40 PM	94.9	98.4	96.3	95.3	94.5
8/20/2024	8:42:40 PM	8:42:50 PM	93.6	95.1	94.9	94	92.6
8/20/2024	8:42:50 PM	8:43:00 PM	91.3	95.4	94.8	90.6	86.3
8/20/2024	8:43:00 PM	8:43:10 PM	90.1	92.9	92.1	88	86.4
8/20/2024	8:43:10 PM	8:43:20 PM	89.2	94.6	94	88.3	83.1
8/20/2024	8:43:20 PM	8:43:30 PM	82.9	89.7	86.2	76	64
8/20/2024	8:43:30 PM	8:43:40 PM	90.4	92.3	91.5	90.1	89.1
8/20/2024	8:43:40 PM	8:43:50 PM	91.9	93.5	92.7	91.7	90.5
8/20/2024	8:43:50 PM	8:44:00 PM	91	92.3	91.9	91.2	90
8/20/2024	8:44:00 PM	8:44:10 PM	91.5	92.5	92	91.3	90.4
8/20/2024	8:44:10 PM	8:44:20 PM	95	96.8	96.3	95.2	92.1
8/20/2024	8:44:20 PM	8:44:30 PM	95.9	97.2	97.1	95.5	93.4
8/20/2024	8:44:30 PM	8:44:40 PM	96.9	100	98.8	96.5	95.5
8/20/2024	8:44:40 PM	8:44:50 PM	96.2	97	96.6	96.3	95.8
8/20/2024	8:44:50 PM	8:45:00 PM	95	96.4	96.2	95.2	93.7
8/20/2024	8:45:00 PM	8:45:10 PM	93.7	96.3	95.3	93.3	92.3
8/20/2024	8:45:10 PM	8:45:20 PM	93	94.6	94.1	92.9	91.2
8/20/2024	8:45:20 PM	8:45:30 PM	91.6	94.6	93.8	91.5	90.2
8/20/2024	8:45:30 PM	8:45:40 PM	92.4	95.6	95.4	90.4	89.6
8/20/2024	8:45:40 PM	8:45:50 PM	97	99.4	98.5	96.1	95.3
8/20/2024	8:45:50 PM	8:46:00 PM	96.9	99	97.9	96.7	96.3
8/20/2024	8:46:00 PM	8:46:10 PM	96.7	97.5	97.1	96.6	95.7
8/20/2024	8:46:10 PM	8:46:20 PM	99.5	101.6	100.9	98.7	97.9
8/20/2024	8:46:20 PM	8:46:30 PM	100	103.1	101.7	100.2	97.3
8/20/2024	8:46:30 PM	8:46:40 PM	98.7	102.7	102.1	98.9	90.7
8/20/2024	8:46:40 PM	8:46:50 PM	90	95.9	93	89.3	83.4
8/20/2024	8:46:50 PM	8:47:00 PM	94.2	95.9	95.3	93.7	91.9
8/20/2024	8:47:00 PM	8:47:10 PM	92.4	96.4	95.5	92.8	88.4
8/20/2024	8:47:10 PM	8:47:20 PM	88.9	94.3	93.7	85.7	79.1
8/20/2024	8:47:20 PM	8:47:30 PM	85.5	90.2	88.8	85.6	82.5
8/20/2024	8:47:30 PM	8:47:40 PM	92.6	99.9	98.2	86.3	82.7
8/20/2024	8:47:40 PM	8:47:50 PM	81	86.8	85.4	81.2	72.9
8/20/2024	8:47:50 PM	8:48:00 PM	92.3	94.9	94	92.3	89.7
8/20/2024	8:48:00 PM	8:48:10 PM	92.2	95.2	93.7	92	89.6
8/20/2024	8:48:10 PM	8:48:20 PM	94.4	97.2	96	94.3	92
8/20/2024	8:48:20 PM	8:48:30 PM	96.3	100.3	97.8	94.3	92.7
8/20/2024	8:48:30 PM	8:48:40 PM	94.8	99.3	97.2	94.8	93.1
8/20/2024	8:48:40 PM	8:48:50 PM	94.7	98.5	96.8	94.3	94
8/20/2024	8:48:50 PM	8:49:00 PM	92.5	94.6	94.5	93.7	89.8
8/20/2024	8:49:00 PM	8:49:10 PM	93.4	96.1	94.8	93	92
8/20/2024	8:49:10 PM	8:49:20 PM	94.2	97	95.5	93.8	92.4
8/20/2024	8:49:20 PM	8:49:30 PM	91.9	94.8	94.2	92.6	87.4
8/20/2024	8:49:30 PM	8:49:40 PM	95.4	98.5	97.2	95.2	93
8/20/2024	8:49:40 PM	8:49:50 PM	95.2	99.3	97.3	94.8	93.1
8/20/2024	8:49:50 PM	8:50:00 PM	95.1	97.8	97.3	94.6	91.9
8/20/2024	8:50:00 PM	8:50:10 PM	97	100.3	99.4	97	91.6
8/20/2024	8:50:10 PM	8:50:20 PM	96.5	99.9	98.9	96.2	90.7
8/20/2024	8:50:20 PM	8:50:30 PM	96.2	100.3	98.2	95.9	93
8/20/2024	8:50:30 PM	8:50:40 PM	95.2	96.5	95.8	95.2	94.8
8/20/2024	8:50:40 PM	8:50:50 PM	98.6	101.1	100.4	98.2	94.4
8/20/2024	8:50:50 PM	8:51:00 PM	96.6	102	101	94.2	91.3
8/20/2024	8:51:00 PM	8:51:10 PM	89.5	96.8	96.3	86.1	78.9
8/20/2024	8:51:10 PM	8:51:20 PM	90.4	94.2	92.8	90.6	78.3
8/20/2024	8:51:20 PM	8:51:30 PM	93.7	95.8	95.4	92.9	91.7
8/20/2024	8:51:30 PM	8:51:40 PM	93.7	95.5	94.8	93.8	92.8

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	8:51:40 PM	8:51:50 PM	95.2	96.4	96	95.3	93.5
8/20/2024	8:51:50 PM	8:52:00 PM	97.1	99.2	98.7	96.7	95.7
8/20/2024	8:52:00 PM	8:52:10 PM	97.4	99.3	98.4	97.2	96.3
8/20/2024	8:52:10 PM	8:52:20 PM	94	97.9	96.5	93.7	91.6
8/20/2024	8:52:20 PM	8:52:30 PM	95.3	96.5	96	95.3	93
8/20/2024	8:52:30 PM	8:52:40 PM	97.3	98.9	98.5	97.2	94.5
8/20/2024	8:52:40 PM	8:52:50 PM	98	99.9	99.1	97.9	96.6
8/20/2024	8:52:50 PM	8:53:00 PM	95	98.8	96.8	95.4	94.3
8/20/2024	8:53:00 PM	8:53:10 PM	96.8	98.4	97.7	96.8	94.7
8/20/2024	8:53:10 PM	8:53:20 PM	90	96.5	93.7	90.8	88.8
8/20/2024	8:53:20 PM	8:53:30 PM	95.1	97.3	95.7	94.5	93
8/20/2024	8:53:30 PM	8:53:40 PM	97.7	99.3	99	97.5	96.5
8/20/2024	8:53:40 PM	8:53:50 PM	99	101.4	100.2	98.7	97.1
8/20/2024	8:53:50 PM	8:54:00 PM	99.6	101	100.5	99.5	98.5
8/20/2024	8:54:00 PM	8:54:10 PM	99.9	102.3	101.3	99.8	98.7
8/20/2024	8:54:10 PM	8:54:20 PM	94.2	97.1	96.9	94	92.7
8/20/2024	8:54:20 PM	8:54:30 PM	81.4	90.3	89.1	79.8	73.2
8/20/2024	8:54:30 PM	8:54:40 PM	86.2	91.4	88.4	84.9	71.1
8/20/2024	8:54:40 PM	8:54:50 PM	91.8	94.4	93.5	91.1	88.8
8/20/2024	8:54:50 PM	8:55:00 PM	90.3	93.9	92.6	90.1	86.5
8/20/2024	8:55:00 PM	8:55:10 PM	90.2	92.3	92.1	90.4	88.1
8/20/2024	8:55:10 PM	8:55:20 PM	88.2	90.9	90.4	88.3	85.1
8/20/2024	8:55:20 PM	8:55:30 PM	87.8	91.1	89.7	87.7	84.8
8/20/2024	8:55:30 PM	8:55:40 PM	93.4	97.1	95.9	92.7	85.4
8/20/2024	8:55:40 PM	8:55:50 PM	88.8	90.2	89.8	89.1	87.7
8/20/2024	8:55:50 PM	8:56:00 PM	91.1	95.1	94	89.2	87.3
8/20/2024	8:56:00 PM	8:56:10 PM	94.7	96.8	95.9	94.6	93.2
8/20/2024	8:56:10 PM	8:56:20 PM	96.8	100.2	99.6	94.8	91.9
8/20/2024	8:56:20 PM	8:56:30 PM	95	99.7	97.9	94.8	90.5
8/20/2024	8:56:30 PM	8:56:40 PM	94.9	99.5	99.2	94	91.5
8/20/2024	8:56:40 PM	8:56:50 PM	94.1	96.3	96.1	93.8	91.9
8/20/2024	8:56:50 PM	8:57:00 PM	94.6	96.4	95.7	94.4	92.6
8/20/2024	8:57:00 PM	8:57:10 PM	93.7	96	95.2	94	92.6
8/20/2024	8:57:10 PM	8:57:20 PM	95	97.5	96.7	94.9	91.7
8/20/2024	8:57:20 PM	8:57:30 PM	96.9	99.7	99.3	94	91.4
8/20/2024	8:57:30 PM	8:57:40 PM	92.8	99.2	98.1	92.7	91
8/20/2024	8:57:40 PM	8:57:50 PM	92.6	94.3	94	92.6	90.8
8/20/2024	8:57:50 PM	8:58:00 PM	90.4	93.4	91	89.6	89.2
8/20/2024	8:58:00 PM	8:58:10 PM	94.7	95.5	95.2	94.6	93.7
8/20/2024	8:58:10 PM	8:58:20 PM	95.4	97.3	96.1	94.9	93.8
8/20/2024	8:58:20 PM	8:58:30 PM	98.3	101.1	99.5	97.7	93.5
8/20/2024	8:58:30 PM	8:58:40 PM	96.8	101.7	101.4	96.5	91.8
8/20/2024	8:58:40 PM	8:58:50 PM	95.4	97.9	97.6	96	91.1
8/20/2024	8:58:50 PM	8:59:00 PM	96.5	101.2	100.3	94.7	87.8
8/20/2024	8:59:00 PM	8:59:10 PM	90	94.2	93.9	87.1	84.1
8/20/2024	8:59:10 PM	8:59:20 PM	82.5	94.2	91.1	82.6	76.4
8/20/2024	8:59:20 PM	8:59:30 PM	83.5	86.1	84.9	82.9	80.3
8/20/2024	8:59:30 PM	8:59:40 PM	84.8	88.6	87.5	84.2	80.7
8/20/2024	8:59:40 PM	8:59:50 PM	82.4	87.4	85.7	81.8	80
8/20/2024	8:59:50 PM	9:00:00 PM	89.5	97.1	94.9	84.3	75.7
8/20/2024	9:00:00 PM	9:00:10 PM	86.9	89.9	89.2	86.6	78.8
8/20/2024	9:00:10 PM	9:00:20 PM	88.4	92.9	92.4	87	82.9
8/20/2024	9:00:20 PM	9:00:30 PM	84.9	86.9	86.3	84.1	81.8
8/20/2024	9:00:30 PM	9:00:40 PM	81.4	85.8	84.4	81.7	78.4
8/20/2024	9:00:40 PM	9:00:50 PM	86.1	87.5	87.3	85.7	83
8/20/2024	9:00:50 PM	9:01:00 PM	88.4	89.9	89.2	88.1	86.9
8/20/2024	9:01:00 PM	9:01:10 PM	94.4	98.3	96.9	93.5	90.1
8/20/2024	9:01:10 PM	9:01:20 PM	89.7	94.4	92.8	90	88.9
8/20/2024	9:01:20 PM	9:01:30 PM	91.2	94	92.5	91.1	88.7
8/20/2024	9:01:30 PM	9:01:40 PM	88.4	91.7	90.8	88.4	87.7
8/20/2024	9:01:40 PM	9:01:50 PM	88.4	90.2	89.4	88.1	87.5
8/20/2024	9:01:50 PM	9:02:00 PM	90	92.8	90.4	89.2	87.6
8/20/2024	9:02:00 PM	9:02:10 PM	91	94.1	92.8	91.1	88.9
8/20/2024	9:02:10 PM	9:02:20 PM	89.6	93.2	91.9	89.6	87.6
8/20/2024	9:02:20 PM	9:02:30 PM	90.3	91.8	91.4	89.8	88.5
8/20/2024	9:02:30 PM	9:02:40 PM	93.5	98	96.5	92.5	90.8
8/20/2024	9:02:40 PM	9:02:50 PM	92	94.6	93.4	91.6	89.8
8/20/2024	9:02:50 PM	9:03:00 PM	90.5	93.1	92.2	90.8	88.8
8/20/2024	9:03:00 PM	9:03:10 PM	89.7	92.2	91.2	89.5	87.9
8/20/2024	9:03:10 PM	9:03:20 PM	90.8	94	92.2	89.8	86.8
8/20/2024	9:03:20 PM	9:03:30 PM	85.2	94	92.6	82.5	79
8/20/2024	9:03:30 PM	9:03:40 PM	84.2	90.1	88.4	81.7	78.5
8/20/2024	9:03:40 PM	9:03:50 PM	86.8	89.7	88.7	85.8	81.4
8/20/2024	9:03:50 PM	9:04:00 PM	92.3	94.5	93.1	91.4	90.4
8/20/2024	9:04:00 PM	9:04:10 PM	92.6	94.8	94.1	92.9	91.5
8/20/2024	9:04:10 PM	9:04:20 PM	91.6	94	93.4	91.5	89
8/20/2024	9:04:20 PM	9:04:30 PM	94.8	96.7	95.7	94.8	91.5
8/20/2024	9:04:30 PM	9:04:40 PM	93.3	95	94.8	93.4	91.9

Monitored Bluestem Data, August 20, 2024

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	9:04:40 PM	9:04:50 PM	94.1	95.6	95.3	93.9	92.5
8/20/2024	9:04:50 PM	9:05:00 PM	87.3	93.8	90.9	88.1	84.9
8/20/2024	9:05:00 PM	9:05:10 PM	92.4	93.7	93.5	92.7	86.9
8/20/2024	9:05:10 PM	9:05:20 PM	94	95.4	95.1	93.6	92.7
8/20/2024	9:05:20 PM	9:05:30 PM	95.1	95.9	95.8	94.9	94.5
8/20/2024	9:05:30 PM	9:05:40 PM	94.8	96.1	95.6	94.7	93.6
8/20/2024	9:05:40 PM	9:05:50 PM	94.2	95.5	95	93.9	93.5
8/20/2024	9:05:50 PM	9:06:00 PM	95.6	97.6	96.1	95.3	93.6
8/20/2024	9:06:00 PM	9:06:10 PM	93.2	98.8	97.7	92.5	86.3
8/20/2024	9:06:10 PM	9:06:20 PM	77	83.4	80.8	77.4	76.1
8/20/2024	9:06:20 PM	9:06:30 PM	77.2	80.5	78.8	76.7	74.9
8/20/2024	9:06:30 PM	9:06:40 PM	77	80.2	77.7	76.7	73.7
8/20/2024	9:06:40 PM	9:06:50 PM	80.5	82.5	82	80	78.8
8/20/2024	9:06:50 PM	9:07:00 PM	82.5	86.2	84.6	81.1	78.8
8/20/2024	9:07:00 PM	9:07:10 PM	87.4	89.8	88.9	87.1	86.2
8/20/2024	9:07:10 PM	9:07:20 PM	91.2	96.8	95	87.7	86.5
8/20/2024	9:07:20 PM	9:07:30 PM	92.7	99.2	97.7	87.1	85.6
8/20/2024	9:07:30 PM	9:07:40 PM	90.3	96	94	88.3	87
8/20/2024	9:07:40 PM	9:07:50 PM	91.8	95.5	93.9	91.9	89.8
8/20/2024	9:07:50 PM	9:08:00 PM	91.8	95.6	94.9	90.4	88
8/20/2024	9:08:00 PM	9:08:10 PM	95	98.1	97.6	95.4	90
8/20/2024	9:08:10 PM	9:08:20 PM	93.7	97.1	95.4	93.6	90
8/20/2024	9:08:20 PM	9:08:30 PM	96.2	100.8	100	94.1	91.6
8/20/2024	9:08:30 PM	9:08:40 PM	92.7	96.8	95.1	92.3	90.3
8/20/2024	9:08:40 PM	9:08:50 PM	91.5	93.7	92.9	91	89.5
8/20/2024	9:08:50 PM	9:09:00 PM	96.5	99.7	98.6	95.6	92.9
8/20/2024	9:09:00 PM	9:09:10 PM	96	99.5	98.4	95.9	93.1
8/20/2024	9:09:10 PM	9:09:20 PM	95.8	97.7	96.9	95.3	94.4
8/20/2024	9:09:20 PM	9:09:30 PM	97.5	100.5	99.8	97.4	95.7
8/20/2024	9:09:30 PM	9:09:40 PM	96.5	101	99.4	94.7	93.9
8/20/2024	9:09:40 PM	9:09:50 PM	95.3	97.2	96.2	94.9	94.5
8/20/2024	9:09:50 PM	9:10:00 PM	97.3	99.8	98.8	97.3	96.2
8/20/2024	9:10:00 PM	9:10:10 PM	98.2	102.2	100.9	97.5	94.7
8/20/2024	9:10:10 PM	9:10:20 PM	90.3	95.7	94.8	90.2	86.7
8/20/2024	9:10:20 PM	9:10:30 PM	88	90.3	89.8	88.1	86
8/20/2024	9:10:30 PM	9:10:40 PM	89	91.3	90.8	88.5	87.3
8/20/2024	9:10:40 PM	9:10:50 PM	89.5	91.2	90.6	89.3	87.9
8/20/2024	9:10:50 PM	9:11:00 PM	91.9	95.3	93.4	91	90
8/20/2024	9:11:00 PM	9:11:10 PM	95.2	96.5	96.2	95	93.4
8/20/2024	9:11:10 PM	9:11:20 PM	96.4	99.7	98.1	94.8	94.3
8/20/2024	9:11:20 PM	9:11:30 PM	98.6	101.2	100.8	98.2	96.6
8/20/2024	9:11:30 PM	9:11:40 PM	98.8	100.4	100	99	97.1
8/20/2024	9:11:40 PM	9:11:50 PM	98.5	101	100.2	97.8	96.5
8/20/2024	9:11:50 PM	9:12:00 PM	98.8	101.7	100.8	98.2	96.8
8/20/2024	9:12:00 PM	9:12:10 PM	95.5	102.8	101.9	92	85
8/20/2024	9:12:10 PM	9:12:20 PM	85.9	91.1	90.4	83.2	74.9
8/20/2024	9:12:20 PM	9:12:30 PM	78.8	86	83.2	79.3	77.8
8/20/2024	9:12:30 PM	9:12:40 PM	85.2	87.3	86.9	85.1	76.5
8/20/2024	9:12:40 PM	9:12:50 PM	90.2	94	92.5	87.4	85
8/20/2024	9:12:50 PM	9:13:00 PM	91.2	94	93.5	92.4	86.3
8/20/2024	9:13:00 PM	9:13:10 PM	91.5	93.7	92.8	90.8	90.1
8/20/2024	9:13:10 PM	9:13:20 PM	92	96.3	94.4	91.1	87.5
8/20/2024	9:13:20 PM	9:13:30 PM	89.6	91.6	91.2	90	87.2
8/20/2024	9:13:30 PM	9:13:40 PM	92.6	94.4	93.8	92.1	91.1
8/20/2024	9:13:40 PM	9:13:50 PM	91.8	97	94.7	90.3	89.3
8/20/2024	9:13:50 PM	9:14:00 PM	90.7	94.6	93.6	91.6	88.7
8/20/2024	9:14:00 PM	9:14:10 PM	90.3	91.6	91.3	90.4	89.3
8/20/2024	9:14:10 PM	9:14:20 PM	92.3	95.7	94.6	91.3	89.4
8/20/2024	9:14:20 PM	9:14:30 PM	91.4	93.4	93.2	91.6	88.8
8/20/2024	9:14:30 PM	9:14:40 PM	91.8	95.4	94.4	91.3	88.4
8/20/2024	9:14:40 PM	9:14:50 PM	90	91.9	91.7	89.4	86.6
8/20/2024	9:14:50 PM	9:15:00 PM	92.6	93.9	93.5	92.2	91.2
8/20/2024	9:15:00 PM	9:15:10 PM	92	93.6	93.1	92.5	90.6
8/20/2024	9:15:10 PM	9:15:20 PM	88.5	93	89.9	87.1	84.1
8/20/2024	9:15:20 PM	9:15:30 PM	95	97.1	96.2	94.9	93.8
8/20/2024	9:15:30 PM	9:15:40 PM	95.2	97.7	96.6	94.7	92.1
8/20/2024	9:15:40 PM	9:15:50 PM	93.4	98.7	96.9	93.7	89.4
8/20/2024	9:15:50 PM	9:16:00 PM	78.3	86.4	85	77.6	73.3
8/20/2024	9:16:00 PM	9:16:10 PM	69.7	75.9	73.9	70.5	67.5
8/20/2024	9:16:10 PM	9:16:20 PM	69.7	73.4	72.8	68.9	60.4
8/20/2024	9:16:20 PM	9:16:30 PM	84.3	90	88.7	81.5	76.4
8/20/2024	9:16:30 PM	9:16:40 PM	87	89.6	88.6	86.5	80.9
8/20/2024	9:16:40 PM	9:16:50 PM	89.8	91.6	90.5	89.5	88.8
8/20/2024	9:16:50 PM	9:17:00 PM	92.2	95.6	94.2	91.5	89.2
8/20/2024	9:17:00 PM	9:17:10 PM	96.3	99.1	98.1	96.1	93.9
8/20/2024	9:17:10 PM	9:17:20 PM	96.1	98.4	98	96.6	92.7
8/20/2024	9:17:20 PM	9:17:30 PM	96.6	100.5	99	96.6	90.7
8/20/2024	9:17:30 PM	9:17:40 PM	92.1	93	92.7	91.9	91.1

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	9:17:40 PM	9:17:50 PM	92.9	94.7	94.2	93.2	91.2
8/20/2024	9:17:50 PM	9:18:00 PM	93.9	97	95.4	93.5	92.7
8/20/2024	9:18:00 PM	9:18:10 PM	97.7	101.3	99	97.1	94
8/20/2024	9:18:10 PM	9:18:20 PM	97.6	101.1	99.9	98	93.3
8/20/2024	9:18:20 PM	9:18:30 PM	98.8	101.3	100.1	98.8	94.6
8/20/2024	9:18:30 PM	9:18:40 PM	98.4	100.7	100	98.9	95.6
8/20/2024	9:18:40 PM	9:18:50 PM	96.8	97.8	97.4	96.7	96.3
8/20/2024	9:18:50 PM	9:19:00 PM	97.7	100.7	99.1	97.3	96.5
8/20/2024	9:19:00 PM	9:19:10 PM	99.2	101.8	100.8	99.2	97.2
8/20/2024	9:19:10 PM	9:19:20 PM	98.6	101.6	101.2	97.7	95.3
8/20/2024	9:19:20 PM	9:19:30 PM	92.1	97.3	96.8	92.6	86.9
8/20/2024	9:19:30 PM	9:19:40 PM	85.2	88.6	86.7	85.1	83.5
8/20/2024	9:19:40 PM	9:19:50 PM	89.8	94.1	92.9	89.4	85.7
8/20/2024	9:19:50 PM	9:20:00 PM	80.4	85.7	84.8	81	76.4
8/20/2024	9:20:00 PM	9:20:10 PM	81.7	88.2	86.5	73.5	71.6
8/20/2024	9:20:10 PM	9:20:20 PM	82.7	85.5	84.9	82.3	80.7
8/20/2024	9:20:20 PM	9:20:30 PM	81.7	85.5	84.5	80.6	77.5
8/20/2024	9:20:30 PM	9:20:40 PM	80.2	83.7	82.9	79.7	75
8/20/2024	9:20:40 PM	9:20:50 PM	83	84.7	84.6	82.3	81
8/20/2024	9:20:50 PM	9:21:00 PM	87.6	93.2	91.4	82.5	77.6
8/20/2024	9:21:00 PM	9:21:10 PM	88.9	90.8	89.5	88.9	88.1
8/20/2024	9:21:10 PM	9:21:20 PM	89.5	90.5	90.2	89.7	88.9
8/20/2024	9:21:20 PM	9:21:30 PM	89.8	91.7	91.2	89.3	88.5
8/20/2024	9:21:30 PM	9:21:40 PM	89.6	91.9	91.6	89.9	87.1
8/20/2024	9:21:40 PM	9:21:50 PM	83	87.8	86	82.6	81.5
8/20/2024	9:21:50 PM	9:22:00 PM	80.2	83.7	83.7	79.7	76.8
8/20/2024	9:22:00 PM	9:22:10 PM	87.8	90.3	89.9	86.3	78.7
8/20/2024	9:22:10 PM	9:22:20 PM	93.4	95.8	95	93.1	90.6
8/20/2024	9:22:20 PM	9:22:30 PM	92.2	95.1	94	92.2	91
8/20/2024	9:22:30 PM	9:22:40 PM	92.4	95	93.5	92	90.2
8/20/2024	9:22:40 PM	9:22:50 PM	91	93.7	93.2	91.3	88.8
8/20/2024	9:22:50 PM	9:23:00 PM	94.2	97.9	97.6	91.1	84.9
8/20/2024	9:23:00 PM	9:23:10 PM	93.8	96.8	96.3	94	91.9
8/20/2024	9:23:10 PM	9:23:20 PM	94.2	96.7	96	93.7	92.5
8/20/2024	9:23:20 PM	9:23:30 PM	93.1	95.4	94.6	93.5	90.7
8/20/2024	9:23:30 PM	9:23:40 PM	94.1	97.1	96.1	93.7	92.4
8/20/2024	9:23:40 PM	9:23:50 PM	94.9	95.9	95.5	95	93.8
8/20/2024	9:23:50 PM	9:24:00 PM	95.2	97.8	96.8	95	93.8
8/20/2024	9:24:00 PM	9:24:10 PM	95.3	97.7	96.3	95	93.7
8/20/2024	9:24:10 PM	9:24:20 PM	89.6	95.3	93.4	89.9	87.4
8/20/2024	9:24:20 PM	9:24:30 PM	93.1	94	93.9	93.1	91.3
8/20/2024	9:24:30 PM	9:24:40 PM	96.3	100.5	98.6	94.6	93.2
8/20/2024	9:24:40 PM	9:24:50 PM	88.3	98.5	96.1	88.9	81.8
8/20/2024	9:24:50 PM	9:25:00 PM	88.5	92.3	91.3	88.4	80.5
8/20/2024	9:25:00 PM	9:25:10 PM	91.7	99	94	77.9	72.6
8/20/2024	9:25:10 PM	9:25:20 PM	90.6	99	97.1	89.4	87.3
8/20/2024	9:25:20 PM	9:25:30 PM	86.3	88	87.1	86.3	85
8/20/2024	9:25:30 PM	9:25:40 PM	87.6	88.9	88.7	87.6	85.9
8/20/2024	9:25:40 PM	9:25:50 PM	89.2	92	90.4	88.3	86.9
8/20/2024	9:25:50 PM	9:26:00 PM	95.1	97	96.3	94.9	92.5
8/20/2024	9:26:00 PM	9:26:10 PM	96.6	99	98.3	96.3	94.8
8/20/2024	9:26:10 PM	9:26:20 PM	95	97	95.7	94.8	94.4
8/20/2024	9:26:20 PM	9:26:30 PM	96.2	98	97.6	95.8	94.5
8/20/2024	9:26:30 PM	9:26:40 PM	96.7	100.4	99	95.7	94.7
8/20/2024	9:26:40 PM	9:26:50 PM	97.4	101.1	99.7	97	95.3
8/20/2024	9:26:50 PM	9:27:00 PM	96.6	101.6	100.2	94.9	93.7
8/20/2024	9:27:00 PM	9:27:10 PM	95.6	97.1	96.6	95.3	94.7
8/20/2024	9:27:10 PM	9:27:20 PM	96.2	97.5	97.1	96	95.7
8/20/2024	9:27:20 PM	9:27:30 PM	96.6	98.9	98.2	95.8	95.3
8/20/2024	9:27:30 PM	9:27:40 PM	96.7	99.1	98.5	96.5	94.9
8/20/2024	9:27:40 PM	9:27:50 PM	97.6	100	99.8	96.8	94.9
8/20/2024	9:27:50 PM	9:28:00 PM	96.7	101.6	100.3	95.3	93.6
8/20/2024	9:28:00 PM	9:28:10 PM	98.7	103.1	101.6	97.2	94.5
8/20/2024	9:28:10 PM	9:28:20 PM	96.3	98.6	97.4	96	94.8
8/20/2024	9:28:20 PM	9:28:30 PM	95.2	99.1	97.5	95.3	92.2
8/20/2024	9:28:30 PM	9:28:40 PM	93.4	96.8	95.1	92.8	91.5
8/20/2024	9:28:40 PM	9:28:50 PM	95.5	97.4	96.8	94.9	93.9
8/20/2024	9:28:50 PM	9:29:00 PM	95.4	97	96.5	95.2	94.4
8/20/2024	9:29:00 PM	9:29:10 PM	96.9	101	99	95.9	95.2
8/20/2024	9:29:10 PM	9:29:20 PM	100.1	104.3	102.7	98.5	95.8
8/20/2024	9:29:20 PM	9:29:30 PM	98	101.2	100.9	96.9	94.7
8/20/2024	9:29:30 PM	9:29:40 PM	96.4	100.9	100.7	96.3	93.7
8/20/2024	9:29:40 PM	9:29:50 PM	94.2	95.6	95	93.7	92.7
8/20/2024	9:29:50 PM	9:30:00 PM	95	97.7	97	95.8	91.4
8/20/2024	9:30:00 PM	9:30:10 PM	89.3	93.4	92	88.3	82.2
8/20/2024	9:30:10 PM	9:30:20 PM	91.2	94.3	93.6	91.7	87.6
8/20/2024	9:30:20 PM	9:30:30 PM	94.8	97.3	96.4	95	89.1
8/20/2024	9:30:30 PM	9:30:40 PM	92.7	96.3	95.6	92.7	88.9

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	9:30:40 PM	9:30:50 PM	90.2	91.8	91.4	90.4	88
8/20/2024	9:30:50 PM	9:31:00 PM	89.9	92.7	91.7	89.8	87.4
8/20/2024	9:31:00 PM	9:31:10 PM	84.4	90.8	89.1	84.1	81.9
8/20/2024	9:31:10 PM	9:31:20 PM	90.4	94.1	93.3	89.4	86.3
8/20/2024	9:31:20 PM	9:31:30 PM	91.1	95.4	91.9	89.4	85.1
8/20/2024	9:31:30 PM	9:31:40 PM	87.9	95.5	93	88.3	86
8/20/2024	9:31:40 PM	9:31:50 PM	94.8	96.3	95.9	94.8	87.9
8/20/2024	9:31:50 PM	9:32:00 PM	92.7	97.3	97	92.1	89
8/20/2024	9:32:00 PM	9:32:10 PM	91.6	96.2	95.6	88.8	85.1
8/20/2024	9:32:10 PM	9:32:20 PM	95.3	98.2	97.4	95.7	91.9
8/20/2024	9:32:20 PM	9:32:30 PM	87.9	93.9	91.1	88.1	85.9
8/20/2024	9:32:30 PM	9:32:40 PM	91.1	96.4	95.6	90.2	82.1
8/20/2024	9:32:40 PM	9:32:50 PM	93.3	97.1	96.7	91.3	79.5
8/20/2024	9:32:50 PM	9:33:00 PM	87	93	90.4	86.4	83.8
8/20/2024	9:33:00 PM	9:33:10 PM	95.8	99.8	99.7	93	84.1
8/20/2024	9:33:10 PM	9:33:20 PM	91.8	96.3	95.4	90.7	84.5
8/20/2024	9:33:20 PM	9:33:30 PM	84.9	92.3	90	85.5	81.4
8/20/2024	9:33:30 PM	9:33:40 PM	91.3	96.7	95.8	84.4	80.2
8/20/2024	9:33:40 PM	9:33:50 PM	91.9	97.9	97.2	86.4	83.1
8/20/2024	9:33:50 PM	9:34:00 PM	96.1	100.7	100	96	89.4
8/20/2024	9:34:00 PM	9:34:10 PM	84.5	87.5	86.8	85	82
8/20/2024	9:34:10 PM	9:34:20 PM	84.9	88	86.7	84.8	81.5
8/20/2024	9:34:20 PM	9:34:30 PM	83.1	86.6	84.7	82.9	78.9
8/20/2024	9:34:30 PM	9:34:40 PM	89.2	93.8	93	87.4	82
8/20/2024	9:34:40 PM	9:34:50 PM	85	90.8	88.4	83.8	81.4
8/20/2024	9:34:50 PM	9:35:00 PM	85.7	88.9	88.4	85.6	82
8/20/2024	9:35:00 PM	9:35:10 PM	80.4	85.2	83.5	79.8	77.8
8/20/2024	9:35:10 PM	9:35:20 PM	80.6	83.9	83.5	79.5	74.3
8/20/2024	9:35:20 PM	9:35:30 PM	81	84.3	83.3	81.1	79.4
8/20/2024	9:35:30 PM	9:35:40 PM	81.4	84.1	83.7	81.3	76.5
8/20/2024	9:35:40 PM	9:35:50 PM	82	85.5	84.5	81.8	74.7
8/20/2024	9:35:50 PM	9:36:00 PM	80.2	83.6	82.5	79.8	77.7
8/20/2024	9:36:00 PM	9:36:10 PM	82.6	87.1	86	81.3	78.3
8/20/2024	9:36:10 PM	9:36:20 PM	86.4	92.4	91.2	82.4	75.3
8/20/2024	9:36:20 PM	9:36:30 PM	83.3	87.6	86	82.8	81.2
8/20/2024	9:36:30 PM	9:36:40 PM	81.7	85.3	84.1	81	78.1
8/20/2024	9:36:40 PM	9:36:50 PM	80	84.1	83.1	79.8	77.3
8/20/2024	9:36:50 PM	9:37:00 PM	83.1	87.2	86.2	81.6	77.2
8/20/2024	9:37:00 PM	9:37:10 PM	80.4	86.2	84.9	78.4	71.2
8/20/2024	9:37:10 PM	9:37:20 PM	82.3	85.8	84.3	82	78.8
8/20/2024	9:37:20 PM	9:37:30 PM	76.9	82.3	80.7	76.5	67.7
8/20/2024	9:37:30 PM	9:37:40 PM	82.3	84.8	84.3	81.8	79.9
8/20/2024	9:37:40 PM	9:37:50 PM	78.2	83.1	81.9	77.9	72.3
8/20/2024	9:37:50 PM	9:38:00 PM	80.1	84.9	83	78.8	71.6
8/20/2024	9:38:00 PM	9:38:10 PM	82.9	86.3	85.4	82.7	79.5
8/20/2024	9:38:10 PM	9:38:20 PM	82.7	87.1	86	81.5	77.4
8/20/2024	9:38:20 PM	9:38:30 PM	89.9	93.8	93.6	88.1	73.4
8/20/2024	9:38:30 PM	9:38:40 PM	88.1	93.2	91.6	87.1	84.1
8/20/2024	9:38:40 PM	9:38:50 PM	86.3	89.6	89	86.2	84.1
8/20/2024	9:38:50 PM	9:39:00 PM	94	98.9	97.2	93.1	86.2
8/20/2024	9:39:00 PM	9:39:10 PM	81.9	88.7	86.7	82.3	78.3
8/20/2024	9:39:10 PM	9:39:20 PM	83.7	86.9	86.4	83.4	76.5
8/20/2024	9:39:20 PM	9:39:30 PM	85.2	89.5	88.2	83.5	77.3
8/20/2024	9:39:30 PM	9:39:40 PM	89.6	93.8	93.3	88	85.8
8/20/2024	9:39:40 PM	9:39:50 PM	88.2	92.5	91.2	85.6	83.4
8/20/2024	9:39:50 PM	9:40:00 PM	91.6	96.9	95.6	90.9	86.6
8/20/2024	9:40:00 PM	9:40:10 PM	93.2	99.2	94.5	89.2	86.3
8/20/2024	9:40:10 PM	9:40:20 PM	96.9	102.2	101.3	94.7	85.1
8/20/2024	9:40:20 PM	9:40:30 PM	83.3	85.9	85	83	79.8
8/20/2024	9:40:30 PM	9:40:40 PM	88.7	92.3	91.4	88	85.2
8/20/2024	9:40:40 PM	9:40:50 PM	89.4	93.6	91.3	87.7	84.8
8/20/2024	9:40:50 PM	9:41:00 PM	89.7	93	91.8	89.8	88.2
8/20/2024	9:41:00 PM	9:41:10 PM	92.6	97.9	96.4	90.5	84.5
8/20/2024	9:41:10 PM	9:41:20 PM	95.7	99.2	97.4	95.1	93.9
8/20/2024	9:41:20 PM	9:41:30 PM	96.4	98.2	97.5	96.2	94.3
8/20/2024	9:41:30 PM	9:41:40 PM	96.3	98.6	97.8	95.8	93.8
8/20/2024	9:41:40 PM	9:41:50 PM	89.3	97.4	94.6	89.1	86.3
8/20/2024	9:41:50 PM	9:42:00 PM	90.2	92.8	92	89.6	87
8/20/2024	9:42:00 PM	9:42:10 PM	95.5	98.7	97.6	95.4	90.5
8/20/2024	9:42:10 PM	9:42:20 PM	96.2	99.5	97.9	95.2	93.6
8/20/2024	9:42:20 PM	9:42:30 PM	96.2	98.8	98.2	96.3	94.2
8/20/2024	9:42:30 PM	9:42:40 PM	96.4	100.2	99	95.7	94
8/20/2024	9:42:40 PM	9:42:50 PM	94.1	94.9	94.7	94.2	93
8/20/2024	9:42:50 PM	9:43:00 PM	91.1	95.1	94.9	90.5	89.1
8/20/2024	9:43:00 PM	9:43:10 PM	95.8	97.8	97	95.7	92.9
8/20/2024	9:43:10 PM	9:43:20 PM	96.9	98.5	98.1	96.5	95.1
8/20/2024	9:43:20 PM	9:43:30 PM	95.9	97.4	97.1	95.7	94.7
8/20/2024	9:43:30 PM	9:43:40 PM	96.8	99.3	98.2	96.4	95.4

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	9:43:40 PM	9:43:50 PM	96.4	98.4	97.9	96.2	93.8
8/20/2024	9:43:50 PM	9:44:00 PM	88.6	97.8	95.6	88.1	80.7
8/20/2024	9:44:00 PM	9:44:10 PM	81.8	84.8	82.9	80.2	78
8/20/2024	9:44:10 PM	9:44:20 PM	90	95.8	94.8	85.1	76.8
8/20/2024	9:44:20 PM	9:44:30 PM	84.8	90.2	89.5	82.6	79.4
8/20/2024	9:44:30 PM	9:44:40 PM	79.9	84	82.3	79.4	75.9
8/20/2024	9:44:40 PM	9:44:50 PM	80.6	84.6	83.8	79.2	75.3
8/20/2024	9:44:50 PM	9:45:00 PM	88.4	92.7	92.2	86	81.7
8/20/2024	9:45:00 PM	9:45:10 PM	73.7	80.3	77.9	74.6	71.9
8/20/2024	9:45:10 PM	9:45:20 PM	92.9	99.1	96.4	90.7	69.9
8/20/2024	9:45:20 PM	9:45:30 PM	83.6	86.7	85.8	83.1	80.3
8/20/2024	9:45:30 PM	9:45:40 PM	76.7	80.2	79.5	76.6	73.3
8/20/2024	9:45:40 PM	9:45:50 PM	74.3	77.1	76.9	73.8	70.1
8/20/2024	9:45:50 PM	9:46:00 PM	85.4	92.3	90.7	72.8	66.2
8/20/2024	9:46:00 PM	9:46:10 PM	82.3	89.3	87.7	81.4	70.1
8/20/2024	9:46:10 PM	9:46:20 PM	75.2	82.3	80.8	74.1	67.3
8/20/2024	9:46:20 PM	9:46:30 PM	79.5	84	83.4	73	62.5
8/20/2024	9:46:30 PM	9:46:40 PM	81.9	85.5	84.5	82.7	72.3
8/20/2024	9:46:40 PM	9:46:50 PM	73	80.6	77.7	73.6	68.9
8/20/2024	9:46:50 PM	9:47:00 PM	81.4	85.5	83.7	80.1	71.9
8/20/2024	9:47:00 PM	9:47:10 PM	85.9	89.3	88.8	83.9	79.9
8/20/2024	9:47:10 PM	9:47:20 PM	83.5	87.7	87.1	83.6	77.7
8/20/2024	9:47:20 PM	9:47:30 PM	91.7	96.1	94.9	89.4	83.8
8/20/2024	9:47:30 PM	9:47:40 PM	91.4	94.9	94.1	92.4	89.3
8/20/2024	9:47:40 PM	9:47:50 PM	87.1	93	91.6	80.6	77.4
8/20/2024	9:47:50 PM	9:48:00 PM	86.9	91.6	89.7	86.9	85
8/20/2024	9:48:00 PM	9:48:10 PM	94.5	96.2	95.9	94.3	90.8
8/20/2024	9:48:10 PM	9:48:20 PM	94.5	96.2	95.8	94.9	92.3
8/20/2024	9:48:20 PM	9:48:30 PM	98.1	100.9	100	97.7	94.3
8/20/2024	9:48:30 PM	9:48:40 PM	97.9	99.9	99.5	98.1	94.8
8/20/2024	9:48:40 PM	9:48:50 PM	89.9	94.5	94	89.2	84.6
8/20/2024	9:48:50 PM	9:49:00 PM	75.7	85.1	82	75.9	68.7
8/20/2024	9:49:00 PM	9:49:10 PM	87	90.6	89.6	86.2	69.4
8/20/2024	9:49:10 PM	9:49:20 PM	97.3	99.5	98.9	97.3	92.2
8/20/2024	9:49:20 PM	9:49:30 PM	98.2	101	100	98.3	93.6
8/20/2024	9:49:30 PM	9:49:40 PM	98.2	100.6	99.8	98.2	95.8
8/20/2024	9:49:40 PM	9:49:50 PM	97.3	99.9	99.4	97.4	94.1
8/20/2024	9:49:50 PM	9:50:00 PM	97.1	99.8	98.9	96.8	94.8
8/20/2024	9:50:00 PM	9:50:10 PM	94.4	97.7	97.1	94.7	88.2
8/20/2024	9:50:10 PM	9:50:20 PM	95.8	99	98.5	95.6	86.2
8/20/2024	9:50:20 PM	9:50:30 PM	93.8	98.7	97.2	94.8	86.5
8/20/2024	9:50:30 PM	9:50:40 PM	98.1	100.1	99.9	98.2	88.3
8/20/2024	9:50:40 PM	9:50:50 PM	97	99.9	98.7	97	94.1
8/20/2024	9:50:50 PM	9:51:00 PM	92.7	97.9	97.5	91.2	88.5
8/20/2024	9:51:00 PM	9:51:10 PM	91	94.2	93.9	92	87.4
8/20/2024	9:51:10 PM	9:51:20 PM	84.5	88.7	87.2	84.2	80.3
8/20/2024	9:51:20 PM	9:51:30 PM	81.1	84.5	84.3	80	78.6
8/20/2024	9:51:30 PM	9:51:40 PM	81.9	84.7	84.1	80.7	79.4
8/20/2024	9:51:40 PM	9:51:50 PM	80.5	84.4	83.1	80.1	79.2
8/20/2024	9:51:50 PM	9:52:00 PM	80.9	82.9	82.5	80.5	79
8/20/2024	9:52:00 PM	9:52:10 PM	81.2	84	81.9	80.9	79.1
8/20/2024	9:52:10 PM	9:52:20 PM	82	84.6	83.6	81.9	80.3
8/20/2024	9:52:20 PM	9:52:30 PM	78.3	82.6	80.9	78.5	77.1
8/20/2024	9:52:30 PM	9:52:40 PM	78.6	80.4	79.6	78.1	77.2
8/20/2024	9:52:40 PM	9:52:50 PM	78.9	82	80.6	78.7	77.4
8/20/2024	9:52:50 PM	9:53:00 PM	78.3	80.4	79.8	78	76.7
8/20/2024	9:53:00 PM	9:53:10 PM	78.6	80.1	79.6	78.5	77.3
8/20/2024	9:53:10 PM	9:53:20 PM	79.2	80.7	80.3	79.2	77.9
8/20/2024	9:53:20 PM	9:53:30 PM	78.7	80.9	80.4	78.5	77.1
8/20/2024	9:53:30 PM	9:53:40 PM	76.4	79.6	78.7	75.9	73.9
8/20/2024	9:53:40 PM	9:53:50 PM	77.5	78.6	78.3	77.4	76.2
8/20/2024	9:53:50 PM	9:54:00 PM	76.2	79.3	78.9	76.7	71.4
8/20/2024	9:54:00 PM	9:54:10 PM	72.4	75.4	74.1	72.9	69.3
8/20/2024	9:54:10 PM	9:54:20 PM	71.6	74.1	73.2	71	68.9
8/20/2024	9:54:20 PM	9:54:30 PM	70.7	72.2	71.5	70.7	69.5
8/20/2024	9:54:30 PM	9:54:40 PM	70.8	74.1	72.4	70.7	68.6
8/20/2024	9:54:40 PM	9:54:50 PM	70.4	72	71.6	70.1	69
8/20/2024	9:54:50 PM	9:55:00 PM	71	73.5	73	71.1	68.7
8/20/2024	9:55:00 PM	9:55:10 PM	67.6	69.8	69.3	67.6	66.1
8/20/2024	9:55:10 PM	9:55:20 PM	65.2	66.3	65.8	65.1	64.1
8/20/2024	9:55:20 PM	9:55:30 PM	65.5	67.3	66.9	65.5	63.9
8/20/2024	9:55:30 PM	9:55:40 PM	63.8	65.3	64.5	63.7	62.8
8/20/2024	9:55:40 PM	9:55:50 PM	63.7	65	64.8	64	62.8
8/20/2024	9:55:50 PM	9:56:00 PM	64.9	68	65.2	63.9	63
8/20/2024	9:56:00 PM	9:56:10 PM	68.1	71.7	70.9	67.5	64.8
8/20/2024	9:56:10 PM	9:56:20 PM	63.8	65.5	64.9	63.7	62.7
8/20/2024	9:56:20 PM	9:56:30 PM	65.3	67.8	67.4	64.6	62.8
8/20/2024	9:56:30 PM	9:56:40 PM	65	67.9	66.7	65.2	63.3

Monitored Bluestem Data, August 20, 2024

Start Date	Start Time	End Time	LAeq	LAS1%	LAS10%	LAS50%	LAS90%
8/20/2024	9:56:40 PM	9:56:50 PM	63	64.5	64	62.8	61.8
8/20/2024	9:56:50 PM	9:57:00 PM	64.3	67.1	66	63.5	62.8
8/20/2024	9:57:00 PM	9:57:10 PM	63	65.2	64.8	63	61.3
8/20/2024	9:57:10 PM	9:57:20 PM	64.6	70	67	63.7	62.7
8/20/2024	9:57:20 PM	9:57:30 PM	62.6	64.8	64	62.4	61.5
8/20/2024	9:57:30 PM	9:57:40 PM	63.4	65.9	64.7	63.1	62.2
8/20/2024	9:57:40 PM	9:57:50 PM	67.7	71.5	70.4	65	63.4
8/20/2024	9:57:50 PM	9:58:00 PM	66.3	70.1	69.7	66.5	63.3
8/20/2024	9:58:00 PM	9:58:10 PM	64.4	66.3	64.9	64.1	61.9
8/20/2024	9:58:10 PM	9:58:20 PM	65.8	69	67.7	65.6	63.8
8/20/2024	9:58:20 PM	9:58:30 PM	62.4	64.8	64.4	62.1	61.1
8/20/2024	9:58:30 PM	9:58:40 PM	62.1	62.9	62.4	62	61.5
8/20/2024	9:58:40 PM	9:58:50 PM	60.6	61.9	61.5	60.8	59.9
8/20/2024	9:58:50 PM	9:59:00 PM	63.3	64.7	64.1	63.2	62.1
8/20/2024	9:59:00 PM	9:59:10 PM	62.2	65.3	64.2	62.1	61.1
8/20/2024	9:59:10 PM	9:59:20 PM	64.2	70.8	67.6	62.1	60.8
8/20/2024	9:59:20 PM	9:59:30 PM	66.5	70.7	69.4	65.3	61.9
8/20/2024	9:59:30 PM	9:59:40 PM	74.5	78.6	77.5	73.6	68.4
8/20/2024	9:59:40 PM	9:59:50 PM	68.7	70.8	70.1	69.1	67.4
8/20/2024	9:59:50 PM	10:00:00 PM	63	66.2	65.5	63	62.4
8/20/2024	10:00:00 PM	10:00:10 PM	64.1	67	65.8	63.5	62.7
8/20/2024	10:00:10 PM	10:00:20 PM	64.7	68	66.2	64.5	61.6
8/20/2024	10:00:20 PM	10:00:30 PM	73.1	79.9	77.6	70.5	64.6
8/20/2024	10:00:30 PM	10:00:40 PM	64.2	70.5	67.5	64.4	62.2
8/20/2024	10:00:40 PM	10:00:50 PM	62.7	65.8	64	62.5	61.6
8/20/2024	10:00:50 PM	10:01:00 PM	63.4	65.5	65	63.4	61.8
8/20/2024	10:01:00 PM	10:01:10 PM	63.8	65.6	65.2	63.1	61.7
8/20/2024	10:01:10 PM	10:01:20 PM	67.1	70.5	69.1	66.6	64.4
8/20/2024	10:01:20 PM	10:01:30 PM	61.7	65.6	64.3	61.8	59.6

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MEMORANDUM

To:	Hilary Holmes, Senior Project Coordinator, City of Minneapolis Community Planning & Economic Development
From:	James P. Cowan, INCE Bd.Cert.
Subject:	Upper Harbor Terminal Amphitheater Noise Assessment – Follow-up Questions from MPCA
Date:	February 12, 2025

This memo is to respond to questions emailed to you and Shelley Roe on February 7, 2025, from Lauren Dickerson of the Minnesota Pollution Control Agency (MPCA) about the Upper Harbor Terminal (UHT) Amphitheater noise assessment summarized in our September 9, 2024 memo addressed to you for this project. The questions are:

1. What L_{10} and L_{50} values were utilized/represented for the amphitheater source in the noise modeling presented in the Veneklasen memo dated January 8, 2025?

2. Were the L_{10} and L_{50} values calculated from a single hour of the data collected on August 20, 2024 at the Bluestem Center for the Arts (presented in the Dudek September 9, 2024 memo), or were they calculated from the entire five hour period monitored? [will refer to this as "Bluestem data"]

3. Is there an hour of data within the five-hour period of Bluestem data where the L_{eq} is close to the equivalent of 98 dBA at 134 feet from stage (since data was collected 196 feet from the stage)? If yes, what are the L_{10} and L_{50} for that hour of data?

Question 1 should be addressed by Veneklasen since they performed the related analyses.

For question 2, the Bluestem L_{10} and L_{50} values presented in Dudek's September 9, 2024 memo were related to the entire 5-hour monitoring period.

For question 3, there was not an hour during the monitored Bluestem concert for which the recorded L_{eq} value was equivalent to 98 dBA at 134 feet from the stage. However, the reason the Bluestem data was recorded was to determine the difference between the L_{eq} and L_{10} and L_{50} values so those differences could be applied to the 98 dBA at 134 feet assumption for the UHT facility, not to determine the L_{10} and L_{50} values themselves from the concert. Because L_{10} and L_{50} values are statistical levels that cannot be easily calculated or combined (as L_{eq} values can be), we were only interested in trends in the Bluestem data rather than the absolute numerical values.

That being said, the trends in the Bluestem L_{10} and L_{50} data for the loudest hour were such that their associated sound pressure levels would be 6 dBA higher than those reported for the entire 5-hour period in our September 9, 2024 memo. Therefore, at Building 6a, the L_{10} and L_{50} predicted hourly values would be a maximum of 76 and 74

dBA, respectively. These values would still not exceed the daytime (7 am to 10 pm) Minnesota State NAC 3 limits of 80 dBA for L_{10} and 75 dBA for L_{50}, and thus Exception C of MAR Section 7030.0050 Subpart 3 would make these sound levels acceptable, as long as the building exterior-to-interior sound is attenuated by at least 40 dBA by design, the units have year-round climate control, and the units have no areas or accommodations intended for outdoor activities.

Feel free to contact me at jcowan@dudek.com with any further questions about this.

Appendix C:

Greenhouse Gas Assessment

EPA Simplified GHG Emissions Calculator (SGEC)

Version 7 June 2021

The EPA Simplified GHG Emissions Calculator ("the Calculator") is designed as a simplified calculation tool to help organizations estimate and inventory their annual greenhouse gas (GHG) emissions for US-based operations. All methodologies and default values provided are based on the most current Center for Corporate Climate Leadership Greenhouse *Gas Inventory Guidance Documents* and the *Emission Factors Hub*. The Calculator will quantify the direct and indirect emissions from sources at an organization when activity data are entered into the various sections of the workbook for one annual period.

Before entering data, please: 1) Enable Macros and 2) Familiarize yourself with the *Guide to Greenhouse Gas Management for Small Business & Low Emitters.*

Download the guide: https://www.epa.gov/climateleadership/center-corporate-climate-leadership-small-business-and-low-emitters-guide

There are three primary steps in completing a GHG inventory. Each emissions source also has these three steps.

(1) **DEFINE**: The first step in completing a GHG inventory is to determine the boundaries and emissions sources included within those boundaries. After you have defined your organizational and operational boundaries, you can use the questions on the "Boundary Questions" worksheet to help you determine which emissions sources are relevant to your business.

Go to Boundary Questions

(2) **COLLECT**: The second step is to collect data for the defined annual period. This step is typically the most time consuming, since the data can be difficult to gather. This Calculator has help sheets with suggestions and guidance for each emissions source and a general help sheet for data management. **Click the drop down menu boxes below to navigate to these sheets**.

Help - Data Management

(3) **QUANTIFY**: The third step is to calculate emissions. This Calculator is designed to complete the emissions quantification step for you. Once the user enters data in this MS Excel spreadsheet, the emissions will be calculated and totaled on the "Summary" sheet.

Calculator Guidance - Important Information

(A) Navigate to the data entry sheets using the drop down menu in the dark grey cell below and then clicking on the "Go To Data Entry Sheet" button. On the data entry sheets enter data in ORANGE cells only.

(B) This Calculator has several "Tool Sheets" with useful reference data such as unit conversions, heat contents, and emission factors. Click on the buttons below to go to the appropriate Tool Sheet.

(C) Data must be entered in the units specified on the data entry sheets. Use the "Unit Conversions" or "Heat Content" sheets if unit conversion is necessary prior to entering data into the Calculator.

(D) If more guidance is needed, you can reference the emission factor data sources found on the "Emission Factors" sheet.

Tool Sheets	Quick Data Entry Navigation
Unit Conversions	Fire Suppression
Heat Content	
Emission Factors	

Calculator Notes

Emission sources of all seven major GHGs are accounted for in the inventory and in this Calculator: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). The Calculator allows the user to estimate GHG emissions from scope 1 (direct), scope 2 (indirect), and some scope 3 (other indirect) sources.

The Calculator uses U.S.-specific cross-sector emission factors from the *Emission Factors Hub*. Many industrial sectors also have process-related emissions sources that are specific to their sector. EPA's Greenhouse Gas Reporting Program provides guidance and tools that can aid in the calculation and reporting of these emissions:

https://www.epa.gov/ghgreporting

The GHG Protocol also provides guidance on calculating emissions from industrial processes.

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Emissions Summary

Guidance

The total GHG emissions from each source category are provided below. You may also use this summary sheet to fill out the *Annual GHG Inventory Summary and Goal Tracking Form* as this calculator only quantifies one year of emissions at a time.

https://www.epa.gov/climateleadership/center-corporate-climate-leadership-annual-ghg-inventory-summary-and-goal-tracking

By entering the data below into the appropriate cell of the *Annual GHG Inventory Summary and Goal Tracking Form,* you will be able to compare multiple years of data.

If you have multiple Calculator files covering sub-sets of your inventory for a particular reporting period, sum each of the emission categories (e.g. Stationary Combustion) to an organizational total, which then can be entered into the *Annual GHG Inventory Summary and Goal Tracking Form* .

(A) Enter organization information into the orange cells. Other cells on this sheet will be automatically calculated from the data entered in the sheets in this workbook. Blue cells indicate required emission sources if applicable. Green cells indicate scope 3 emission sources and offsets, which organizations may optionally include in their inventory.

(B) The "Go To Sheet" buttons can be used to navigate to the data entry sheets.

Organizational Information:

Organization Name:			
Organization Address:			
Inventory Reporting Period:	*e.g., Calendar Year 2020, Fiscal Year 2020*		
	Start: *MM/DD/YY*	End:	*MM/DD/YY*
Name of Preparer:			
Phone Number of Preparer:			
Date Prepared:			

Summary of Organization's Emissions:

	Scope 1 Emissions		
Go To Sheet	Stationary Combustion	1,007	CO_2-e (metric tons)
Go To Sheet	Mobile Sources	7,334	CO_2-e (metric tons)
Go To Sheet	Refrigeration / AC Equipment Use	0	CO_2-e (metric tons)
Go To Sheet	Fire Suppression	0	CO_2-e (metric tons)
Go To Sheet	Purchased Gases	0	CO_2-e (metric tons)
	Location-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	4,220	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Market-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	4,220	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Total organization Emissions		
	Total Scope 1 & Location-Based Scope 2	12,561	CO_2-e (metric tons)
	Total Scope 1 & Market-Based Scope 2	12,561	CO_2-e (metric tons)
	Reductions		
Go To Sheet	Offsets	0	CO_2-e (metric tons)
	Net Scope 1 and 2 Location-Based Emissions	12,561	CO_2-e (metric tons)
	Net Scope 1 and 2 Market-Based Emissions	12,561	CO_2-e (metric tons)
	Scope 3 Emissions		
Go To Sheet	Employee Business Travel	0	CO_2-e (metric tons)
Go To Sheet	Employee Commuting	0	CO_2-e (metric tons)
Go To Sheet	Product Transport	0	CO_2-e (metric tons)
Go To Sheet	Waste	1,639	CO_2-e (metric tons)
	Required Supplemental Information		
Go To Sheet	Biomass CO_2 Emissions from Stationary Sources	0	CO_2-e (metric tons)
Go To Sheet	Biomass CO_2 Emissions from Mobile Sources	0	CO_2-e (metric tons)

Scope 1 Emissions from Stationary Combustion Sources

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U.S. Environmental Protection Agency

Guidance

(A) Enter annual data for each combustion unit, facility, or site (by fuel type) in ORANGE cells on **Table 1**. Example entry is shown in first row (*GREEN Italics*).

- Select "Fuel Combusted" from drop down box.
- Enter "Quantity Combusted" and choose the appropriate units from the drop down box in the unit column. If it's necessary to convert units, common heat contents can be found on the "Heat Content" sheet and unit conversions on the "Unit Conversion" sheet.

(B) If fuel is consumed in a facility but stationary fuel consumption data are not available, an estimate should be made for completeness. See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Biomass CO_2 emissions are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Stationary Source Fuel Combustion

Source ID	Source Description	Source Area (sq ft)	Fuel Combusted	Quantity Combusted	Units
BLR-012	*East Power Plant*	*12,517*	*Natural Gas*	*10,000*	*MMBtu*
Generator T	Generator Testing	N/A	Distillate Fuel Oil No. 2	0	Gallons
Residential	Natural Gas Use	520	Natural Gas	9,100	MMBtu
Commercia	Natural Gas Use	50,000	Natural Gas	1,075	MMBtu
Non-Comm	Natural Gas Use	315,000	Natural Gas	8,442	MMBtu
Music venu	Natural Gas Use	10,000	Natural Gas	339	MMBtu

GHG Emissions

Total Organization-Wide Stationary Source Combustion by Fuel Type

Fuel Type	Quantity Combusted	Units
Anthracite Coal	0	short tons
Bituminous Coal	0	short tons
Sub-bituminous Coal	0	short tons
Lignite Coal	0	short tons
Natural Gas	18,475,634	scf
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
Wood and Wood Residuals	0	short tons
Landfill Gas	0	scf

Total Organization-Wide CO_2, CH_4 and N_2O Emissions from Stationary Source Fuel Combustion

Fuel Type	CO_2 (kg)	CH_4 (g)	N_2O (g)
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Natural Gas	1,005,813.5	19,029.9	1,847.6
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
Total Fossil Fuel Emissions	**1,005,813.5**	**19,029.9**	**1,847.6**
Wood and Wood Residuals	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
Total Non-Fossil Fuel Emissions	**0.0**	**0.0**	**0.0**
Total Emissions for all Fuels	**1,005,813.5**	**19,029.9**	**1,847.6**

Total CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**1,006.8**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**0.0**

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Scope 1 Emissions from Mobile Sources

Guidance

(A) Enter annual data for each vehicle or group of vehicles (grouped by vehicle type, vehicle year, and fuel type) in ORANGE cells in **Table 1**. Example entry is shown in first row (GREEN *Italics*). Only enter vehicles owned or leased by your organization on this sheet. All other vehicle use such as employee commuting or business travel is considered a scope 3 emissions source and should be reported in the corresponding scope 3 sheets.

- Select "On-Road" or "Non-Road" from drop down box to determine the Vehicle Types available.
- Select "Vehicle Type" from drop down box (closest type available).
- Enter "Fuel Usage" in appropriate units (units appear when vehicle type is selected).
- If mileage or fuel usage is unknown, estimate using approximate fuel economy values (see **Reference Table** below).
- Vehicle year and Miles traveled are not necessary for non-road equiment.

(B) When using biofuels, typically the biofuel (biodiesel or ethanol) is mixed with a petroleum fuel (diesel or gasoline) for use in vehicles. Enter the biodiesel and ethanol percentages of the fuel if known, or leave default values.

Biodiesel Percent:	20	%
Ethanol Percent:	80	%

(C) Biomass CO_2 emissions from biodiesel and ethanol are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Mobile Source Fuel Combustion and Miles Traveled

Source ID	Source Description	On-Road or Non-Road?	Vehicle Type	Vehicle Year	Fuel Usage	Units	Miles Traveled
Fleet-012	*HQ Fleet*	*NonRoad*	*Ships and Boats - Diesel*	*1990*	*500*	*gal*	*3,670*
Construction Equipment (non-road g	Construction Equipment	NonRoad	Construction/Mining Equipment - Gasoline (2 stroke)	2007	158,553	gal	0
Passenger Cars	Construction Equipment	OnRoad	Passenger Cars - Gasoline	2007	539	gal	4,368
Construction Equipment (non-road d	Construction Equipment	NonRoad	Construction/Mining Equipment - Diesel	2007	566,260	gal	0
Medium- and Heavy- Duty Trucks	Construction Equipment	OnRoad	Medium- and Heavy-Duty Vehicles - Diesel	2007	1,133	gal	1,560
Light Trucks	Construction Equipment	OnRoad	Light-Duty Trucks - Gasoline	2007	1,057	gal	1,560

Reference Table: Average Fuel Economy by Vehicle Type

Vehicle Type	Average Fuel Economy (mpg)
Passenger Cars	24.1
Motorcycles	44.0
Diesel Buses (Diesel Heavy-Duty Vehicles)	7.3
Other 2-axle, 4-Tire Vehicles	17.6
Single unit 2-Axle 6-Tire or More Trucks	7.5
Combination Trucks	6.1

GHG Emissions

Total Organization-Wide Mobile Source Fuel Usage and CO_2 Emissions (On-Road and Off-Road Vehicles)

Fuel Type	Fuel Usage	Units	CO_2 (kg)	
Motor Gasoline	160,149	gallons	1,406,108.1	
Diesel Fuel	567,392	gallons	5,793,076.5	
Residual Fuel Oil	0	gallons	0.0	
Aviation Gasoline	0	gallons	0.0	
Kerosene-Type Jet Fuel	0	gallons	0.0	
Liquefied Petroleum Gas (LPG)	0	gallons	0.0	
Ethanol	0	gallons	0.0	*Note: emissions here are only for the g*
Biodiesel	0	gallons	0.0	*Note: emissions here are only for the d*
Liquefied Natural Gas (LNG)	0	gallons	0.0	
Compressed Natural Gas (CNG)	0	scf	0.0	

Total Organization-Wide On-Road Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Gasoline	1984-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0

	2007	4,368	31.4	22.7
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Light-Duty Trucks - Gasoline	1987-93	0	0.0	0.0
(Vans, Pickup Trucks, SUVs)	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	1,560	16.1	9.5
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Heavy-Duty Vehicles - Gasoline	1985-86	0	0.0	0.0
	1987	0	0.0	0.0
	1988-1989	0	0.0	0.0
	1990-1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	0	0.0	0.0
	2008	0	0.0	0.0

	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Motorcycles - Gasoline	1960-1995	0	0.0	0.0
	1996-present	0	0.0	0.0

Total Organization-Wide On-Road Non-Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Light-Duty Trucks - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Medium- and Heavy-Duty Vehicles -	Diesel	1960-2006	0	0.0	0.0
		2007-2018	1,560	14.8	67.2
Light-Duty Cars	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Light-Duty Trucks	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Medium-Duty Trucks	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Heavy-Duty Trucks	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Buses	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

Total Organization-Wide Non-Road Mobile Source Fuel Usage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Fuel Usage (gallons)	CH_4 (g)	N_2O (g)
Ships and Boats	Residual Fuel Oil	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Locomotives	Diesel	-	-	-
Aircraft	Jet Fuel	-	-	-
	Aviation Gasoline	-	-	-
Agricultural Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Agricultural Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Construction/Mining Equipment	Gasoline (2 stroke)	158,553	1,969,225	11,099
	Gasoline (4 stroke)	-	-	-
	Diesel	566,260	113,252	266,142
	LPG	-	-	-
Construction/Mining Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Lawn and Garden Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Airport Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Industrial/Commercial Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Logging Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Railroad Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Recreational Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-

Total CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**7,333.9**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**0.0**

Notes:

1. Average mpg values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2019 (Nov 2020), Table VM-1.

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Scope 2 Emissions from Purchase of Electricity

Guidance

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying two scope 2 emissions totals, using a **location-based method** and a **market-based method**. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

(A) Enter total annual electricity purchased in kWh and each eGRID subregion for each facility or site in ORANGE cells of **Table 1**.
(B) If electricity consumption data are not available for a facility, an estimate should be made for completeness.
See the "Items to Note" section of the Help sheet for suggested estimation approaches.
(C) Select "eGRID subregion" from drop box and enter "Electricity Purchased."
- Use map (Figure 1) at bottom of sheet to determine appropriate eGRID subregion. If subregion cannot be determined from the map, find the correct subregion by entering the location's zip code into EPA's Power Profiler:
https://www.epa.gov/egrid/power-profiler#/
(D) See the market-based emission factor hierarchy on the market-based method Help sheet. If any of the first four types of emission factors are applicable, enter the factors in the yellow cells marked as "<enter factor>". If not, leave the yellow cells as is, and eGRID subregion factors will be used for market-based emissions.
Example entry is shown in first row (*GREEN Italics*) for a facility that purchases RECs for 100% of its consumption, and therefore has a market-based emission factor of 0.

Help - Market-Based Method

Tips: Enter electricity usage by location and then look up the eGRID subregion for each location.
If you purchase renewable energy that is less than 100% of your site's electricity, see the example in the market-based method Help sheet.

Table 1. Total Amount of Electricity Purchased by eGRID Subregion

					Market-Based *Use these cells to enter applicable market-based emission factors*						Location-Based		
					Emission Factors			Emissions			Emissions		
Source ID	Source Description	Source Area (sq ft)	eGRID Subregion *where electricity is consumed*	Electricity Purchased (kWh)	CO_2 Emissions (lb/MWh)	CH_4 Emissions (lb/MWh)	N_2O Emissions (lb/MWh)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)
Bldg-012	*East Power Plant*	*12,517*	*HIMS (HICC Miscellaneous)*	*200,000*	*0*	*0*	*0*	*0.0*	*0.0*	*0.0*	*237,120.0*	*28.6*	*4.4*
Residential	Electricity Use	520	MROW (MRO West)	2,878,720	<enter factor>	<enter factor>	<enter factor>	3,161,986.0	342.6	48.9	3,161,986.0	342.6	48.9
Commercia	Electricity Use	50,000	MROW (MRO West)	705,000	<enter factor>	<enter factor>	<enter factor>	774,372.0	83.9	12.0	774,372.0	83.9	12.0
Non-Comm	Electricity Use	315,000	MROW (MRO West)	4,819,500	<enter factor>	<enter factor>	<enter factor>	5,293,738.8	573.5	81.9	5,293,738.8	573.5	81.9
Music venu	Electricity Use	10,000	MROW (MRO West)	5,540	<enter factor>	<enter factor>	<enter factor>	6,085.1	0.7	0.1	6,085.1	0.7	0.1
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						

					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
Total Emissions for All Sources				8,408,760				9,236,182.0	1,000.6	142.9	9,236,182.0	1,000.6	142.9

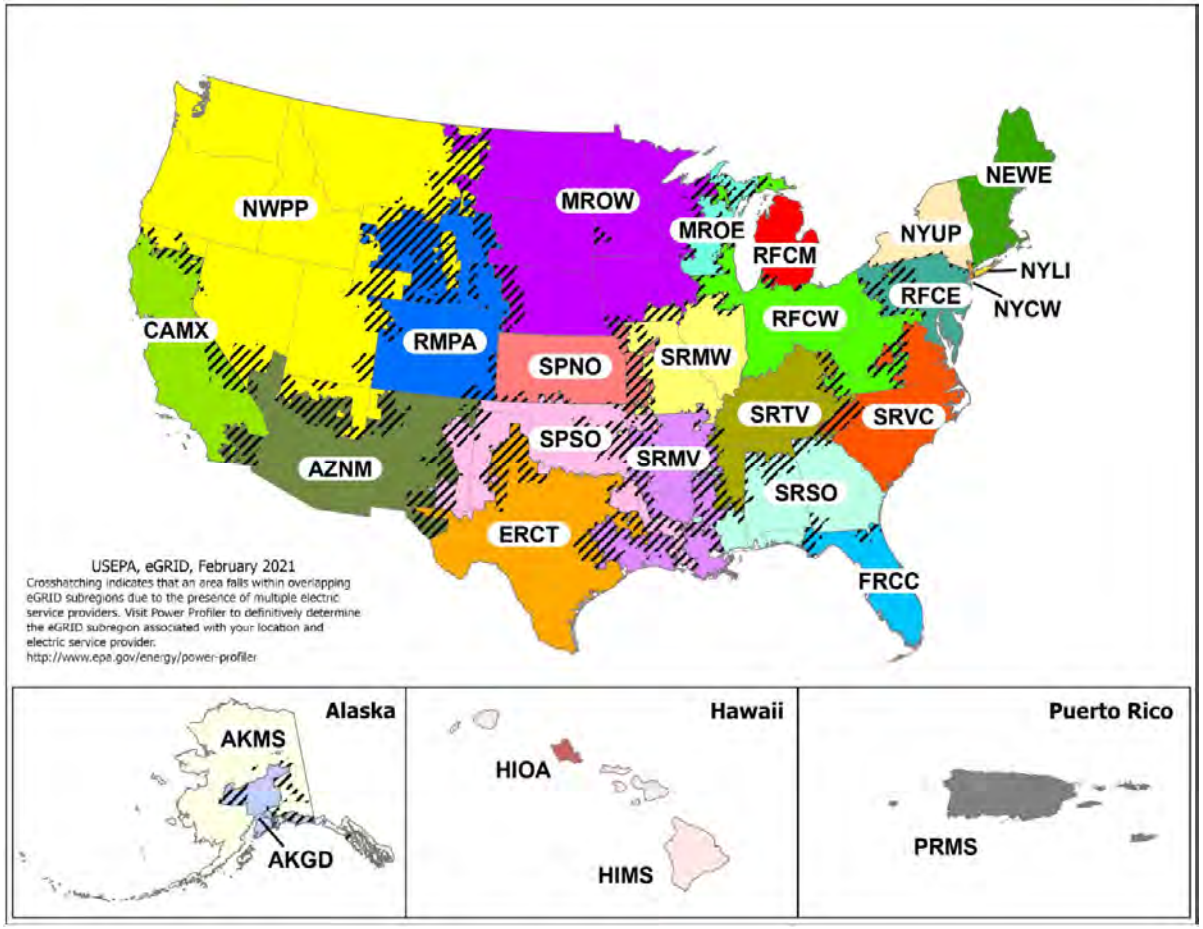
GHG Emissions

CO_2 Equivalent Emissions (metric tons)	
Location-Based Electricity Emissions	4,220.2
Market-Based Electricity Emissions	4,220.2

Notes:

1. CO_2, CH_4 and N_2O emissions are estimated using methodology provided in EPA's Center for Corporate Climate Leadership Greenhouse Gas Inventory Guidance - Indirect Emissions from Purchased Electricity (January 2016).

Figure 1. EPA eGRID2019, February 2021.



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Scope 3 Emissions from Waste

Guidance

(A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (*GREEN Italics*).

(B) Choose the appropriate material and disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.

(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO_2, CH_4 and N_2O)

Source ID	Source Description	Waste Material	Disposal Method	Weight	Unit	CO_2e Emissions (kg)
Bldg-012	*East Power Plant Finished Goods*	*Steel Cans*	*Landfilled*	*1,000*	*metric ton*	*22,040*
Nonresidential Buildings	Nonresidential Waste	Mixed MSW municipal solid waste	Combusted	2,138	metric ton	*1,012,876*
Residential	Residential Waste	Mixed MSW municipal solid waste	Combusted	463	metric ton	*219,380*
Nonresidential Buildings	Nonresidential Recycling	Mixed Recyclables	Recycled	3,375	metric ton	*334,733*
Residential	Residential Recycling	Mixed Recyclables	Recycled	731	metric ton	*72,500*
Nonresidential Buildings	Data Center Waste	Mixed Recyclables	Recycled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed MSW municipal solid waste	Landfilled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed Electronics	Landfilled	0	metric ton	*0*

GHG Emissions

Total Emissions by Disposal Method

Waste Material	CO_2e (kg)
Recycled	407,233
Landfilled	-
Combusted	1,232,256
Composted	-
Anaerobically Digested (Dry Digestate with Curing)	-
Anaerobically Digested (Wet Digestate with Curing)	-

Total CO_2 Equivalent Emissions (metric tons) - Waste **1,639.5**

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Emissions Summary

Guidance

The total GHG emissions from each source category are provided below. You may also use this summary sheet to fill out the *Annual GHG Inventory Summary and Goal Tracking Form* as this calculator only quantifies one year of emissions at a time.

https://www.epa.gov/climateleadership/center-corporate-climate-leadership-annual-ghg-inventory-summary-and-goal-tracking

By entering the data below into the appropriate cell of the *Annual GHG Inventory Summary and Goal Tracking Form,* you will be able to compare multiple years of data.

If you have multiple Calculator files covering sub-sets of your inventory for a particular reporting period, sum each of the emission categories (e.g. Stationary Combustion) to an organizational total, which then can be entered into the *Annual GHG Inventory Summary and Goal Tracking Form* .

(A) Enter organization information into the orange cells. Other cells on this sheet will be automatically calculated from the data entered in the sheets in this workbook. Blue cells indicate required emission sources if applicable. Green cells indicate scope 3 emission sources and offsets, which organizations may optionally include in their inventory.

(B) The "Go To Sheet" buttons can be used to navigate to the data entry sheets.

Organizational Information:

Organization Name:			
Organization Address:			
Inventory Reporting Period:	*e.g., Calendar Year 2020, Fiscal Year 2020*		
	Start: *MM/DD/YY*	End:	*MM/DD/YY*
Name of Preparer:			
Phone Number of Preparer:			
Date Prepared:			

Summary of Organization's Emissions:

	Scope 1 Emissions		
Go To Sheet	Stationary Combustion	1,819	CO_2-e (metric tons)
Go To Sheet	Mobile Sources	13,112	CO_2-e (metric tons)
Go To Sheet	Refrigeration / AC Equipment Use	0	CO_2-e (metric tons)
Go To Sheet	Fire Suppression	0	CO_2-e (metric tons)
Go To Sheet	Purchased Gases	0	CO_2-e (metric tons)
	Location-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	7,779	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Market-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	7,779	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Total organization Emissions		
	Total Scope 1 & Location-Based Scope 2	22,710	CO_2-e (metric tons)
	Total Scope 1 & Market-Based Scope 2	22,710	CO_2-e (metric tons)
	Reductions		
Go To Sheet	Offsets	0	CO_2-e (metric tons)
	Net Scope 1 and 2 Location-Based Emissions	22,710	CO_2-e (metric tons)
	Net Scope 1 and 2 Market-Based Emissions	22,710	CO_2-e (metric tons)
	Scope 3 Emissions		
Go To Sheet	Employee Business Travel	0	CO_2-e (metric tons)
Go To Sheet	Employee Commuting	0	CO_2-e (metric tons)
Go To Sheet	Product Transport	0	CO_2-e (metric tons)
Go To Sheet	Waste	3,033	CO_2-e (metric tons)
	Required Supplemental Information		
Go To Sheet	Biomass CO_2 Emissions from Stationary Sources	0	CO_2-e (metric tons)
Go To Sheet	Biomass CO_2 Emissions from Mobile Sources	0	CO_2-e (metric tons)

Scope 1 Emissions from Stationary Combustion Sources

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Guidance

(A) Enter annual data for each combustion unit, facility, or site (by fuel type) in ORANGE cells on **Table 1**. Example entry is shown in first row (*GREEN Italics*).

- Select "Fuel Combusted" from drop down box.
- Enter "Quantity Combusted" and choose the appropriate units from the drop down box in the unit column. If it's necessary to convert units, common heat contents can be found on the "Heat Content" sheet and unit conversions on the "Unit Conversion" sheet.

(B) If fuel is consumed in a facility but stationary fuel consumption data are not available, an estimate should be made for completeness. See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Biomass CO_2 emissions are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Stationary Source Fuel Combustion

Source ID	Source Description	Source Area (sq ft)	Fuel Combusted	Quantity Combusted	Units
BLR-012	*East Power Plant*	*12,517*	*Natural Gas*	*10,000*	*MMBtu*
Generator T	Generator Testing	N/A	Distillate Fuel Oil No. 2	0	Gallons
Residential	Natural Gas Use	890	Natural Gas	15,575	MMBtu
Commercia	Natural Gas Use	55,000	Natural Gas	1,183	MMBtu
Non-Comm	Natural Gas Use	640,000	Natural Gas	17,152	MMBtu
Music Venu	Natural Gas Use	10,000	Natural Gas	339	MMBtu

GHG Emissions

Total Organization-Wide Stationary Source Combustion by Fuel Type

Fuel Type	Quantity Combusted	Units
Anthracite Coal	0	short tons
Bituminous Coal	0	short tons
Sub-bituminous Coal	0	short tons
Lignite Coal	0	short tons
Natural Gas	33,380,604	scf
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
Wood and Wood Residuals	0	short tons
Landfill Gas	0	scf

Total Organization-Wide CO_2, CH_4 and N_2O Emissions from Stationary Source Fuel Combustion

Fuel Type	CO_2 (kg)	CH_4 (g)	N_2O (g)
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Natural Gas	1,817,240.1	34,382.0	3,338.1
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
Total Fossil Fuel Emissions	**1,817,240.1**	**34,382.0**	**3,338.1**
Wood and Wood Residuals	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
Total Non-Fossil Fuel Emissions	**0.0**	**0.0**	**0.0**
Total Emissions for all Fuels	**1,817,240.1**	**34,382.0**	**3,338.1**

Total CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**1,819.1**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**0.0**

- If mileage or fuel usage is unknown, estimate using approximate fuel economy values (see **Reference Table** below).
- Vehicle year and Miles traveled are not necessary for non-road equiment.

(B) When using biofuels, typically the biofuel (biodiesel or ethanol) is mixed with a petroleum fuel (diesel or gasoline) for use in vehicles. Enter the biodiesel and ethanol percentages of the fuel if known, or leave default values.

Biodiesel Percent:	20	%
Ethanol Percent:	80	%

(C) Biomass CO_2 emissions from biodiesel and ethanol are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Mobile Source Fuel Combustion and Miles Traveled

Source ID	Source Description	On-Road or Non-Road?	Vehicle Type	Vehicle Year	Fuel Usage	Units
Fleet-012	*HQ Fleet*	*NonRoad*	*Ships and Boats - Diesel*	*1990*	*500*	*gal*
Construction Equipment (non-road g	Construction Equipment	NonRoad	Construction/Mining Equipment - Gasoline (2 stroke)	2007	283,466	gal
Passenger Cars	Construction Equipment	OnRoad	Passenger Cars - Gasoline	2007	964	gal
Construction Equipment (non-road d	Construction Equipment	NonRoad	Construction/Mining Equipment - Diesel	2007	1,012,378	gal
Medium- and Heavy- Duty Trucks	Construction Equipment	OnRoad	Medium- and Heavy-Duty Vehicles - Diesel	2007	2,025	gal
Light Trucks	Construction Equipment	OnRoad	Light-Duty Trucks - Gasoline	2007	1,890	gal

Reference Table: Average Fuel Economy by Vehicle Type

Vehicle Type	Average Fuel Economy (mpg)
Passenger Cars	24.1
Motorcycles	44.0
Diesel Buses (Diesel Heavy-Duty Vehicles)	7.3
Other 2-axle, 4-Tire Vehicles	17.6
Single unit 2-Axle 6-Tire or More Trucks	7.5
Combination Trucks	6.1

GHG Emissions

Total Organization-Wide Mobile Source Fuel Usage and CO_2 Emissions (On-Road and Off-Road Vehicles)

Fuel Type	Fuel Usage	Units	CO_2 (kg)	
Motor Gasoline	286,320	gallons	2,513,885.4	
Diesel Fuel	1,014,402	gallons	10,357,049.0	
Residual Fuel Oil	0	gallons	0.0	
Aviation Gasoline	0	gallons	0.0	
Kerosene-Type Jet Fuel	0	gallons	0.0	
Liquefied Petroleum Gas (LPG)	0	gallons	0.0	
Ethanol	0	gallons	0.0	*Note: emissior*
Biodiesel	0	gallons	0.0	*Note: emissior*
Liquefied Natural Gas (LNG)	0	gallons	0.0	
Compressed Natural Gas (CNG)	0	scf	0.0	

Total Organization-Wide On-Road Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Gasoline	1984-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	4,368	31.4	22.7
	2008	0	0.0	0.0

	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Light-Duty Trucks - Gasoline	1987-93	0	0.0	0.0
(Vans, Pickup Trucks, SUVs)	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	1,560	16.1	9.5
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Heavy-Duty Vehicles - Gasoline	1985-86	0	0.0	0.0
	1987	0	0.0	0.0
	1988-1989	0	0.0	0.0
	1990-1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0

	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	0	0.0	0.0
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Motorcycles - Gasoline	1960-1995	0	0.0	0.0
	1996-present	0	0.0	0.0

Total Organization-Wide On-Road Non-Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Light-Duty Trucks - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Medium- and Heavy-Duty Vehicles -	Diesel	1960-2006	0	0.0	0.0
		2007-2018	1,560	14.8	67.2
Light-Duty Cars	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Light-Duty Trucks	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Medium-Duty Trucks	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Heavy-Duty Trucks	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

Buses	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

Total Organization-Wide Non-Road Mobile Source Fuel Usage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Fuel Usage (gallons)	CH_4 (g)	N_2O (g)
Ships and Boats	Residual Fuel Oil	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Locomotives	Diesel	-	-	-
Aircraft	Jet Fuel	-	-	-
	Aviation Gasoline	-	-	-
Agricultural Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Agricultural Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Construction/Mining Equipment	Gasoline (2 stroke)	283,466	3,520,645	19,843
	Gasoline (4 stroke)	-	-	-
	Diesel	1,012,378	202,476	475,818
	LPG	-	-	-
Construction/Mining Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Lawn and Garden Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Airport Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Industrial/Commercial Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Logging Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Railroad Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Recreational Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-

	LPG	-	-	-

Total CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**13,111.8**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**0.0**

Notes:

1. Average mpg values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2019 (Nov 2020), Table VM-1.

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U.S. Environmental Protection Agency

Scope 2 Emissions from Purchase of Electricity

Guidance

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying two scope 2 emissions totals, using a **location-based method** and a **market-based method**. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

(A) Enter total annual electricity purchased in kWh and each eGRID subregion for each facility or site in ORANGE cells of **Table 1**.

(B) If electricity consumption data are not available for a facility, an estimate should be made for completeness.
See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Select "eGRID subregion" from drop box and enter "Electricity Purchased."
- Use map (Figure 1) at bottom of sheet to determine appropriate eGRID subregion. If subregion cannot be determined from the map, find the correct subregion by entering the location's zip code into EPA's Power Profiler:
https://www.epa.gov/egrid/power-profiler#/

(D) See the market-based emission factor hierarchy on the market-based method Help sheet. If any of the first four types of emission factors are applicable, enter the factors in the yellow cells marked as "<enter factor>". If not, leave the yellow cells as is, and eGRID subregion factors will be used for market-based emissions.
Example entry is shown in first row (*GREEN Italics*) for a facility that purchases RECs for 100% of its consumption, and therefore has a market-based emission factor of 0.

Help - Market-Based Method

Tips: Enter electricity usage by location and then look up the eGRID subregion for each location.
If you purchase renewable energy that is less than 100% of your site's electricity, see the example in the market-based method Help sheet.

Table 1. Total Amount of Electricity Purchased by eGRID Subregion

					Market-Based *Use these cells to enter applicable market-based emission factors*						Location-Based		
					Emission Factors			Emissions			Emissions		
Source ID	Source Description	Source Area (sq ft)	eGRID Subregion *where electricity is consumed*	Electricity Purchased (kWh)	CO_2 Emissions (lb/MWh)	CH_4 Emissions (lb/MWh)	N_2O Emissions (lb/MWh)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)
Bldg-012	*East Power Plant*	*12,517*	*HIMS (HICC Miscellaneous)*	*200,000*	*0*	*0*	*0*	*0.0*	*0.0*	*0.0*	*237,120.0*	*28.6*	*4.4*
Residential	Electricity Use	890	MROW (MRO West)	4,927,040	<enter factor>	<enter factor>	<enter factor>	5,411,860.7	586.3	83.8	5,411,860.7	586.3	83.8
Commercia	Electricity Use	55,000	MROW (MRO West)	775,500	<enter factor>	<enter factor>	<enter factor>	851,809.2	92.3	13.2	851,809.2	92.3	13.2
Non-Comm	Electricity Use	640,000	MROW (MRO West)	9,792,000	<enter factor>	<enter factor>	<enter factor>	10,755,532.8	1,165.2	166.5	10,755,532.8	1,165.2	166.5
Music Venu	Electricity Use	10,000	MROW (MRO West)	5,540	<enter factor>	<enter factor>	<enter factor>	6,085.1	0.7	0.1	6,085.1	0.7	0.1
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
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					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
Total Emissions for All Sources				15,500,080				17,025,287.9	1,844.5	263.5	17,025,287.9	1,844.5	263.5

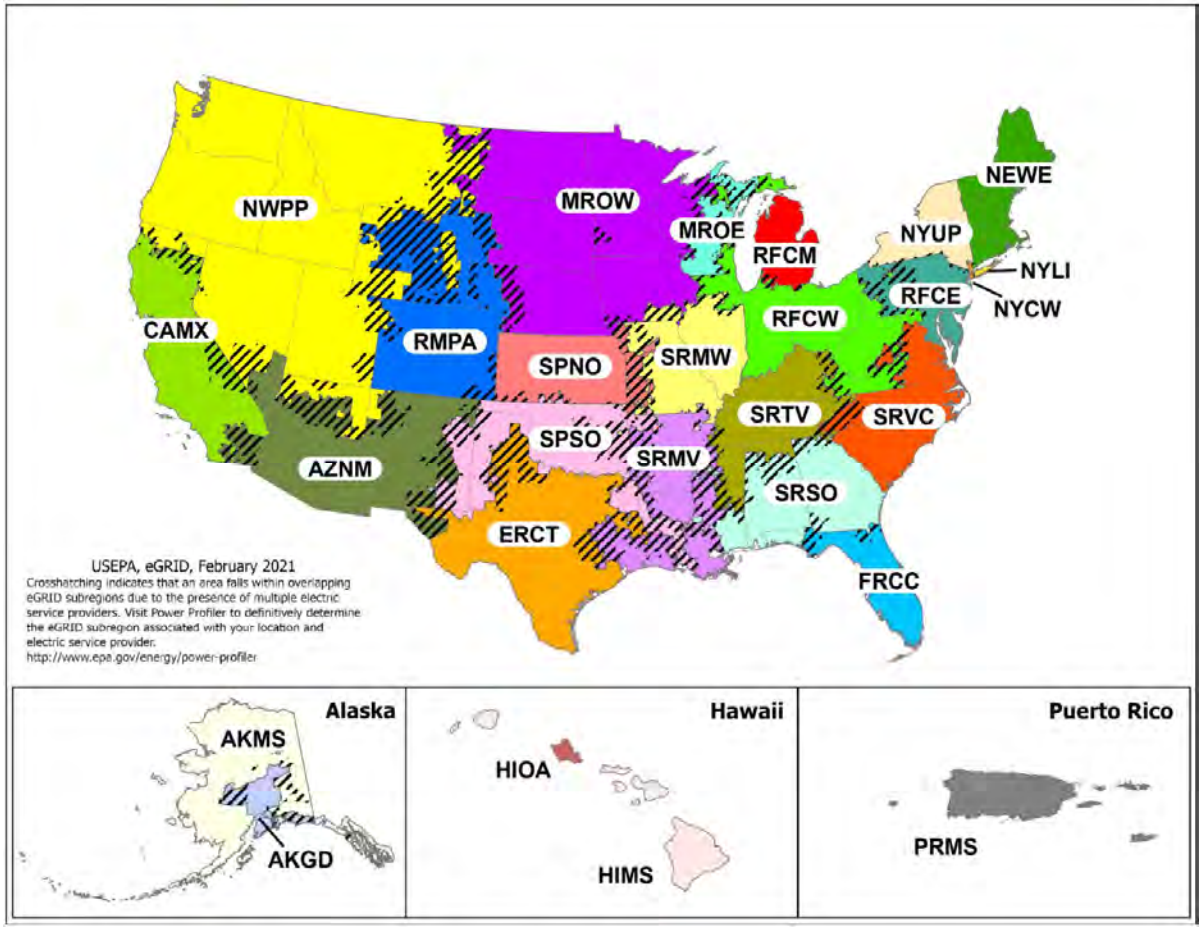
GHG Emissions

CO_2 Equivalent Emissions (metric tons)	
Location-Based Electricity Emissions	7,779.2
Market-Based Electricity Emissions	7,779.2

Notes:

1. CO_2, CH_4 and N_2O emissions are estimated using methodology provided in EPA's Center for Corporate Climate Leadership Greenhouse Gas Inventory Guidance - Indirect Emissions from Purchased Electricity (January 2016).

Figure 1. EPA eGRID2019, February 2021.



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Scope 3 Emissions from Waste

Guidance

(A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (*GREEN Italics*).

(B) Choose the appropriate material and disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.

(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO_2, CH_4 and N_2O)

Source ID	Source Description	Waste Material	Disposal Method	Weight	Unit	CO_2e Emissions (kg)
Bldg-012	*East Power Plant Finished Goods*	*Steel Cans*	*Landfilled*	*1,000*	*metric ton*	*22,040*
Nonresidential Buildings	Nonresidential Waste	Mixed MSW municipal solid waste	Combusted	4,019	metric ton	*1,904,206*
Residential	Residential Waste	Mixed MSW municipal solid waste	Combusted	792	metric ton	*375,477*
Nonresidential Buildings	Nonresidential Recycling	Mixed Recyclables	Recycled	6,345	metric ton	*629,297*
Residential	Residential Recycling	Mixed Recyclables	Recycled	1,251	metric ton	*124,087*
Nonresidential Buildings	Data Center Waste	Mixed Recyclables	Recycled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed MSW municipal solid waste	Landfilled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed Electronics	Landfilled	0	metric ton	*0*

GHG Emissions

Total Emissions by Disposal Method

Waste Material	CO_2e (kg)
Recycled	753,384
Landfilled	-
Combusted	2,279,684
Composted	-
Anaerobically Digested (Dry Digestate with Curing)	-
Anaerobically Digested (Wet Digestate with Curing)	-

Total CO_2 Equivalent Emissions (metric tons) - Waste **3,033.1**