FINDINGS OF FACT

and

CONCLUSIONS

South Shores on Lake Pulaski,

City of Buffalo

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City of Buffalo, Minnesota
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APPENDICES

I. STATEMENT OF ISSUE

A 210.1-acre housing project is being proposed on four parcels located along the south shore of Lake Pulaski in the City of Buffalo, Wright County, Minnesota. The proposed project features a phased development plan, commencing in 2025 with a total of 303 single family housing units and 608 attached housing units. The proposed project also includes a 10.2-acre natural park, new infrastructure, storm ponds, wetlands, and recreational enhancements, transforming farmland and grassland into a diverse residential community over a five-year period.

Preparation of an Environmental Assessment Worksheet (EAW) is considered mandatory under Minnesota Rules 4410.4300, Subpart 19. Hokanson Construction and Development is the project proposer, and the City of Buffalo is the Responsible Governmental Unit (RGU) for this project, as per Minnesota Rules 4410.4300, Subpart 19.

The City of Buffalo's decision in this matter shall be either a negative or positive declaration on the need for an Environmental Impact Statement (EIS). The City must order the preparation of an EIS for the project if it determines that the project has the potential for significant environmental effects.

Based upon information in the record, which is comprised of the EAW for the Proposed Project, the issues raised during the public comment period, the responses to the comments, and other supporting documents, the City makes the following Findings of Fact and Conclusions:

II. ADMINISTRATIVE BACKGROUND

Hokanson Construction and Development is the project proposer, and the City of Buffalo is the Responsible Governmental Unit (RGU) for this project. An EAW was prepared for this project as part of the Minnesota Environmental Policy Act (MEPA) to fulfill requirements M.S. 116D and Minnesota Rules Chapter 4410. The EAW is used to provide sufficient environmental documentation for the RGU to base a determination of need for a state EIS or that a Negative Declaration is appropriate.

The EAW was filed with the Minnesota Environmental Quality Board (EQB) and circulated for review to the required EQB Distribution List. A "notice of availability" was published in the EQB Monitor on June 10, 2025. **Appendix A** contains a copy of the EQB Monitor listing for the project and members on the EAW Distribution List. A press release was published in Wright County Journal-Press on June 12, 2025 (see **Appendix A**).

The EAW was posted on the City of Buffalo's website at: https://www.ci.buffalo.mn.us/. The EAW was also made available for public review at Buffalo City Center. Comments were formally received through July 10, 2025.

A total of four written comment letters were received during the EAW comment period. Three of the written comment letters on the South Shores on Lake Pulaski Development EAW were received from public agencies: Minnesota Department of Natural Resources (MnDNR) and Minnesota Pollution Control Agency (MPCA). One written comment letter was received from the

general public, and additional comments were collected at a City Council meeting that occurred on July 7, 2025. All comments received during the EAW comment period were considered in determining the potential for significant environmental impacts. Comments received during the comment period are provided in **Appendix B**.

III. FINDINGS OF FACT

A. Project Description

The project includes the construction of single family, twin homes, townhomes, apartments and senior living units as part of a new development in Buffalo, Minnesota. The project aims to incorporate family living in one development. Whether a person is owning their first home, having their second child, or living their active lives in their senior years, they are welcome. The goal is to have families living and thriving in the same development. The proposed project would construct the following housing units:

61 single family villas - unattached

72 single family standard lots - unattached

118 single family wide lots - unattached

52 single family large lots - unattached

62 twin homes - attached

126 town homes - attached

380 apartments - attached

40 senior living units - attached

The four property parcels are 210.1 acres of land for the housing units, stormwater treatment ponds, wetlands, and open space. A shoreland zone is located 1,000 feet off Lake Pulaski on the north in the single family home area. A natural area park of 10.2 acres within the parcel will be maintained as a preserve. Figure 1 is a USGS Site Location Map, and Figure 2 is a Wright County Location Map.

New public and private roadways will be constructed to provide access to the development from 20th Street NE and Calder Avenue. Trails will be built throughout the development for mobility and recreation. The land is currently used as farmland since the 1930's for row crop agriculture and wetlands, as well as some grassland. Most of the trees on the development will be preserved in the 10.2 acre park. Many additional trees will be planted on most unattached lots. A hay storage barn is present that will be removed. All of the proposed work will require grading and earthwork, which can be accomplished with standard construction equipment. The site will be mass graded to provide the lots and roadway alignments, and the site will be leveled to provide buildable conditions. Infrastructure for water, sewer, electrical and natural gas as well as stormwater management will be constructed in conjunction with the grading to provide a site suitable for building the multiple living styles listed previously.

The construction will be initiated in 2025 to complete the mass grading and to prepare the site for development. The duration of mass grading and installation of the roadways will take approximately 6 months. Individual lots are expected to be developed over a five-year period.

B. Corrections to the EAW or Changes in the Project since the EAW was Published

The following corrections/changes have been made to the environmental documentation since the publication of the EAW:

1. EAW Item 10, "Land Use," additional information provided:
    a. As currently constituted, the proposed project includes the development of a controlled access lot for use by owners of non-riparian lots on parcel #103500202409. Buffalo City Code (Sec. 50.116(4)c.) outlines the standards for such lots. Parcel #103500202409 meets the width requirements, but not the square footage requirements outlined in Buffalo City Code (Sec. 50.116(4)c.). Thus, it is anticipated that a variance from the required square footage will be required for the implementation of the controlled access lot, with a request for placement of 4 docks (8 slips). The variance would include the prohibition of parking at the controlled access lot, other restrictions to ensure maintenance and compliance with City Code, and the opportunity for MnDNR to comment directly on the variance request.
2. EAW Item 11, "Geology, Soils, and Topography/Landforms," additional information provided:
    a. The existing project area in general is relatively flat with elevations ranging from about 980 feet to 1020 feet. The majority of the project area includes depth to groundwater of 0 feet to 10 feet. Small portions of the project area contain depth to groundwater of 10 feet to 20 feet. Soil borings were conducted in February 2025 during the preparation of a Preliminary Geotechnical Report for the proposed project. In general, a dark brown clayey sand or lean clay topsoil was found in fourteen of the eighteen borings conducted. No apparent topsoil was encountered in the remaining borings, with surface soils being mostly lean clay or lean clay with sand. These soils were overlying what appeared to be glacial till deposits consisting of lean clay with varying amounts of sand, clayey sands, silty clays and fat clay.
    b. The naturally deposited soils encountered appear to be generally suitable for the proposed development. Topsoil depths ranged from 0 to over 18 inches. Topsoil removal should be planned for any areas that require structural support such as for building foundations or pavements. Topsoil should also be completely removed prior to any fills that may need to be placed which are intended to provide structural support for proposed structures and roadways. Most of the soils discovered are of Hydrologic Soil Group D and are not generally considered conducive to infiltration. A Stormwater Pollution Prevention Plan (SWPPP) is being prepared for the proposed project in accordance with all City of Buffalo and MPCA regulations and best practices, including compliance with MS4 general permit guidelines. For more information, please refer to the attached Preliminary Geotechnical Exploration and Evaluation Report.

c. Most of the soil encountered should be suitable for the installation of utilities within the project area. In areas where organic soils or soft soils are encountered, a soil correction may be necessary, which would consist of additional subcuts below the utilities and backfilling with a structural fill, essentially increasing the pipe bedding thickness. Several sand lenses were discovered during soil borings, which may hold water under pressure that could fill excavations rather quickly. Based on the relatively impermeable lean clays on the site, any groundwater encountered should be able to be adequately controlled by the means of sump and pumps at excavation low points. Final design and grading plans will adhere to all applicable regulations and permit requirements related to water appropriation. Excessive dewatering efforts are not anticipated as part of this development. However, a MnDNR Water Appropriation Permit or MnDNR General Permit for Temporary Appropriation will be obtained, if required. For more information, please refer to the attached Preliminary Geotechnical Exploration and Evaluation Report.

3. EAW Item 12, "Water Resources," additional information provided:

    a. The City of Buffalo is engaged in a number of efforts to reduce the use of salt and/or chloride for the purposes of winter maintenance, including:
        i. Updated City ordinance to require the proper storage of salt at commercial, institutional, and industrial facilities. Proper storage of salt includes: ensuring salt storage areas are covered or indoors and located on an impervious surface, as well as implementing practices to reduce exposure when transferring material.
        ii. Updated snow and ice management policy to reflect recommended procedures for individuals that perform winter maintenance activities, such as snow plowing, sand use, and the application of deicing compounds.
        iii. Maintenance staff receive annual training that highlights the importance of protecting water quality, best practices to minimize the use of deicers (including the proper calibration of equipment, benefits of pretreatment, pre-wetting, and anti-icing), and tools and resources available to assist in winter maintenance (deicing application rate guidelines, calibration charts, and Smart Salting Assessment tools).
        iv. The City distributes educational materials via social media, billing inserts, and a mobile, educational banner display that focuses on the impacts of deicing salt use on receiving water, methods to reduce deicing salt, and proper storage.
        v. Currently developing a City-sponsored program that incentivizes property managers to attend a MPCA Smart Salting training course.

    b. No direct impacts to Public Water Wetland 86006000 are anticipated. All grading will occur outside of the wetland and a wetland buffer around the perimeter will be incorporated. The wetland will be contained within an outlot owned by the City of Buffalo. The proposed development will incorporate wetland boundaries and other best management practices to mitigate potential direct, adverse impacts to wetlands and public waters. Potential impacts to jurisdictional wetlands will be

mitigated as part of permitting processes in accordance with all local, state, and federal regulations.

c. A Preliminary Storm Water Management Plan was completed for the proposed project in July 2025. The plan includes future drainage conditions for the project site, accounting for the proposed increase in impervious surface. The City of Buffalo requires all developments shall be designed so that the rate of runoff shall not increase over the predevelopment peak runoff rates for the 2-year, 10-year and 100-year 24-hour rainfall storm events. The proposed improvements would reduce storm runoff rate for all discharges offsite. The City of Buffalo requires that the 10-inch storm be modeled, and the applicant shall prove that structures do not flood.

d. The City of Buffalo requires projects to be designed so that there is a net reduction for the pre-project conditions on an annual average basis for stormwater discharge volume (except where infiltration is prohibited). There shall be a net reduction for Total Suspended Solids (TSS) and Total Phosphorus (TP). The proposed improvements were chosen for their ability to meet this requirement. A P8 model has been prepared to verify that all requirements are met. TP and TSS loadings are reduced in the proposed condition, thus meeting the water quality requirements.

e. As part of the preliminary and final stormwater management plan review and development review, the City will require calculations from the Developer to estimate any increased volume of discharge to Lake Pulaski. A cursory review and analysis of the effect of Lake Pulaski elevations will be considered in the development review process. If it is determined that mitigation measures are needed to minimize the effect to Lake Pulaski, the Developer will be required to incorporate strategies such as filtration ponds, grass swales, stormwater re-use, or other partial volume reduction measures.

4. EAW Item 14, "Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources," additional information provided:

    a. BWSR-approved, weed-free, native seed mixes will be used as is feasible throughout the implementation of the Proposed Project.

C. Agency and Public Comments on the EAW and Responses

A total of four written comment letters were received during the EAW comment period. Three of the written comment letters on the South Shores on Lake Pulaski Development EAW were received from public agencies: Minnesota Department of Natural Resources (MnDNR) and Minnesota Pollution Control Agency (MPCA). One written comment letter was received from the general public, and additional comments were collected at a City Council meeting that occurred on July 7, 2025. A listing of the comments and responses from the Project Proposer is found in **Table 1, "South Shores on Lake Pulaski Development EAW – Comments Received and Responses."** Refer to **Appendix B** for agency comment letters in their entirety.

Table 1: South Shores on Lake Pulaski EAW – Comments Received and Responses

Comment Number	Agency / Commenter	Comment	Response
1	MPCA	The Minnesota Pollution Control Agency (MPCA) staff has reviewed the EAW and have no comments at this time.	Comment Noted.
2	MPCA	Please provide the notice of decision on the need for an Environmental Impact Statement (EIS). Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit actions by the MPCA.	Comment Noted.
3	MPCA	Lake Pulaski is currently impaired for fish bioassessments. During the interagency meetings discussing this lake after the most recent assessments, a primary stressor that was identified as leading to this impairment was dock density, which was over the threshold recommended by the Department of Natural Resources for maintaining the health of the fishery. Any docks added as a result of this development will further impact the health of the fishery, and this document is unclear as to how many docks may be added as a result of this proposal. Figure 11 shows what one dock might look like, but it is not clear whether this was just a depiction of the only dock that will be added, or if it was a depiction of how any added docks (number unknown) might look. This is important, as even the addition of one dock and the boat traffic associated with that dock will negatively impact the lake. And the likely increase in boat traffic itself is not mentioned anywhere in the EAW, leaving it inadequate in the regard.	As currently constituted, the proposed project includes the development of a controlled access lot for use by owners of non-riparian lots on parcel #103500202409. Buffalo City Code (Sec. 50.116(4)c.) outlines the standards for such lots. Parcel #103500202409 meets the width requirements, but not the square footage requirements outlined in Buffalo City Code (Sec. 50.116(4)c.). Thus, it is anticipated that a variance from the required square footage will be required for the implementation of the controlled access lot, with a request for placement of 4 docks (8 slips). The variance would include the prohibition of parking at the controlled access lot, other restrictions to ensure maintenance and compliance with City Code, and the opportunity for MnDNR to comment directly on the variance request.
4	MPCA	The creation of this many roads, patios, driveways, to an estimated 56.9 acres of new impervious surface (table 8) will likely lead to use of road salt for ice and snow removal, and a significant amount. Road salt impacts ground water, surface water, wildlife, and vegetation, and is a contaminant that accumulates in the environment over time. Yet this EAW does not even mention the word "salt" or chloride" anywhere in the document, thus ignoring perhaps the single greatest source of impact to wetlands, lake Pulaski, groundwater, and the functioning of the stormwater infiltration basins which are one	A Stormwater Pollution Prevention Plan (SWPPP) is being prepared for the proposed project in accordance with all City of Buffalo and MPCA regulations and best practices, including compliance with MS4 general permit guidelines. Additionally, the City of Buffalo is engaged in a number of efforts to reduce the use of salt and/or chloride for the purposes of winter maintenance, including: • Updated City ordinance to require the proper storage of salt at commercial, institutional, and industrial facilities. Proper storage of salt includes: ensuring salt storage areas are covered or indoors and

Comment Number	Agency / Commenter	Comment	Response
		of the primary treatment methods for stormwater from this site. This omission is significant, and needs to be addressed in some detail to complete the EAW.	located on an impervious surface, as well as implementing practices to reduce exposure when transferring material. • Updated snow and ice management policy to reflect recommended procedures for individuals that perform winter maintenance activities, such as snow plowing, sand use, and the application of deicing compounds. • Maintenance staff receive annual training that highlights the importance of protecting water quality, best practices to minimize the use of deicers (including the proper calibration of equipment, benefits of pretreatment, pre-wetting, and anti-icing), and tools and resources available to assist in winter maintenance (deicing application rate guidelines, calibration charts, and Smart Salting Assessment tools). • The City distributes educational materials via social media, billing inserts, and a mobile, educational banner display that focuses on the impacts of deicing salt use on receiving water, methods to reduce deicing salt, and proper storage. • Currently developing a City-sponsored program that incentivizes property managers to attend a MPCA Smart Salting training course.
5	MnDNR	Public Water Wetland 86006000 is listed in Section 12 a.i., but is not addressed as being within the project area even though it appears to be directly affected. Figure four shows potential fill being placed below the ordinary high water level (OHW) to create building pads on the east side of the basin. A more detailed figure is required to better understand what filling activity will occur in this location. Fill for the purpose of creating upland is a prohibited activity. In a,ii. The EAW notes that Public Water Wetland 86006000 will not be affected by a stormwater pond that will be constructed to the north, but does not contain enough detailed information to make this determination.	No direct impacts to Public Water Wetland 86006000 are anticipated. All grading will occur outside of the wetland and a wetland buffer around the perimeter will be incorporated. The wetland will be contained within an outlot owned by the City of Buffalo. The proposed development will incorporate wetland boundaries and other best management practices to mitigate potential direct, adverse impacts to wetlands and public waters. Potential impacts to jurisdictional wetlands will be mitigated as part of permitting processes in accordance with all local, state, and federal regulations.
6	MnDNR	Section 12 a.i. states there are no floodplains or floodways identified on the site. Lake Pulaski is a mapped floodplain with a listed BFE in the Flood Insurance Study. Figure 11 shows a plan for lake access and docking that is not discussed within the EAW.	As currently constituted, the proposed project includes the development of a controlled access lot for use by owners of non-riparian lots on parcel #103500202409. Buffalo City Code (Sec. 50.116(4)c.) outlines the standards for such lots. Parcel

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		If there is a controlled access planned for Lake Pulaski, then there is also a mapped floodplain within the project area.	#103500202409 meets the width requirements, but not the square footage requirements outlined in Buffalo City Code (Sec. 50.116(4)c.). Thus, it is anticipated that a variance from the required square footage will be required for the implementation of the controlled access lot. The variance would include the prohibition of parking at the controlled access lot, other restrictions to ensure maintenance and compliance with City Code, and the opportunity for MnDNR to comment directly on the variance request.
7	MnDNR	Section 12 a.i. states that Lake Pulaski is 0.1 miles away and will not be negatively impacted. On page 22, the EAW later mentions that some stormwater will be directed to the lake, but does not discuss any potential impacts. Figure 11 shows a controlled access point to the lake with mooring facilities. The EAW does not note how many mooring spots will be allowed, nor does it indicate where on Pulaski the Controlled access point is located. Mooring facilities can impact the lake through propeller wash and can be a vector for transportation of aquatic invasive species.	A Stormwater Pollution Prevention Plan (SWPPP) is being prepared for the proposed project in accordance with all City of Buffalo and MPCA regulations and best practices, including compliance with MS4 general permit guidelines including water quality, rate control and volume control requirements. As currently constituted, the proposed project includes the development of a controlled access lot for use by owners of non-riparian lots on parcel #103500202409. Buffalo City Code (Sec. 50.116(4)c.) outlines the standards for such lots. Parcel #103500202409 meets the width requirements, but not the square footage requirements outlined in Buffalo City Code (Sec. 50.116(4)c.). Thus, it is anticipated that a variance from the required square footage will be required for the implementation of the controlled access lot, with a request for placement of 4 docks (8 slips). The variance would include the prohibition of parking at the controlled access lot, other restrictions to ensure maintenance and compliance with City Code, and the opportunity for MnDNR to comment directly on the variance request.
8	MnDNR	Neither this section nor the Geology section identify the depth to groundwater and the surficial water table. It is unclear what limitations there are for building, and whether stormwater infiltration is feasible for the site. The EAW later notes that the soil is predominantly clay, and therefore stormwater pond activities will not result in a drawdown of other surface waters. If water movement is restricted or perched due to the presence	The existing project area in general is relatively flat with elevations ranging from about 980 feet to 1020 feet. The majority of the project area includes depth to groundwater of 0 feet to 10 feet. Small portions of the project area contain depth to groundwater of 10 feet to 20 feet. Soil borings were conducted in February 2025 during the preparation of a Preliminary Geotechnical Report for the proposed project. In general, a dark brown clayey sand or lean clay

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		of clay, then a seasonally high water table is likely present within the project area.	topsoil was found in fourteen of the eighteen borings conducted. No apparent topsoil was encountered in the remaining borings, with surface soils being mostly lean clay or lean clay with sand. These soils were overlying what appeared to be glacial till deposits consisting of lean clay with varying amounts of sand, clayey sands, silty clays and fat clay. The naturally deposited soils encountered appear to be generally suitable for the proposed development. Topsoil depths ranged from 0 to over 18 inches. Topsoil removal should be planned for any areas that require structural support such as for building foundations or pavements. Topsoil should also be completely removed prior to any fills that may need to be placed which are intended to provide structural support for proposed structures and roadways. Most of the soils discovered are of Hydrologic Soil Group D and are not generally considered conducive to infiltration. A Stormwater Pollution Prevention Plan (SWPPP) is being prepared for the proposed project in accordance with all City of Buffalo and MPCA regulations and best practices, including compliance with MS4 general permit guidelines. For more information, please refer to the attached Preliminary Geotechnical Exploration and Evaluation Report.
9	MnDNR	This section does not address how the increase in impervious surfaces will impact water quality. This section discusses using four stormwater ponds to limit sediment and erosion, but it is unclear how stormwater quality will compare to existing conditions and what other BMP's the development might utilize to improve water quality. The adequate pretreatment of stormwater is necessary to protect receiving waterbodies, and it is unclear how or if this will occur. It is also unclear what waterbody will ultimately receive the stormwater from the development and how this might impact the water quality of the receiving waterbody.	A Preliminary Storm Water Management Plan was completed for the proposed project in July 2025. The plan includes future drainage conditions for the project site, accounting for the proposed increase in impervious surface. The City of Buffalo requires all developments shall be designed so that the rate of runoff shall not increase over the predevelopment peak runoff rates for the 2-year, 10-year and 100-year 24-hour rainfall storm events. The proposed improvements would reduce storm runoff rate for all discharges offsite. The City of Buffalo requires that the 10-inch storm be modeled, and the applicant shall prove that structures do not flood.

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			The City of Buffalo requires projects to be designed so that there is a net reduction for the pre-project conditions on an annual average basis for stormwater discharge volume (except where infiltration is prohibited). There shall be a net reduction for Total Suspended Solids (TSS) and Total Phosphorus (TP). The proposed improvements were chosen for their ability to meet this requirement. A P8 model has been prepared to verify that all requirements are met. TP and TSS loadings are reduced in the proposed condition, thus meeting the water quality requirements. For more information, please refer to the attached Preliminary Storm Water Management Plan. A Stormwater Pollution Prevention Plan (SWPPP) is being prepared for the proposed project in accordance with all City of Buffalo and MPCA regulations and best practices, including compliance with MS4 general permit guidelines. As part of the preliminary and final stormwater management plan review and development review, the City will require calculations from the Developer to estimate any increased volume of discharge to Lake Pulaski. A cursory review and analysis of the effect of Lake Pulaski elevations will be considered in the development review process. If it is determined that mitigation measures are needed to minimize the effect to Lake Pulaski, the Developer will be required to incorporate strategies such as filtration ponds, grass swales, stormwater re-use, or other partial volume reduction measures.
10	MnDNR	The increase in impervious surfaces will also increase the amount of road salt used in the project area. Chloride released into groundwater as well as local lakes and streams does not break down, and instead accumulates in the environment, potentially reaching levels that are toxic to aquatic wildlife and plants. Consider promoting local business and city participation in the Smart Salting Training offered through the Minnesota Pollution Control Agency. There are a variety of classes available for road applicators, sidewalk applicators, and property managers. More information and resources can be found at this	A Stormwater Pollution Prevention Plan (SWPPP) is being prepared for the proposed project in accordance with all City of Buffalo and MPCA regulations and best practices, including compliance with MS4 general permit guidelines. Additionally, the City of Buffalo is engaged in a number of efforts to reduce the use of salt and/or chloride for the purposes of winter maintenance, including: • Updated City ordinance to require the proper storage of salt at commercial, institutional, and industrial facilities. Proper storage of salt includes: ensuring salt storage areas are covered or indoors and

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		website. Many winter maintenance staff who have attended the Smart Salting training — both from cities and counties and from private companies — have used their knowledge to reduce salt use and save money for their organizations. We also encourage cities and counties to consider how they may participate in the Statewide Chloride Management Plan and provide public outreach to reduce the overuse of chloride. Here are some educational resources for residents as well as a sample ordinance regarding chloride use.	located on an impervious surface, as well as implementing practices to reduce exposure when transferring material. • Updated snow and ice management policy to reflect recommended procedures for individuals that perform winter maintenance activities, such as snow plowing, sand use, and the application of deicing compounds. • Maintenance staff receive annual training that highlights the importance of protecting water quality, best practices to minimize the use of deicers (including the proper calibration of equipment, benefits of pretreatment, pre-wetting, and anti-icing), and tools and resources available to assist in winter maintenance (deicing application rate guidelines, calibration charts, and Smart Salting Assessment tools). • The City distributes educational materials via social media, billing inserts, and a mobile, educational banner display that focuses on the impacts of deicing salt use on receiving water, methods to reduce deicing salt, and proper storage. • Currently developing a City-sponsored program that incentivizes property managers to attend a MPCA Smart Salting training course.
11	MnDNR	We recommend that BWSR-approved, weed-free, native seed mixes be used to the greatest degree possible in stormwater features and development landscaping in order to provide pollinator habitat. Native plants also require less irrigation and soil inputs than traditional landscaping.	BWSR-approved, weed-free, native seed mixes will be used as is feasible throughout the implementation of the Proposed Project.
12	MnDNR	This section states that no water appropriation will be necessary, however depth to groundwater is not discussed in the EAW. The development proposes the creation of stormwater ponds and the installation of utilities that could require construction dewatering. A DNR Water Appropriation Permit is required if the water pumped exceeds 10,000 gallons in a day, or one million gallons in one year. The DNR General Permit for Temporary Appropriation, with its lower permit application fee and reduced time for review, may be used for the dewatering if	The existing project area in general is relatively flat with elevations ranging from about 980 feet to 1020 feet. The majority of the project area includes depth to groundwater of 0 feet to 10 feet. Small portions of the project area contain depth to groundwater of 10 feet to 20 feet. Soil borings were conducted in February 2025 during the preparation of a Preliminary Geotechnical Report for the proposed project. Most of the soil encountered should be suitable for the installation of utilities within the project area. In areas where organic soils or soft soils are encountered, a soil correction may be necessary, which would consist of additional subcuts below

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		the dewatering volume is less than 50 million gallons and the time of the appropriation is less than one year.	the utilities and backfilling with a structural fill, essentially increasing the pipe bedding thickness. Several sand lenses were discovered during soil borings, which may hold water under pressure that could fill excavations rather quickly. Based on the relatively impermeable lean clays on the site, any groundwater encountered should be able to be adequately controlled by the means of sump and pumps at excavation low points. Final design and grading plans will adhere to all applicable regulations and permit requirements related to water appropriation. Excessive dewatering efforts are not anticipated as part of this development. However, a MnDNR Water Appropriation Permit or MnDNR General Permit for Temporary Appropriation will be obtained, if required. For more information, please refer to the attached Preliminary Geotechnical Exploration and Evaluation Report.
13	MnDNR	This section states that no water surface impacts are expected from the project. However, there is no mention in the EAW of the lake access point and docks that are shown on Figure 11. It is also unclear what pretreatment of stormwater will occur if discharged to the lake.	As currently constituted, the proposed project includes the development of a controlled access lot for use by owners of non-riparian lots on parcel #103500202409. Buffalo City Code (Sec. 50.116(4)c.) outlines the standards for such lots. Parcel #103500202409 meets the width requirements, but not the square footage requirements outlined in Buffalo City Code (Sec. 50.116(4)c.). Thus, it is anticipated that a variance from the required square footage will be required for the implementation of the controlled access lot, with a request for placement of 4 docks (8 slips). The variance would include the prohibition of parking at the controlled access lot, other restrictions to ensure maintenance and compliance with City Code, and the opportunity for MnDNR to comment directly on the variance request. The City of Buffalo requires projects to be designed so that there is a net reduction for the pre-project conditions on an annual average basis for stormwater discharge volume (except where infiltration is prohibited). There shall be a net reduction for Total Suspended Solids (TSS) and Total Phosphorus (TP).The proposed improvements were chosen for their ability to meet this requirement. A P8 model

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			has been prepared to verify that all requirements are met. TP and TSS loadings are reduced in the proposed condition, thus meeting the water quality requirements. For more information, please refer to the attached Preliminary Storm Water Management Plan. As part of the preliminary and final stormwater management plan review and development review, the City will require calculations from the Developer to estimate any increased volume of discharge to Lake Pulaski. A cursory review and analysis of the effect of Lake Pulaski elevations will be considered in the development review process. If it is determined that mitigation measures are needed to minimize the effect to Lake Pulaski, the Developer will be required to incorporate strategies such as filtration ponds, grass swales, stormwater re-use, or other partial volume reduction measures.
14	Charlie Koch (Constituent)	Where do you intend to drain all the storm water to from this new development? Page 15 of the EAW says "This project will not affect Lake Pulaski in any negative way." However, on page 22 you list stormwater being routed towards the lake. Lake Pulaski is currently experiencing high water and seems to have high water more and more often. Lake Pulaski is land locked and has no natural outlet. Residents on Lake Pulaski are dealing with property damage and paying to pump water to Buffalo Lake (when the permit actually allows) because of the city's poor management of storm water from developments. THERE SHOULD BE NO STORM WATER RUNOFF DIRECTED TO LAKE PULASKI FROM ANY DEVELOPMENT. Your statement that there will be no negative affect to Lake	A Preliminary Storm Water Management Plan was completed for the proposed project in July 2025. The plan includes future drainage conditions for the project site, accounting for the proposed increase in impervious surface. The City of Buffalo requires all developments shall be designed so that the rate of runoff shall not increase over the predevelopment peak runoff rates for the 2-year, 10-year and 100-year 24-hour rainfall storm events. The proposed improvements would reduce storm runoff rate for all discharges offsite. The City of Buffalo requires that the 10-inch storm be modeled, and the applicant shall prove that structures do not flood. The City of Buffalo requires projects to be designed so that there is a net reduction for the pre-project conditions on an annual average basis for stormwater discharge volume (except where infiltration is prohibited). There shall be a net reduction for Total Suspended Solids (TSS) and Total Phosphorus (TP).The proposed improvements were chosen for their ability to meet this requirement. A P8 model has been prepared to verify that all requirements are met. TP and TSS loadings are reduced in the proposed condition, thus meeting the water quality requirements.

Comment Number	Agency / Commenter	Comment	Response
		Pulaski is absolutely false. You need to change your storm water runoff plans to direct ALL water away from Lake Pulaski.	For more information, please refer to the attached Preliminary Storm Water Management Plan. A Stormwater Pollution Prevention Plan (SWPPP) is being prepared for the proposed project in accordance with all City of Buffalo and MPCA regulations and best practices, including compliance with MS4 general permit guidelines. As part of the preliminary and final stormwater management plan review and development review, the City will require calculations from the Developer to estimate any increased volume of discharge to Lake Pulaski. A cursory review and analysis of the effect of Lake Pulaski elevations will be considered in the development review process. If it is determined that mitigation measures are needed to minimze the effect to Lake Pulaski, the Developer will be required to incorporate strategies such as filtration ponds, grass swales, stormwater re-use, or other partial volume reduction measures.
15	Chris Kaufman (Constituent)	Chris Kaufman of 1441 Pulaski Road asked about traffic clarification on the roadway.	Kannas clarified that Griffing Park Road would be extended all the way through the proposed development. When the roadway would be done depends on the phasing of the development. That would be part of the final development phasing plan.
16	Glenda Engwall (Constituent)	Glenda Engwall of 1410 Pulaski Road asked if Pulaski Road will dead end at the S curve. Community Development Director Kelly said there is a potential for that. It relies on discussions about a property that we would need to acquire right of way to get the rest of the road through. Only way that will happen is that if the rest of Griffing Park Road is built at the same time. The intention would be for traffic to go onto this extension and no longer onto Pulaski Road. This will depend on the full extension of Griffing Park Road. Will know more in the next month or so.	Council Member Fantauzza said that the developer for South Shores on Lake Pulaski does not own the land that gives access to the S curve. There is the potential for that road to go east/west from the boat landing all the way to Calder Avenue. At that point in time, there's a potential to dead end Pulaski Road. There is an intention if you look at the plan. Engwall asked if it's a purchase deal. Kelly replied largely yes. It would rely on a property owner adjacent to the S curve and conversations are ongoing.
17	Steve Lee (Pulaski Lake Improvement District)	He asked if Phase 1 is where Randel's farm is at. Where is construction equipment going to be placed? He doesn't want that coming off of Pulaski Road.	Kannas said that as part of the preliminary plat proposal, a phasing plan would be submitted. The Development Agreement will include a requirement that construction equipment and construction traffic not utilize Pulaski Road.

Comment Number	Agency / Commenter	Comment	Response
18	Chris Kauffman (Constituent)	What does the culvert across from the Randel farm collect, and where does that water come from.	Engineer Kannas said he can't answer in detail, but the preliminary plat submittal will have a stormwater management plan. We don't have any calculations at this time. We appreciate comments. City standards require the rate of run off for 2-10-100-year event not exceed pre-development conditions. We also check for phosphorus and volume reduction. There will be opportunities for comment at the public hearing for the preliminary plat. The proposed stormwater management plan includes a proposed stormwater pond capturing site runoff prior to discharge to this culvert. The storm pond will be a higher level of treatment than pre-development conditions and is considered a water quality and storm water rate control improvement from existing conditions. For more information, please refer to the attached Preliminary Storm Water Plan.
19	Kenneth Ring (Constituent)	Kenneth Ring of 1420 Pulaski Road. He lives next to the Randel property and sees the culvert running full/wide open. He said everyone says there is no runoff, but no one knows where it's coming from. He has pictures of foam that comes out of the culvert onto his beach. It's amazing that no one understands where the water comes from, but it keeps coming up. He has construction traffic concerns. Last year the city's sub didn't even keep their trucks off a posted road which was Pulaski Road. He questions construction traffic, as walls are deteriorating. Sometimes he sees construction traffic and school busses that aren't picking up children.	Council Member Fantauzza said a portion of farm that drains right to the lake and probably always has. If nothing happens, it's not going to get better. Only in development can we start to control things. This is why he sees the development as a good thing. This is a complicated thing. From what he read of the EAW traffic is the bigger concern, most of the water will drain south. We are all keenly aware of the last 4 inches we've gotten, and we are hypersensitive to it. Ring said he knows from previous conversations with Randel it does come from his farm. The proposed stormwater management plan includes a proposed stormwater pond capturing site runoff prior to discharge to this culvert. The storm pond will be a higher level of treatment than pre-development conditions and is considered a water quality and storm water rate control improvement from existing conditions. For more information, please refer to the attached Preliminary Storm Water Plan.

Comment Number	Agency / Commenter	Comment	Response
			The Development Agreement will include a requirement that construction equipment and construction traffic not utilize Pulaski Road.
20	MPCA	The Minnesota Pollution Control Agency (MPCA) staff has reviewed the EAW and have no comments at this time.	Comment Noted.

IV. DECISION REGARDING NEED FOR ENVIRONMENTAL IMPACT STATEMENT

Minnesota Rule 4410.1700 provides that an environmental impact statement shall be ordered for projects that have the potential for significant environmental effects. In deciding whether a project has the potential for significant environmental effects, the following factors shall be considered:

A. Type, extent, and reversibility of environmental impacts

The City of Buffalo finds that the analysis completed for the EAW is adequate to determine whether the project has the potential for significant environmental effects.

The EAW described the type and extent of impacts to the natural and built environment anticipated to result from the proposed project. This document provides any corrections, changes, and new information since the EAW was published. The proposed design for the project includes features to mitigate the identified impacts.

B. Cumulative potential effects of related or anticipated future projects

This topic was addressed throughout the EAW and in Item 19. Cumulative effects associated with the Proposed Project are essentially the effects of continued growth and development. This can have both positive and negative effects on the human and natural environment. The largest impact to this parcel is the loss of wildlife areas and an increase in impervious surfaces. Through responsible development and using best management practices, negative impacts can be minimized.

Through the increase in traffic and impervious surfaces, and adding facilities with heating and cooling systems, there may be a minimal increase in greenhouse gas (GHG) emissions. It is unlikely this will grossly increase the regional impacts from climate change. Best management practices during the construction process, use of energy-efficient building materials and appliances, and the addition of native landscape vegetation and tree species may help offset impacts from increased GHG emissions.

C. The extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority

There are several Federal, State, and local permits required to ensure that specific environmental effects are mitigated. The mitigation of environmental impacts will be designed and implemented in coordination with regulatory agencies and will be subject to permitting processes. Permits and approvals that have been or may be required prior to project construction include:

Government Agency	Type of Application/Permit	Status

State Agencies		
Minnesota Pollution Control Agency	National Pollutant Discharge Elimination System (NPDES) Construction Storm Water Permit	To be applied for
	Sanitary Sewer Collection System Permit	To be applied for
Minnesota Department of Health	Water Main	To be applied for
Minnesota Department of Natural Resources	Water Appropriations Permit	To be applied for, if needed
Local Agencies		
City of Buffalo	Stormwater Permit	To be applied for
	Preliminary Plat	To be applied for
	Final Plat	To be applied for
	Land Use/Conditional Use	To be applied for
	Zoning Change/Building Permits	To be applied for
	WCA Replacement Plan	To be applied for
	Highway Permits	To be applied for
Wright County	Highway Permits	To be applied for

D. The extent to which the environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs

The City of Buffalo finds:

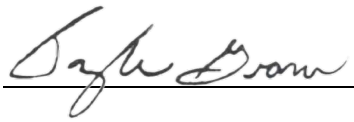
1. The Proposed Project includes various measures to reduce adverse impacts to the environment and existing natural resources.
2. The Proposed Project is subject to City, County, State, and Federal requirements.
3. The Project Proposer will secure all necessary permits and will adhere to all requirements of the permits.
4. Considering the results of environmental review and permitting processes for similar projects, the City of Buffalo finds that the environmental effects of the Proposed Project can be adequately anticipated, controlled, and mitigated.

V. CONCLUSIONS

1. All requirements for environmental review of the Proposed Project have been met.
2. The EAW and the permit development processes related to the project have generated information which is adequate to determine whether the project has the potential for significant environmental effects.

3. Areas where potential environmental effects have been identified will be addressed during the final design and site plan approvals of the project. Mitigation will be provided where impacts are expected to result from project construction, operation, or maintenance. Mitigation measures are incorporated into project design, and have been or will be coordinated with state and federal agencies during the permit process.
4. Based on the criteria in Minnesota Rules part 4410.1700, the Proposed Project does not have the potential for significant environmental effects.
5. An Environmental Impact Statement is not required for the proposed South Shores on Lake Pulaski project in Buffalo, Minnesota.

For the City of Buffalo



8/5/2025

Taylor Gronau
City Administrator
City of Buffalo

Date

APPENDIX A – EAW PUBLICATION AND NOTIFICATION MATERIALS

EQB Notice of Availability

June 10, 2025

South Shores on Lake Pulaski

Location (city/township; county): Buffalo; Wright
Process: EAW
Step: EAW available
End of comment period: July 10, 2025

Project description: This 210.1-acre housing project features a phased development plan, commencing in 2025 with a total of 303 single family housing units and 608 attached housing units. The project also includes a 10.2-acre natural park, new infrastructure, storm ponds, wetlands, and recreational enhancements, transforming farmland and grassland into a diverse residential community over a five-year period.
South Shores on Lake Pulaski project link provided by RGU

Location of public documents: Buffalo City Center, 212 Central Avenue, Buffalo, MN 55313

Responsible governmental unit and contact: City of Buffalo, David Kelly, 763-682-1181

EAW Distribution List

EQB Distribution List for Buffalo, MN		
Agency	**Distribution**	**Email Submission**
Environmental Quality Board	1 copy by email	*Please use the EQB Monitor Submission Form
Dept of Agriculture	1 copy by email	stephan.roos@state.mn.us
Dept of Commerce	1 copy by email	raymond.kirsch@state.mn.us
Dept of Health	1 copy by email	health.review@state.mn.us
Dept of Natural Resources	1 copy by email	jill.townley@state.mn.us
Pollution Control Agency	1 copy by email	chris.green@state.mn.us
Board of Soil & Water Resources	1 copy by email	waterprograms.bwsr@state.mn.us
Dept of Transportation	1 copy by email	katherine.lind@state.mn.us
State Archaeologist	1 copy by email	mn.osa@state.mn.us
Indian Affairs Council	1 copy by email	isaac.weston@state.mn.us
State Historic Preservation Office	1 copy by email	ENReviewSHPO@state.mn.us
Environmental Conservation Library	1 copy by email	govdoc@hclib.org
US Fish & Wildlife Service	1 copy by email	TwinCities@fws.gov
US Army Corps of Engineers **(INCLUDE COUNTY NAME IN SUBJECT LINE)**	1 copy by email	usace_requests_mn@usace.army.mil
US Environmental Protection Agency	1 copy by email	R5NEPA@epa.gov
Region 7W: Great River Regional Library	1 copy by email	saintcloudlibrary@grrl.lib.mn.us
Commenters	1 copy by email	
City of Buffalo	1 copy by email	David.Kelly@ci.buffalo.mn.us; taylor.gronau@ci.buffalo.mn.us
Bolton & Menk	1 copy by email	Angie.Smith@bolton-menk.com; Justin.Kannas@bolton-menk.com; Lucas.Bulger@bolton-menk.com
Project Proposer/Developer	1 copy by email	roger@hokph.com

EAW Distribution Email

Lucas Bulger

From:	Lucas Bulger
Sent:	Tuesday, June 10, 2025 12:10 PM
To:	stephan.roos@state.mn.us; raymond.kirsch@state.mn.us; health.review@state.mn.us; jill.townley@state.mn.us; chris.green@state.mn.us; waterprograms.bwsr@state.mn.us; katherine.lind@state.mn.us; mn.osa@state.mn.us; isaac.weston@state.mn.us; ENReviewSHPO@state.mn.us; govdoc@hclib.org; TwinCities@fws.gov; usace_requests_mn@usace.army.mil; R5NEPA@epa.gov; saintcloudlibrary@grrl.lib.mn.us
Cc:	David.Kelly@ci.buffalo.mn.us; Taylor Gronau; Angie Smith; Justin Kannas; Lucas Bulger; roger@hokph.com
Subject:	South Shores on Lake Pulaski EAW for Review (City of Buffalo, Wright County)
Categories:	Filed by Newforma

Dear Interested Party –

The City of Buffalo is seeking public comment on an Environmental Assessment Worksheet (EAW) for a proposed 210.1-acre residential development project in the City of Buffalo, Wright County, Minnesota. The EAW evaluates the potential environmental impacts of the project.

The EAW will be available for review beginning Tuesday, June 10, 2025, at the following locations:

- Environmental Quality Board (EQB) website: https://www.eqb.state.mn.us/eqb-monitor
- City of Buffalo website: https://www.ci.buffalo.mn.us/

If necessary, the City of Buffalo can provide in-person accommodations for EAW review at City Center, 212 Central Avenue, Buffalo, MN 55313, during normal business hours.

Written comments on the EAW will be accepted until Thursday, July 10, 2025. Please submit comments to:

- City of Buffalo, Attn: Taylor Gronau, City Administrator
- Email: Taylor.Gronau@ci.buffalo.mn.us

Please contact the City of Buffalo at 763-684-5406, or visit the City website at https://www.ci.buffalo.mn.us/ for more information.

Sincerely,

BOLTO
& MEI

Lucas Bulger, AICP
(he/him/his)
Environmental Planning Planner II
Bolton & Menk, Inc.

111 Washington Ave S Suite 650, Minneapolis, Minnesota, 55401
(612) 270-0928
lucas.bulger@bolton-menk.com
www.Bolton-Menk.com

Media Release – Affidavit of Publication

June 12, 2025

AFFIDAVIT OF PUBLICATION

Legal Notice

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN, that on Monday, July 7, 2025, the Buffalo City Council will hold a public hearing in the City Council Chambers, 212 Central Avenue, Buffalo, Minnesota at 7:00 PM to consider the following petition:

PUBLIC HEARING - EAW (Environmental Assessment Worksheet) Available for Review

ADDRESS: No Address Parcels

PIDs: 202-000-203400, 202-000-204400, 202-000-204201, and 202-000-204100

The City of Buffalo is seeking public comment on an Environmental Assessment Worksheet (EAW) for a proposed 210.1-acre residential development project in the City of Buffalo, Wright County, Minnesota. The EAW evaluates the potential environmental impacts of the project.

The EAW will be available for review beginning **Tuesday, June 10, 2025,** at the following locations:

- City of Buffalo website: https://www.ci.buffalo.mn.us/
- Environmental Quality Board (EQB) website: https://www.eqb.state.mn.us/eqb-monitor

If necessary, the City of Buffalo can provide in-person accommodations for EAW review at City Center, 212 Central Avenue, Buffalo, MN 55313, during normal business hours.

Questions may be directed to the City Administrator, Taylor Gronau, at 763-684-5406. Written comments may be taken at the Buffalo City Center, 212 Central Avenue, Buffalo, MN 55313 or by emailing Taylor.Gronau@ci.buffalo.mn.us until 4:30 PM on **Thursday, July 10.** Please include your full name and address for the record. Oral testimony will be accepted on the above subject, and all persons desiring to be heard on this subject will be heard at this meeting.

David Kelly,
Community Development Director

Publish June 12, 2025.

STATE OF MINNESOTA)
) ss.
COUNTY OF WRIGHT)

The undersigned, being first duly sworn, on oath states as follows:

1. I am the publisher of the Wright County Journal-Press, or the publisher's designated agent. I have personal knowledge of the facts stated in this Affidavit, which is made pursuant to Minnesota Statutes §331A.07.

2. The newspaper has complied with all of the requirements to constitute a qualified newspaper under Minnesota law, including those requirements found in Minnesota Statutes §331A.02.

3. The dates of the month and the year and day of the week upon which the attached public notice was published in the newspaper are as follows:

Thursday(s) JUNE 12 **2025**

4. The publisher's lowest classified rate paid by commercial users for comparable space, as determined pursuant to §331A.06, is as follows: $4.46 per line.

5. Mortgage Foreclosure Notices. Pursuant to Minnesota Statutes §580.033 relating to the publication of mortgage foreclosure notices: The newspaper's known office of issue is located in Wright County. The newspaper complies with the conditions described in §580.033, subd. 1, clause (1) or (2). If the newspaper's known office of issue is located in a county adjoining the county where the mortgaged premises or some part of the mortgaged premises described in the notice are located, a substantial portion of the newspaper's circulation is in the latter county.

FURTHER YOUR AFFIANT SAITH NOT.

MARY E MORTENSON
NOTARY PUBLIC - MINNESOTA
My Comm. Exp. Jan. 31, 2030

[Signature]

Subscribed and sworn to before me on

this 12 **day of** June **2025.**

Mary E Mortenson
Notary Public

[FORM Rev. 12/23]

APPENDIX B – COMMENTS RECEIVED

MINNESOTA POLLUTION CONTROL AGENCY

Marshall Office | 504 Fairgrounds Road | Suite 200 | Marshall, MN 56258-1688 | 507-537-7146

800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

July 7, 2025

VIA EMAIL

David Kelly
City of Buffalo
212 Central Avenue
Buffalo, Minnesota 55313
david.kelly@ci.buffalo.mn.us

RE: South Shores on Lake Pulaski – Environmental Assessment Worksheet

Dear: David Kelly

Thank you for the opportunity to review and comment on the Environmental Assessment Worksheet (EAW) for the South Shores on Lake Pulaski project (Project) located in Wright County, Minnesota. The Project consists of a 210.1-acre housing project that features a phased development plan, commencing in 2025 with a total of 303 single-family housing units and 608 attached housing units. The Project also includes a 10.2-acre natural park, new infrastructure, storm ponds, wetlands and recreational enhancements, transforming farmland and grassland into a diverse residential community over a five-year period. The Minnesota Pollution Control Agency (MPCA) staff has reviewed the EAW and have no comments at this time.

We appreciate the opportunity to review this Project. **Please provide the notice of decision on the need for an Environmental Impact Statement (EIS).** Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit actions by the MPCA. Ultimately, it is the responsibility of the Project Proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this EAW, please contact me by email at chris.green@state.mn.us or by telephone at 507-476-4258.

Sincerely,

Chris Green

This document has been electronically signed.

Chris Green, Project Manager
Environmental Review Unit
Resource Management and Assistance Division

CG:rs

Attachment

cc next page

cc: Dan Card, MPCA (w/ attachment)
Melinda Neville, MPCA (w/ attachment)
Nicole Peterson, MPCA (w/ attachment)
Lauren Dickerson, MPCA (w/ attachment)
Innocent Eyoh, MPCA (w/ attachment)
Deepa deAlwis, MPCA (w/ attachment)

BUFFALO CITY COUNCIL MINUTES
July 7, 2025

CALL TO ORDER

The regular meeting of the City of Buffalo City Council was called to order on July 7, 2025 at 7:00 PM in the Council Chambers of the City Center at 212 Central Avenue.

The following members were present: Sheila Crawford, Brad Dahl (via Zoom), Steve Downer, George Fantauzza, and Erin Walsh.

Staff Present: Administrator Taylor Gronau, City Clerk Susan Johnson, Community Development Director David Kelly, Utilities and IT Director Jason Meusburger, Fire Chief John Harnois, Finance Director/Assistant Administrator Josh Kent, Police Chief Pat Budke, Detective Sergeant Mark Brown, Parks and Rec Director Lee Ryan, Streets and Facilities Maintenance Superintendent Carey Kotilinek, Liquor Stores Manager Jason Swanson, Innovation Specialist Sam Solarz, City Attorney Susan Dege, and Consulting Engineer Justin Kannas of Bolton & Menk.

ANNOUNCEMENTS

Mayor Downer announced that Council Member Dahl is attending via Zoom. He is able to participate in the meeting but is not able to vote. For voting purposes, he will be noted as absent.

Council Member Dahl explained his travel schedule for the FAA, which was set up before he took the position. He stated that after September, he would be able to control his audit scheduling and attend meetings and workshops.

Mayor Downer announced that Buffalo received more than 4 inches of rain in just over an hour between late Saturday night, June 28, and the early hours of Sunday, June 29. He thanked all city employees who responded in the middle of the night, particularly the utilities and street departments. The Council has approved a no wake zone for Lake Pulaski and Buffalo Lake.

Council Member Crawford reminded everyone about the no wake zones on both Buffalo Lake and Lake Pulaski. She mentioned that lake levels are extremely high, preventing pumping from Lake Pulaski to Buffalo Lake. She also reported on the success of the Outdoor Fair held the Saturday, June 28 and new trails paved in Eastland Estates and Settlers Brook neighborhoods.

Council Member Walsh announced a fundraiser for BCAC (Buffalo Community and Arts Center) on Saturday, August 9 from 10 AM to 8 PM at Hayes Public

House called Cruise, Brews and 'Ques. Buffalo Community Theater's production of "Urinetown" is opening Friday, July 18 for two weekends.

Council Member Fantauzza reported on a power outage during the storm, noting the quick response from the utility staff.

OPEN FORUM

Anita Underberg and newly crowned Buffalo Royalty Ambassadors Miss Buffalo Erika Torres-Gutierrez and Princess Ameira Dunn introduced themselves and discussed their roles in representing the City of Buffalo at various events.

Chris Kaufman of 1441 Pulaski Road expressed concerns about the South Shores on Lake Pulaski development concept plan including the road/increased traffic, potential for a marina, and the amount of impervious surface to be added. He asked when the plan would come forward. Community Development Director Kelly said staff is anticipating the updated plans will be submitted for the August Planning Commission meeting. Council Member Walsh noted that the Planning Commission has a public hearing. Council Member Fantauzza said that this is a process and not a one and done thing. Kelly said that staff is aware of the traffic concerns and the extension of Griffing Park Road as a collector street is the intent.

Bill Junt of 1517 Pulaski Road and president of the Lake Pulaski Improvement District (LID) thanked city staff Administrator Gronau, Streets & Facilities Superintendent Kotilinek, Braydon Biegert and Nels Anderson for their efforts and hard, hard work at the lake. It has been outstanding and very much appreciated. He said that he had a discussion with Consulting Engineer Kannas with concerns regarding the South Shores on Lake Pulaski development. Kannas said there would be no new site runoff into Pulaski as existing terrain of the farm will remain, new improvements to the development would shed north to south-Junt is comfortable with that. He was also informed that there is no new utility infrastructure fed into Lake Pulaski and he agrees with that and will help mitigate any extra waters we don't need. His biggest concern is the marina. The marina, according to Bolton and Menk, would need DNR approval, and it would likely not be approved. That is the LID's hope. The LID is concerned that if the marina is approved it will be a precedence for other associations on the lake (Douglas Drive, West Pulaski, and Little Pulaski) would then say they want a marina as well. At the end of the road that comes down through the farm, that ends down at the lake in the proposed marina area, it was his understanding from Kannas that would not be a road that enters into the lake as a boat access. He wants that to be noted in discussions as things progress.

AGENDA ADDITIONS AND DELETIONS-None

COUNCIL REPORTS AND RECOGNITION

Council Member Fantauzza said that the Community Center did not receive the $200,000 grant from the county. Staff is working through flooding. He encouraged residents to reach out to staff and council.

Council Member Walsh attended City Fest Conference in Duluth. This conference is put on by the League of Minnesota Cities. She attended sessions on strengthening public services, legislative updates, taxes, climate action, cannabis regulation, active listening, and infrastructure success stories.

Council Member Crawford reported that the Parks Board met and the Eagle Scout artesian well project at Sturges Park has been stopped due to the MPCA deeming the water unsafe for drinking. The city will need to enclose the well. During the construction last year, an electric line was cut to the fountain in Buffalo Lake. That is why it is not working now. They are waiting to get the line replaced. She wanted residents to be aware that the north side boat landing on Buffalo Lake belongs to the DNR and when the water rises and the dock needs to be adjusted, the DNR needs to do that.

CONSENT AGENDA

- Approval of June 16 & June 30 Meeting Minutes
- Approval of Claims Listings

Council Meeting ~	07/07/25			
A/P Check Runs	EFT/DRAFTS	Checks	Total	Check Numbers
6/24/2025	$ 27,113.53	$ -	$ 27,113.53	
6/25/2025	$ 360,924.91	$ 295,520.09	$ 656,445.00	136279-136304
7/2/2025	$ 598,655.66	$ 1,097,663.13	$ 1,696,318.79	136305-136405
		Grand Total	$ 2,379,877.32	

- Approval of Amendments to Purchasing Policy
- Request for Temporary On-Sale Liquor License for Buffalo Lions on August 9, 2025
- Sale of 2014 Ford Explorer
- Approval of Massage License
- Personnel Matters-Resignation and Request to Fill Vacancy-Journey Lineworker
- Personnel Matters-Resignation and Request to Fill Vacancy-Parks and Recreation Administrative Assistant
- Resolution 2025-12 Amended Long Legal Description for Annexation of South Sores on Lake Pulaski
- Request to Attend ICMA Conference
- ~~Approval of Quote-City Center Roof Replacement (Portions 2, 3, 4 & 6)~~

Council Members Walsh and Fantauzza had questions on the item regarding Approval of Quote for City Center Roof Replacement (Portions 2, 3, 4 & 6).

Council Member Fantauzza requested to pull this item from the consent agenda.

REMOVED CONSENT AGENDA ITEMS

- Approval of Quote-City Center Roof Replacement (Portions 2, 3, 4 & 6)

Council discussed with staff their concerns. Streets and Facilities Superintendent Kotilinek will reach out to the vendor and get the details the Council is asking for.

After further discussion on the approval of quote for City Center roof replacement (Portions 2, 3, 4 & 6), Council Member Fantauzza moved to approve of the consent agenda with the exception of the approval of quote for City Center roof replacement (Portions 2, 3, 4 & 6). Council Member Walsh seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

PUBLIC HEARINGS

Vacation of Drainage and Utility Easements, 121 & 125 Commerce Circle Resolution 2025-21

Community Development Director Kelly explained the proposed vacation of drainage and utility easements at 121 and 125 Commerce Circle. The easement was a remnant from when the two parcels were separate and no longer serves a purpose.

Mayor opened the public hearing at 7:36 PM.

No one from the public spoke on this matter.

Mayor closed the public hearing at 7:36 PM.

Council Member Walsh moved to approve Resolution 2025-21 vacating the drainage and utility easements at 121 and 125 Commerce Circle. Council Member Crawford seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

South Shores on Lake Pulaski EAW

Engineer Kannas presented information on the Environmental Assessment Worksheet (EAW) for the South Shores on Lake Pulaski. The public comment period closes on July 10 and not many comments have been received. The EAW gives information on the effects of the development, but it does not approve or deny any of the development activities. He gave summary of the EAW findings such as endangered species, and traffic as mentioned earlier in the meeting.

There is a traffic study that was completed and is a part of the EAW as an appendix. Two round-abouts are proposed external to the development, they are there for significant traffic mitigations efforts of the development. In addition, assuming that Griffing Park Road will be extended from Calder Avenue to the S curves on Pulaski Rd. That is the mitigation effort to not push more traffic onto Pulaski Rd.

It was noted that the EAW was included in the June 2 agenda packet online. Comments can be emailed or mailed to Administrator Gronau or Community Development Director Kelly by July 10. The EAW is on the website under "public notices" with commenting information.

Mayor Downer opened the public hearing at 7:41 PM.

Chris Kaufman of 1441 Pulaski Road asked about traffic clarification on the roadway. Kannas clarified that Griffing Park Road would be extended all the way through. When the roadway would be done depends on the phasing of the development. That would be part of the final development phasing plan.

Glenda Engwall of 1410 Pulaski Road asked if Pulaski Road will dead end at the S curve. Community Development Director Kelly said there is a potential for that. It relies on discussions about a property that we would need to acquire right of way to get the rest of the road through. Only way that will happen is that if the rest of Griffing Park Road is built at the same time. The intention would be for traffic to go onto this extension and no longer onto Pulaski Road. This will depend on the full extension of Griffing Park Road. Will know more in the next month or so.

Council Member Fantauzza said that the developer for South Shores on Lake Pulaski does not own the land that gives access to the S curve. There is the potential for that road to go east/west from the boat landing all the way to Calder Avenue. At that point in time, there's a potential to dead end Pulaski Road. There is an intention if you look at the plan. Engwall asked if it's a purchase deal. Kelly replied largely yes. It would rely on a property owner adjacent to the S curve and conversations are ongoing.

Steve Lee of 1445 Pulaski and also VP of the Pulaski Lake Improvement District. He asked if Phase 1 is where Randel's farm is at. Where is construction equipment going to be placed? He doesn't want that coming off of Pulaski Road. Kannas said that as part of the preliminary plat proposal, a phasing plan would be submitted. We have not seen a phasing plan yet, but that will be looked at closely when we approve the phasing plan.

Mayor Downer said that the city has looked at this area where the development is proposed for, as something that would need to happen to relieve traffic

pressure on Pulaski Road.

Council Member Fantauzza said it will take someone with deep pockets and stamina to take on this project. It is a prime area for new tax base, jobs, and new opportunities. He shares concerns about traffic on Pulaski stating that the Council is aware of that. The EAW is the strongest thing we're going to see. If the development doesn't go through, it may be 10-15 years until someone tries this again.

Chris Kauffman of 1441 Pulaski Road asked about the culvert across from the Randel farm. What does that collect, where does that water come from. Engineer Kannas said he can't answer in detail, but the preliminary plat submittal will have a stormwater management plan. We don't have any calculations at this time. We appreciate comments. City standards require the rate of run off for 2-10-100-year event not exceed pre-development conditions. We also check for phosphorus and volume reduction. There will be opportunities for comment at the public hearing for the preliminary plat.

Mayor said his understanding was that water from that property mostly ran to the airport. Engineer Kannas said there is a small portion on the north side that does run into Lake Pulaski. It is very unique. A big majority of site drains to the southeast to what appears to be a DNR public water that appears to not have a natural outlet. We are waiting for developer's engineer to do their calculations and we will react to that.

Kenneth Ring of 1420 Pulaski Road. He lives next to the Randel property and sees the culvert running full/wide open. He said everyone says there is no runoff, but no one knows where it's coming from. He has pictures of foam that comes out of the culvert onto his beach. It's amazing that no one understands where the water comes from, but it keeps coming up. He has construction traffic concerns. Last year the city's sub didn't even keep their trucks off a posted road which was Pulaski Road. He questions construction traffic, as walls are deteriorating. Sometimes he sees construction traffic and school busses that aren't picking up children.

Council Member Fantauzza said a portion of farm that drains right to the lake and probably always has. If nothing happens, it's not going to get better. Only in development can we start to control things. This is why he sees the development as a good thing. This is a complicated thing. From what he read of the EAW traffic is the bigger concern, most of the water will drain south. We are all keenly aware of the last 4 inches we've gotten, and we are hypersensitive to it. Ring said he knows from previous conversations with Randel it does come from his farm.

Community Development Director Kelly said there is a decent chance this

development will be on the August 11 Planning Commission meeting agenda and more details will be coming. Owners within 350 feet will be notified of the meeting. Far more details will be available then.

Mayor Dower reiterated that information is available online and the deadline to submit comments is July 10.

Mayor Dower closed the public hearing at 7:59 PM.

OLD BUSINESS

Design Development Plans – 1st Street NE & Downtown Parking Lots

Community Development Director Kelly noted that this matter was tabled from the last meeting. He presented updated design plans for the 1st Street NE and downtown parking lots project. He discussed changes to the proposed public restroom location, parking lot layouts, and potential property acquisitions.

Council members discussed various aspects of the project, including restroom design, costs, and maintenance. They also addressed concerns about private versus public ownership of portions of the parking lots.

Council Member Fantauzza asked Kelly to report on the petition that the Council received. Kelly said that staff received a petition with 308 signatures in favor of a need for bathrooms downtown. The petition was done by a business owner in his store as well as at the farmers' market.

Council Member Fantauzza moved to approve of the design development plans for 1st Street Northeast and Downtown parking lots, with the added comment that staff will work with the owners on the private parking to see if they can come to an agreement on the ownership of those private parcels that are currently part of the city parking lot.

Council Member Walsh noted that the Council previously voted not to assess any of Phase 1 of this project.

Council Member Walsh seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

Council Member Crawford moved to approve the design development plans for 1st Street Northeast and 1st Avenue Northeast. Council Member Fantauzza seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

NEW BUSINESS

Buffalo Fiber Phase 2 – Change Order 1

Utilities and IT Director Meusburger presented Change Order 1 for Buffalo Fiber Phase 2, which would extend conduits to the end of blocks to accommodate potential future sign-ups. The total cost of the change order was $436,000, with $380,000 coming from proceeds from Phase 1.

Council Member Fantauzza moved to approve of the Buffalo Fiber Phase 2, Change Order 1, with comment that what they are doing is incredible, threading a needle. Council Member Crawford seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

Adoption of the 2025 City Council Strategic Plan

Administrator Gronau noted that with the length of the meeting to this point and the fact that the Council has a closed session tonight, he offered to have this matter heard at the July 21 meeting.

Council Member Crawford moved to table the adoption of the 2025 City Council Strategic Plan to the July 21 meeting. Council Member Walsh seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

Request for Proposal for Auditing Services

Finance Director/Assistant Administrator Kent requested approval to issue a Request for Proposal (RFP) for professional audit services. He noted that from the records he can find, the city has been using Clifton, Allen, Larson for 25+ years. He explained that while the city is currently under contract with Clifton, Larson, Allen (CLA) for two more years, it is best practice to seek proposals every 3-5 years. The current contract does have a termination clause to it of 90 days. Staff has contacted CLA and discussed this with them, so they are aware of it.

Council Member Crawford moved to approve of the RFP for auditing services. Council Member Fantauzza seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

REMOVED CONSENT AGENDA ITEMS

- Approval of Quote-City Center Roof Replacement (Portions 2, 3, 4 & 6)

Council Member Walsh moved to table the Approval of Quote-City Center Roof Replacement (Portions 2, 3, 4 & 6) to the July 21 meeting. Council Member Fantauzza seconded the motion.

Ayes: Crawford, Downer, Walsh, Fantauzza. Nays: None. The motion carried 4-0.

STAFF UPDATES

- Recent Flooding

OTHER-None

CLOSED SESSION

Mayor announced that the City Council may close the meeting pursuant to Minn. Stat. § 13D.05, subd. 3(c)(3), to develop or consider offers or counteroffers for the purchase of real property located at 605 Highway 55 E, PID # 103198002010, Buffalo, for purposes of constructing a consolidated municipal liquor store.

Mayor Downer closed the meeting at 9:11 PM.

Mayor Downer called for a 5-minute break.

Closed session started at 9:15 PM.

Mayor Downer reopened the meeting at 10:33 PM.

Mayor Downer said that staff has been given direction on the matter at hand.

ADJOURN

At 10:33 PM, Mayor Downer adjourned the meeting to the Monday, July 21, 2025 workshop meeting at 5:00 PM.

Attest:

Steve Downer, Mayor

Susan Johnson, City Clerk

David Kelly
Community Development Director
212 Central Ave. | Buffalo, MN 55313
P: 763.682.1181 | F: 763.682.6376
https://www.ci.buffalo.mn.us/

From: Green, Chris (MPCA) <chris.green@state.mn.us>
Sent: Tuesday, July 8, 2025 9:31 AM
To: David Kelly <David.Kelly@ci.buffalo.mn.us>
Subject: Lake Pulaski Comments

Hi David,

We received some watershed comments after the letter was sent. There are as follows:

1. Lake Pulaski is currently impaired for fish bioassessments. During the interagency meetings discussing this lake after the most recent assessments, a primary stressor that was identified as leading to this impairment was dock density, which was over the threshold recommended by the Department of Natural Resources for maintaining the health of the fishery. Any docks added as a result of this development will further impact the health of the fishery, and this document is unclear as to how many docks may be added as a result of this proposal. Figure 11 shows what one dock might look like, but it is not clear whether this was just a depiction of the only dock that will be added, or if it was a depiction of how any added docks (number unknown) might look. This is important, as even the addition of one dock and the boat traffic associated with that dock will negatively impact the lake. And the likely increase in boat traffic itself is not mentioned anywhere in the EAW, leaving it inadequate in the regard.
2. The creation of this many roads, patios, driveways, to an estimated 56.9 acres of new impervious surface (table 8) will likely lead to use of road salt for ice and snow removal, and a significant amount. Road salt impacts ground water, surface water, wildlife, and vegetation, and is a contaminant that accumulates in the environment over time. Yet this EAW does not even mention the word "salt" or chloride" anywhere in the document, thus ignoring perhaps the single greatest source of impact to wetlands, lake Pulaski, groundwater, and the functioning of the stormwater infiltration basins which are one of the primary treatment methods for stormwater from this site. This omission is significant, and needs to be addressed in some detail to complete the EAW.

Thank you,

Chris Green
Project Manager
Environmental Review
Minnesota Pollution Control Agency
504 Fairgrounds Rd Suite 200
Marshall MN 56258-1688

Office: 507-476-4258
Cell: 507-696-9718
Chris.Green@state.mn.us

David Kelly
Community Development Director
212 Central Ave. | Buffalo, MN 55313
P: 763.682.1181 | F: 763.682.6376
https://www.ci.buffalo.mn.us/

From: Charlie Koch <cwkoch@lpgnh3.com>
Sent: Wednesday, July 9, 2025 2:49 PM
To: Taylor Gronau <Taylor.Gronau@ci.buffalo.mn.us>; David Kelly <David.Kelly@ci.buffalo.mn.us>; roger@hokph.com
Subject: South Shores on Lake Pulaski Project

Where do you intend to drain all the storm water to from this new development?

Page 15 of the EAW says "This project will not affect Lake Pulaski in any negative way."

The five farmed wetlands will be replaced by bank credit purchase in the same bank service area as the impacts at a 2:1 ratio per WCA state wetland guidelines. A pre-application TEP meeting was held where the wetland replacement plan was discussed with general agreement.

As defined by the Minnesota DNR, the project area is located within the North Fork Crow River (#18) Major Watershed.

The Minnesota DNR Public Waters Dataset was used to identify public waters nearby the project. The review identified Lake Pulaski as a public water near the project area 0.1 miles to the north (DOW #86005300). This project will not affect Lake Pulaski in any negative way.

Name	DOW Lake ID/Kittle Num	Shoreland Classification	Impairments
Lake Buffalo	86009000	General Development	Mercury Fish Bioassessment Nutrients Aquatic Recreation
Lake Pulaski	86005300	General Development	Mercury Fish Bioassessment
Rice	86006000	NA	NA

Name	Kittle Number	Location	Impairments
Unnamed Creek	M-064-010-002	Buffalo, MN	NA

However, on page 22 you list stormwater being routed towards the lake:

14. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

a. *Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.*

Fish

DNR public water, Lake Pulaski, is found 0.1 miles to the north of the site. According to a 2020 DNR Fisheries Lake Survey, the lake was managed primarily for Walleye and Northern Pike. The lake is secondarily managed for largemouth bass, black crappie and bluegill sunfish. The lake has a Secchi disk transparency of 10.7 feet. The lake is 813.26 acres in size and has a maximum depth of 87 feet. The managed game fish populations are healthy in the lake and walleye fingerlings are stocked during even numbered years to supplement natural reproduction. One of the goals of the project is to protect Lake Pulaski from any water quality challenges through stormwater treatment of the single family home runoff which will be routed toward the lake. The other areas of the development will have their stormwater routed to the storm ponds on the south portion of the development, and that water will not enter Lake Pulaski.

Wildlife

The DNR Ecological subsection of the project area is the Big Woods according to DNR. Prior to

Lake Pulaski is currently experiencing high water and seems to have high water more and more often. Lake Pulaski is land locked and has no natural outlet. Residents on Lake Pulaski are dealing with property damage and paying to pump water to Buffalo Lake (when the permit actually allows) because of the city's poor management of storm water from developments.

THERE SHOULD BE NO STORM WATER RUNOFF DIRECTED TO LAKE PULASKI FROM ANY DEVELOPMENT.

Your statement that there will be no negative affect to Lake Pulaski is absolutely false.

You need to change your storm water runoff plans to direct ALL water away from Lake Pulaski.

Charlie Koch
LPG & NH3 Supply, Inc.
1200 1st St NE, Buffalo, MN 55313
Toll Free- (800) 328-0314
Main- (763) 746-0540
Mobile- (763) 234-9677
cwkoch@lpgnh3.com
www.lpgnh3.com

LPG&NH3 SUPPLY

Please note- our email addresses and website have changed.

DEPARTMENT OF NATURAL RESOURCES

Division of Ecological and Water Resources
Region 3 Headquarters
1200 Warner Road
Saint Paul, MN 55106

Transmitted by Email

July 10, 2025

David Kelly
Community Development Director
City of Buffalo
212 Central Ave
Buffalo, MN 55313

Dear David Kelly,

Thank you for the opportunity to review the South Shores on Lake Pulaski Environmental Assessment Worksheet (EAW) located in Wright County. The DNR respectfully submits the following comments for your consideration:

1. Page 14, Water Resources. Public Water Wetland 86006000 is listed in Section 12 a.i., but is not addressed as being within the project area even though it appears to be directly affected. Figure four shows potential fill being placed below the ordinary high water level (OHW) to create building pads on the east side of the basin. A more detailed figure is required to better understand what filling activity will occur in this location. Fill for the purpose of creating upland is a prohibited activity. In a,ii. The EAW notes that Public Water Wetland 86006000 will not be affected by a stormwater pond that will be constructed to the north, but does not contain enough detailed information to make this determination.
2. Page 14, Water Resources. Section 12 a.i. states there are no floodplains or floodways identified on the site. Lake Pulaski is a mapped floodplain with a listed BFE in the Flood Insurance Study. Figure 11 shows a plan for lake access and docking that is not discussed within the EAW. If there is a controlled access planned for Lake Pulaski, then there is also a mapped floodplain within the project area.
3. Page 14, Water Resources. Section 12 a.i. states that Lake Pulaski is 0.1 miles away and will not be negatively impacted. On page 22, the EAW later mentions that some stormwater will be directed to the lake, but does not discuss any potential impacts. Figure 11 shows a controlled access point to the lake with mooring facilities. The EAW does not note how many mooring spots will be allowed, nor does it indicate where on Pulaski the Controlled access point is located. Mooring facilities can impact the lake through propeller wash and can be a vector for transportation of aquatic invasive species.

4. Page 15, Groundwater. Neither this section nor the Geology section identify the depth to groundwater and the surficial water table. It is unclear what limitations there are for building, and whether stormwater infiltration is feasible for the site. The EAW later notes that the soil is predominantly clay, and therefore stormwater pond activities will not result in a drawdown of other surface waters. If water movement is restricted or perched due to the presence of clay, then a seasonally high water table is likely present within the project area.

5. Page 17, Stormwater. This section does not address how the increase in impervious surfaces will impact water quality. This section discusses using four stormwater ponds to limit sediment and erosion, but it is unclear how stormwater quality will compare to existing conditions and what other BMP's the development might utilize to improve water quality. The adequate pretreatment of stormwater is necessary to protect receiving waterbodies, and it is unclear how or if this will occur. It is also unclear what waterbody will ultimately receive the stormwater from the development and how this might impact the water quality of the receiving waterbody.

6. Page 17, Stormwater. The increase in impervious surfaces will also increase the amount of road salt used in the project area. Chloride released into groundwater as well as local lakes and streams does not break down, and instead accumulates in the environment, potentially reaching levels that are toxic to aquatic wildlife and plants. Consider promoting local business and city participation in the Smart Salting Training offered through the Minnesota Pollution Control Agency. There are a variety of classes available for road applicators, sidewalk applicators, and property managers. More information and resources can be found at this website. Many winter maintenance staff who have attended the Smart Salting training — both from cities and counties and from private companies — have used their knowledge to reduce salt use and save money for their organizations.

   We also encourage cities and counties to consider how they may participate in the Statewide Chloride Management Plan and provide public outreach to reduce the overuse of chloride. Here are some educational resources for residents as well as a sample ordinance regarding chloride use.

7. Page 17, Stormwater. We recommend that BWSR-approved, weed-free, native seed mixes be used to the greatest degree possible in stormwater features and development landscaping in order to provide pollinator habitat. Native plants also require less irrigation and soil inputs than traditional landscaping.

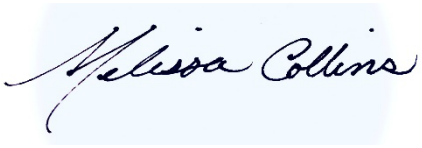
8. Page 18, Water Appropriation. This section states that no water appropriation will be necessary, however depth to groundwater is not discussed in the EAW. The development proposes the creation of stormwater ponds and the installation of utilities that could require construction dewatering. A DNR Water Appropriation Permit is required if the water pumped exceeds 10,000 gallons in a day, or one million gallons in one year. The DNR General Permit for Temporary Appropriation, with its lower permit application fee and reduced time for review, may be used for the dewatering if the dewatering volume is less than 50 million gallons and the time of the appropriation is less than one year.

9. Page 19, Other Surface Waters. This section states that no water surface impacts are expected from the project. However, there is no mention in the EAW of the lake access point and docks

that are shown on Figure 11. It is also unclear what pretreatment of stormwater will occur if discharged to the lake.

Thank you again for the opportunity to review this document, and please let me know if you have any questions.

Sincerely,



Melissa Collins
Regional Environmental Assessment Ecologist | Ecological and Water Resources
Minnesota Department of Natural Resources
1200 Warner Road
St. Paul, MN 55106
Phone: 651-259-5755
Email: melissa.collins@state.mn.us

CC: Roger Hokanson, Hokanson Construction and Development

Equal Opportunity Employer

APPENDIX C – NEGATIVE DECLARATION ON THE NEED FOR AN EIS

Buffalo

CITY OF BUFFALO, MINNESOTA

RESOLUTION 2025-26

RESOLUTION APPROVING A NEGATIVE DECLARATION ON THE NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT FOR THE SOUTH SHORES ON LAKE PULASKI DEVELOPMENT PROJECT

WHEREAS, the laws of the State of Minnesota require that an Environmental Assessment Worksheet (EAW) be prepared for construction of a permanent or potentially permanent residential development located wholly or partially in shoreland outside the seven-county Twin Cities metropolitan area equal to or in excess of the thresholds listed in Minnesota Rules 4410.4300 Subpart 19a; and

WHEREAS, an EAW was prepared for the South Shores on Lake Pulaski Development Project and reviewed by the City of Buffalo, and the draft document was circulated for comments to the required State and Federal agencies, as provided by law; and

WHEREAS, notice of availability of the EAW was published in the EQB Monitor on June 10, 2025, and the thirty-day comment period ended on July 10, 2025, and during such period comments were received from two public agencies; and

WHEREAS, the City Council is required by law to make a finding on the adequacy of the EAW and to determine whether an Environmental Impact Statement (EIS) should be prepared; and

WHEREAS, the City Council met at a regularly scheduled meeting on August 4, 2025, and considered the EAW, the reports of its staff, and the comments received from the parties as noted above;

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Buffalo that the City Council makes the following findings with regard to the environmental impact of the proposed South Shores on Lake Pulaski Development Project:

1. The Environmental Assessment Worksheet (EAW) and related documentation for the South Shores on Lake Pulaski Development Project were prepared in compliance with the procedures of the Minnesota Environmental Policy Act and Minnesota Rules 4410.1000 to 4410.1700. All requirements for environmental review of the proposed project have been met.
2. The EAW and the pertinent development processes related to the project have generated information that is adequate to determine whether the project has the potential for significant environmental effects.
3. Based on criteria in Minnesota Rules, part 4410.1700, the project does not have the potential for significant environmental effects.
4. An Environmental Impact Statement (EIS) is not required for the proposed South Shores on Lake Pulaski Development Project. The Responsible Government Unit

(RGU) makes a Negative Declaration and does not require the preparation of an EIS for the South Shores on Lake Pulaski Development Project.

BE IT FURTHER RESOLVED that based on the findings above, the City Council has determined that the South Shores on Lake Pulaski Development Project does not have the potential for significant environmental effects and that preparation of an EIS is not mandated in this instance.

BE IT FURTHER RESOLVED that nothing in this determination that the EAW is adequate should be interpreted in any way to suggest that the City has approved of the proposed Project.

Passed and adopted by the Buffalo City Council this 4th day of August 2025.

Steve Downer, Mayor

ATTEST: Susan Johnson, City Clerk

APPENDIX D – PRELIMINARY STORM WATER MANAGEMENT PLAN

Westwood

Preliminary Storm Water Management Plan for

South Shores on Pulaski
Buffalo, MN

Prepared for:
Tamarack Land Development
712 Vista Blvd., Suite 303
Waconia, MN 55387

Prepared by:
Westwood Professional Services
12701 Whitewater Drive, Suite #300
Minnetonka, MN 55343
(952) 937-5150

Project Number: 0057163.00
Date: 07/18/25

CONTENTS

EXHIBITS

INTRODUCTION

This drainage study summarizes the storm water analysis for the proposed South Shores on Pulaski residential project located at northwest corner of intersection of Caldur Avenue NE and 8 Street NE / 20th Street NE in Buffalo, Minnesota. The 219.3-acre property is comprised of a mixture of agricultural land, wetland areas, and woodland areas. The proposed development will consist of 64 villa lots, 236 single family lots, 160 back to back townhomes and 26 ROW townhomes for a total of 564 residential homes with the associated streets and utility infrastructure.

An existing drainage map is shown in Exhibit 1. The proposed drainage map is shown in Exhibit 2. The site was modeled in HydroCAD to analyze the existing conditions and proposed conditions. A HydroCAD Report is included Exhibit 3.

REGULATIONS

The project site is under the regulatory authority of the City of Buffalo and the MPCA. The project site is partially located within the FEMA 100-yr flood zone.

Rate Control

The City of Buffalo requires all developments shall be designed so that the rate of runoff shall not increase over the predevelopment peak runoff rates for the 2-yr, 10-yr and 100-yr 24 hour rainfall storm events. 10 inch event shall be used to show no flooding in structures will occur during the event.

Volume Control

The City of Buffalo requires all new developments and site redevelopments where the sum of new and reconstructed impervious equals 1.0 acres or more shall be designed to include onsite volume reduction and treatment practices to retain the first 1.0” of rainfall runoff from the new and reconstructed impervious areas.

Water Quality

The City of Buffalo requires projects designed so that there is a net reduction for the pre-project conditions on an annual average basis for stormwater discharge volume. There shall be a net reduction of at least 15% Total Suspended Solids (TSS) and Total Phosphorus (TP).

EXISTING CONDITIONS

The existing site consists of a mixture of agricultural land, wetland areas, and woodland areas. The soils analysis shows type D soils onsite, see Exhibit 4.

The existing site drains in six directions.

18.15 acres (1EX) will drain to the northwest to the existing storm sewer in Pulaski Road.

9.47 acres (2EX) will drain to the northwest to the existing storm sewer in Pulaski Road.

0.22 acres (18EX) will directly drain offsite to the existing residential to the west.

4.90 acres (19EX) will directly drain to existing storm sewer offsite to the north to an existing residential development.

2.50 acres (20EX) will drain to an existing storm sewer on Griffen Park Road to the East

288.90 acres will drain through a series of existing roadway ditch culverts, lowlands, overflows and wetlands to a wetland complex within the southeast corner of the site (9EX, 12EX, 13EX)

For agricultural land, the maximum runoff curve number (RCN) used in such calculations shall be 51 for Hydrologic Soil Group (HSG) A, 68 for Hydrologic Soil Group (HSG) B, 79 for Hydrologic Soil Group (HSG) C and 84 for HSG D. 84 for used for calucations.

The rainfall distributions and depths that were used in the HydroCAD analysis are from NOAA Atlas 14, MSE-3 distribution. The existing HydroCAD analysis was used to evaluate wetlands and current site conditions (Exhibit 3).

PROPOSED CONDITIONS

The proposed development will consist of 236 single family lots, 160 back to back townhomes and 26 ROW townhomes for a total of 564 residential homes with the associated streets and utility infrastructure. 82 single family residential homes with associated streets and utility infrastructure. Proposed conditions cover is presented in Table 1.

Table 1: Proposed Conditions Cover

Cover	Area [ac]
Impervious	66.27
Pervious	153.03
Total	219.3

Impervious surfaces for the model were calculated individually for each house, driveway, sidewalk, street, and trail.

15.84 acres (1E, 1P, 1OF, 1AE) will drain to the northwest to the existing storm sewer in Pulaski Road.

9.09 acres (2E) will drain to the northwest to the existing storm sewer in Pulaski Road.

0.22 acres (18E) will directly drain offsite to the existing residential to the west.

0.41 acres (19E) will directly drain to existing storm sewer offsite to the north to an existing residential development.

1.77 acres (20E) will drain to an existing storm sewer on Griffen Park Road to the East

296.81. acres (will drain through a series of existing roadway ditch culverts, lowlands, overflows and wetlands to a wetland complex within the southeast corner of the site (9EX, 12EX, 13EX)

RATE CONTROL

The City of Buffalo requires all developments shall be designed so that the rate of runoff shall not increase over the predevelopment peak runoff rates for the 2-yr, 10-yr and 100-yr 24 hour rainfall storm events. 10 inch event shall be used to show no flooding in structures will occur during the event.

The proposed improvements reduce storm runoff rate for all discharges offsite. Table 2a-2d shows a summary of the runoff rates and complete calculations can be found in Exhibit 3.

Table 2a: Peak Discharge Rate-100 Year Event

Area	Existing (cfs)	Proposed (cfs)
To Pulaski Rd Existing Storm Sewer NW	107.3	102.5
To Pulaski RD Existing Storm Sewer NE	56.8	54.6
To Griffen Rd Existing Storm Sewer	20.9	14.6
To North (Existing Storm Sewer)	37.6	3.3
To West	2.1	2.1

Table 2b: Peak Discharge Rate-10 Year Event

Area	Existing (cfs)	Proposed (cfs)
To Pulaski Rd Existing Storm Sewer NW	55.9	46.2
To Pulaski RD Existing Storm Sewer NE	29.7	28.6
To Griffen Rd Existing Storm Sewer	11.0	8.1
To North (Existing Storm Sewer)	19.4	1.9
To West	1.1	1.1

Table 2c: Peak Discharge Rate-2 Year Event

Area	Existing (cfs)	Proposed (cfs)
To Pulaski Rd Existing Storm Sewer NW	30.8	30.1
To Pulaski RD Existing Storm Sewer NE	16.6	15.9
To Griffen Rd Existing Storm Sewer	6.1	5.0
To North (Existing Storm Sewer)	10.6	1.1
To West	0.6	0.6

Wetland Complex (9E, 12E and 13 E) contains all drainage routed to it. Table 3 provided is comparison between existing and proposed conditions for HWL.

Table 3: HWL Comparison

Event	Existing (ft)	Proposed (ft)
2 yr	978.1	979.2
10 yr	979.4	980.3
100 yr	980.9	982.1

VOLUME CONTROL

The site is required to infiltrate/abstract 1" of runoff from the proposed impervious surfaces. Soil borings have not been completed, the site primarily contains type "D" soils, thus infiltration cannot be considered to meet the volume control requirement. Due to the existing wetland complex a wet sedimentation basin and filtration system is not viable. Four wet sedimentation ponds have been incorporated for water quality into the proposed site. See Exhibit 5 for pond volume calculations.

Table 4: Proposed Conditions Volume Control

Volume Control	
Impervious Area (AC)	66.27
Required Vol (1") (CF)	240,560

10-INCH STORM FLOOD CONTROL

The City of Buffalo requires that the 10-inch storm be modeled, and the applicant shall prove that structures do not flood. The table below lists resulting 10-inch storm high water levels.

Basin	10-inch HWL
1	976.7
2	987.8
3	987.4
4	985.5

WATER QUALITY

The City of Buffalo requires projects designed so that there is a net reduction for the pre-project conditions on an annual average basis for stormwater discharge volume. There shall be a net reduction of at least 15% Total Suspended Solids (TSS) and Total Phosphorus (TP). The proposed improvements were chosen for their ability to meet this requirement. A P8 model has been prepared to verify that all requirements are met. See Exhibit 6 for P8 Modeling output for existing and proposed conditions. A summary of the results of the P8 modeling are presented below in Table 5. TP and TSS loadings are reduced in the proposed condition, thus meeting the water quality requirements.

Table 5: Water Quality (10 Year Duration)

Water Quality Variable	Existing	Proposed
TSS (lb)	71,145	46,298
TP (lb)	589	559

BASIN SUMMARY

The following tables provide a summary of the proposed basins for the project.

Basin Information					
Basin	Bottom	NWL/Outlet	EOF/HWL	Required Dead Storage (AF)	Dead Storage (AF)
Pond 1	964.0	968.5	974.5/975.7	1.13	0.04**
Pond 2	970.0	980.0	986.0 / 985.3	6.52	7.90
Pond 3	972.0	982.0	986.1 / 985.6	7.64	52.16
Pond 4	970.0	980.0	984.4 / 983.9	2.78	8.67
Total				18.07	68.77

CONCLUSIONS

The proposed site meets all requirements of the State of Minnesota and the City of Buffalo for rate control, volume control and water quality.

EXHIBIT 1

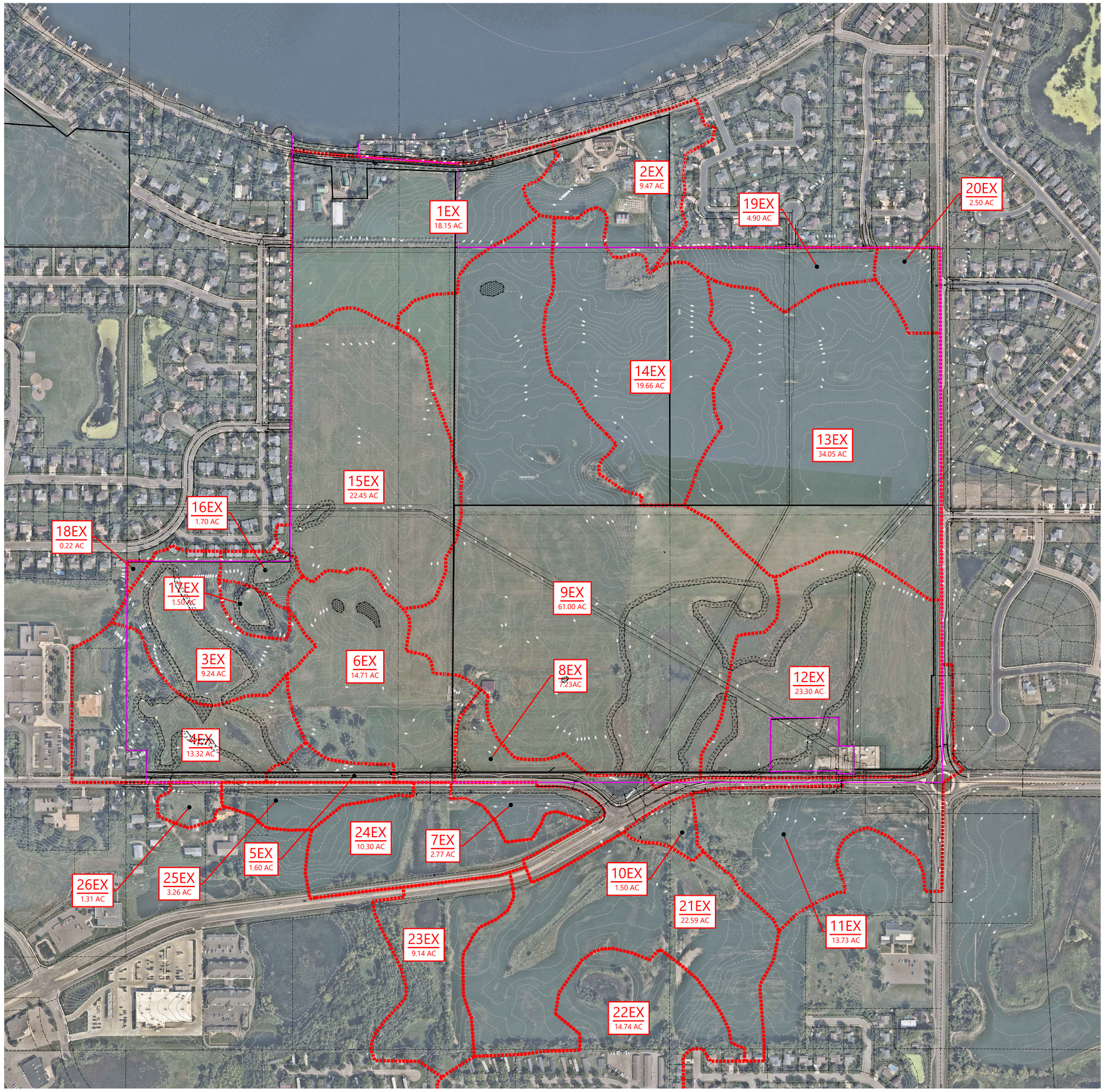
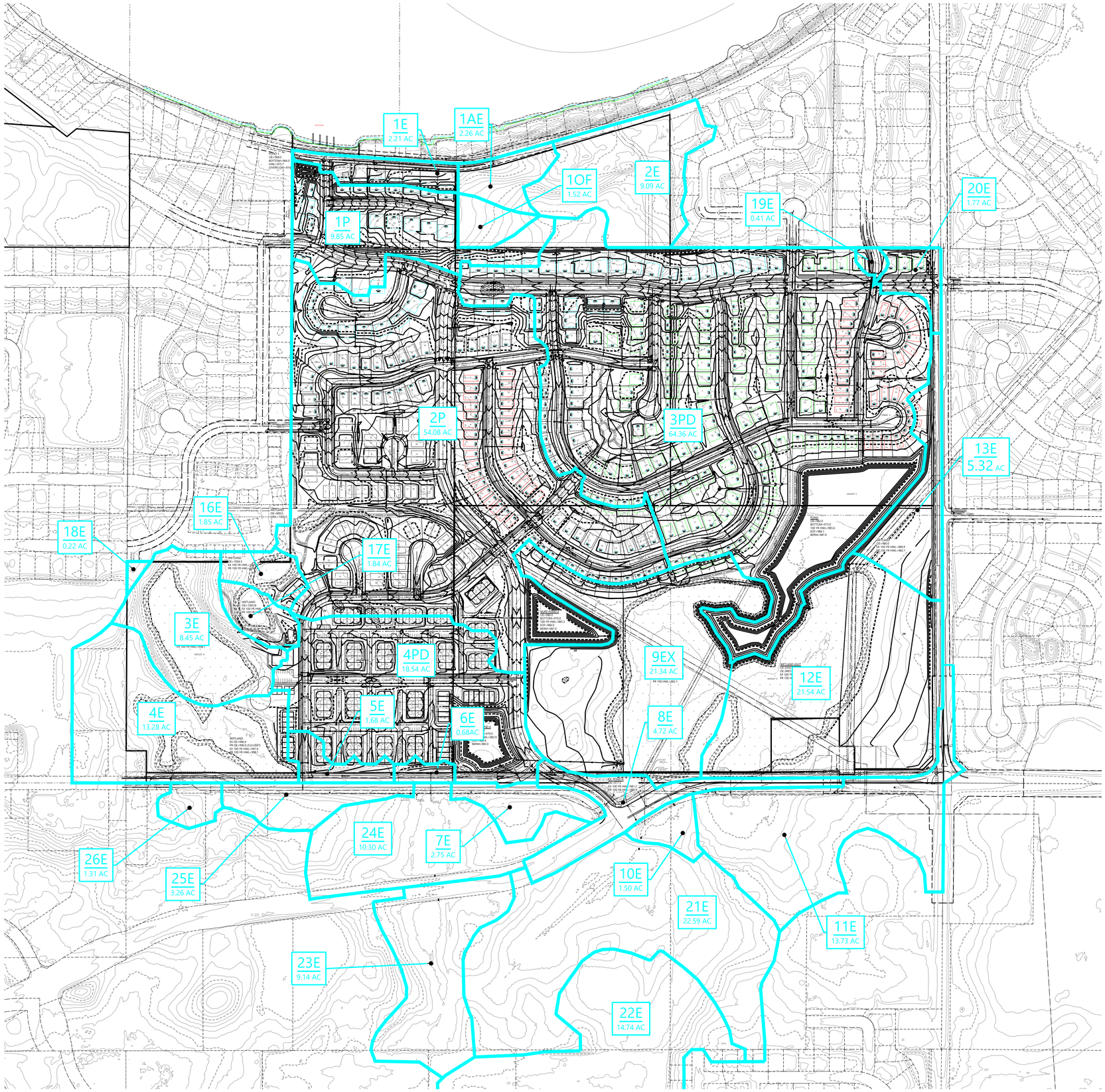

1EX
18.15 AC
2EX
9.47 AC
19EX
4.90 AC
20EX
2.50 AC
14EX
19.66 AC
13EX
34.05 AC
15EX
22.45 AC
16EX
1.70 AC
18EX
0.22 AC
17EX
1.50 AC
9EX
61.00 AC
3EX
9.24 AC
6EX
14.71 AC
8EX
7.23AC
12EX
23.30 AC
4EX
13.32 AC
24EX
10.30 AC
7EX
2.77 AC
5EX
1.60 AC
26EX
1.31 AC
25EX
3.26 AC
10EX
1.50 AC
21EX
22.59 AC
11EX
13.73 AC
23EX
9.14 AC
22EX
14.74 AC

EXHIBIT 2


1E
2.21 AC
1AE
2.26 AC
1OF
1.52 AC
2E
9.09 AC
1P
9.85 AC
19E
0.41 AC
20E
1.77 AC
2P
54.08 AC
3PD
64.36 AC
13E
5.32 AC
16E
1.85 AC
18E
0.22 AC
17E
1.84 AC
3E
8.45 AC
4PD
18.54 AC
9EX
21.34 AC
12E
21.54 AC
4E
13.28 AC
5E
1.68 AC
6E
0.68AC
8E
4.72 AC
24E
10.30 AC
7E
2.75 AC
26E
1.31 AC
25E
3.26 AC
10E
1.50 AC
21E
22.59 AC
11E
13.73 AC
23E
9.14 AC
22E
14.74 AC

APPENDIX E – PRELIMINARY GEOTECHNICAL EXPLORATION AND EVALUATION REPORT

February 7, 2025

Mr. Roger Hokanson
Hokanson Construction and Development
1550 91st Avenue NE, Ste. 110
Minneapolis, Minnesota 55449

Re: Preliminary Geotechnical Exploration & Evaluation Report
South Shores on Lake Pulaski
Buffalo, Minnesota 55313
GS Project No. 24BLP001

Dear Mr. Hokanson,

We have conducted a preliminary geotechnical exploration and subsurface investigation for the above referenced project per your request and our signed professional services agreement, dated December 16, 2024.

This report includes the results of our preliminary subsurface field exploration. Based on the results obtained, our report discusses the general suitability of the soils for the development being proposed. The report contains general recommendations related to building, pavement, utility, and storm water pond design and other geotechnical related construction considerations.

Included with the report are soil borings logs showing the soil type and other pertinent geotechnical characteristics encountered and recorded during the field boring process.

This report should be kept together and read in its entirety. An additional exploration and report shall be performed when development plans are further refined.

If you have any questions regarding this report or the recommendations it contains, or for assistance with the construction materials testing and special inspections during the construction process, please do not hesitate to contact us.

Sincerely,

GeoServices

Joe Carlson

Joe Carlson, PE
GeoServices
952.303.4190 (O)
952.207.6747 (M)
Joe.Carlson@GeoEngServices.com

Attachments:

Preliminary Geotechnical Exploration & Evaluation Report

PRELIMINARY GEOTECHNICAL EXPLORATION & EVALUATION REPORT

GS PROJECT NUMBER: 24BLP001

DATE: February 7, 2025

LOCATION: Buffalo, Minnesota

1205 Cliff Road East, Burnsville, MN 55337

Table of Contents

Appendix
Boring Location Map
Logs of Testing Borings
Laboratory Test Results
Descriptive Terminology (USCS Modified)

1.0 INTRODUCTION

1.1 Project Description

The project consists of new single-family homes, townhomes, apartment buildings, associated roadways and underground utilities, stormwater ponds, and associated civil site work for the proposed South Shores on Lake Pulaski development in Buffalo, Minnesota. Development plans are preliminary at this time. Our understanding is based on limited verbal conversations regarding the proposed development and the overall site plan that was provided to us.

1.2 Report Purpose

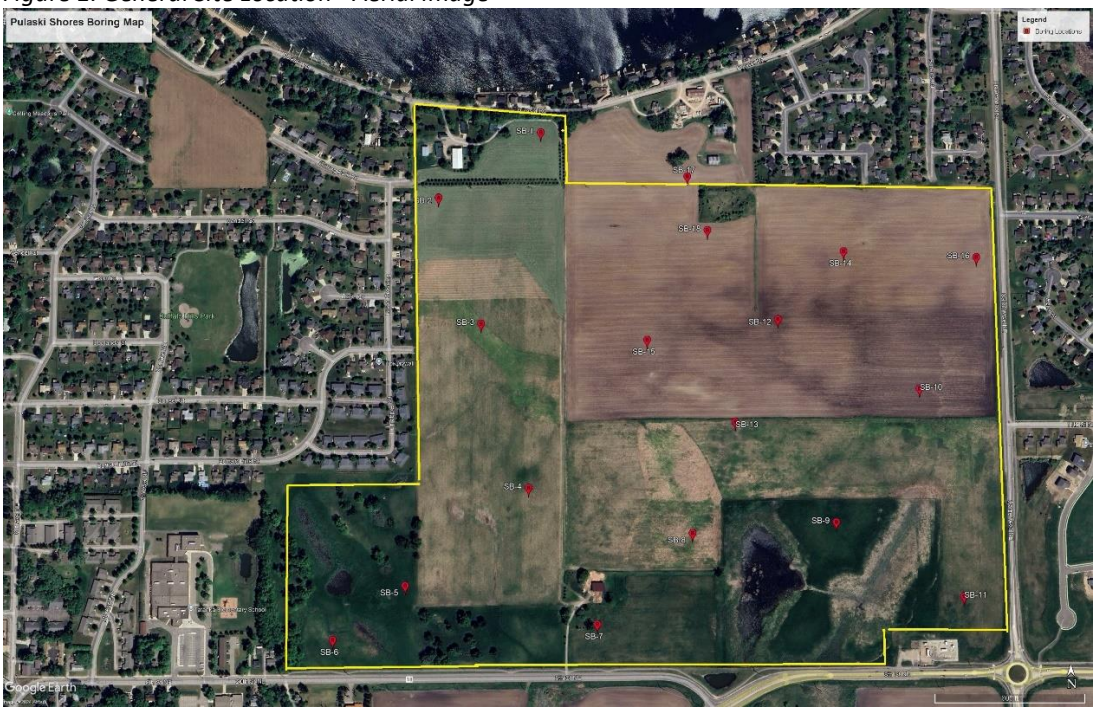
The purpose of our work on this project was to investigate the in-situ soil at the proposed South Shores on Lake Pulaski development. The report contains a generalization of the current in-situ soil conditions discovered and how the soils may impact the development, including foundation construction for the various structures being proposed, street and underground utility construction impacts, and stormwater considerations. This stated purpose was a significant factor in determining the scope and level of service provided. Should this report's purpose change the report immediately ceases to be valid. The use of it without GeoServices' prior review and written authorization shall be at the user's sole risk.

1.3 Site Location/Description

The project site is located on plowable farm fields and pastures, located south of Pulaski Road, north of 8th Street NE, and west of Calder Avenue in Buffalo, Minnesota. The area in general is relatively flat with elevations ranging from about 980 feet to 1020 feet.

Figure 1 below provides an aerial map with the approximate location of the proposed construction site and our boring locations.

Figure 1: General Site Location - Aerial image



1.4 Scope of Services

In accordance with your authorization of our proposal dated December 10, 2024, we have completed our field exploration program used to prepare this preliminary geotechnical report for the referenced site. The scope provided is preliminary in nature, only providing a generalization of the soil's suitability for the development being planned. This scope is not intended to explore for the presence or extent of environmental contamination at the site.

Our authorized scope of work has been limited to:

- Request and coordinate public underground utilities be marked using Gopher State One Call
- Mobilization of a CME-45 Drill Rig and Chase Truck – 2 Person Crew
- Perform eighteen (18) 15-Foot SPT Borings for a total lineal foot depth of approximately 270 feet
- Conduct laboratory testing on select samples
- Prepare a Preliminary Geotechnical Exploration & Report containing:
    - Exploration Results
    - Recommendations
    - Construction Considerations
    - Boring Location Map
    - Boring Logs

1.5 Documents Provided

We received a preliminary overall site plan produced by Westwood Professional Services, Inc. This image was used as our *Boring Location Map* that can be located within the Appendix.

1.6 Boring Locations and Elevations

The provided image was geolocated using known structures and boring coordinates were then approximated. A GPS enabled device was used to locate and mark the boring locations. The actual boring locations should be considered approximate, with an estimated accuracy of +/- 30 feet horizontally from the location depicted in the image.

The requested boring depths included placing eighteen (18) 15-foot-deep borings within the building pads and retention pond areas within the proposed development.

Boring elevations were not provided. We used the boring locations on the overall site plan that was provided to us to estimate the surface elevation of the borings. We used the website MnTOPO to estimate the elevation of our boring locations. The contour data on the website was shown in two-foot intervals therefore we interpolated the distance between adjacent contour lines and rounded to the nearest one foot. The accuracy of the surface elevations is considered approximate and should not be relied upon for design purposes.

1.7 Site Desktop Study

GeoServices used publicly available information to review the site conditions. Our findings are presented in the following sections.

1.7.1 Topography

We reviewed LiDAR topography data available online through the state database, MnTopo. The site appears relatively flat with undulating hills throughout the proposed site. Elevations ranged from 980 feet to 1020 feet.

1.7.2 Geological Atlas

Based upon review of the Wright County Surficial Geological Atlas, the site is part of the most recent Wisconsin Episode, which deposited subglacial till consisting of sandy loam, textured unsorted sediment (diamicton) with some coarse-grained clasts. Brown to yellowish brown where oxidized and dark gray where unoxidized. Generally, contains gray siliceous shale, typically composing 15 to 30 percent of the very coarse grained sand fraction.

1.7.3 Historical Satellite Imagery

Based upon review of historical satellite imagery, this site appears to have been primarily agricultural in nature dating back to 1940. No structures were noted on the site. Historical satellite imagery was provided by the University of Minnesota website, MNHAPO.

2.0 PROCEDURES

2.1 Boring and Sampling Procedures

GeoServices conducted eighteen (18) standard penetration test borings at the project site. We completed the borings on January 6 through 9, 2025 using a CME-45 Truck Mounted Drill Rig. The drilling rig was operated with a 2-person crew. The drill crew completed the borings using continuous hollow stem augers. Additional information on the drilling process can be found on the *Boring Logs* included in the Appendix.

In general, the drill crew used a 2" split spoon to sample the soils in advance of the auger at two and one-half foot intervals to 15 feet and then performed sampling at 5-foot intervals thereafter to the boring's termination depth. The samples were obtained using a split barrel sample spoon which was driven into the ground using an automatic SPT hammer system in general accordance with ASTM D1586, "Standard Method of Penetration Test and Split Barrel Sampling of Soils".

The materials encountered during drilling were detailed within the field boring logs and representative samples were collected and placed in sample jars for further observation, classification, and testing by a Geotechnical Engineer or under the direct supervision of a Geotechnical Engineer.

The samples were reviewed at our laboratory to help further define and estimate the types of soils, grain sizes, plasticity, moisture condition, color, and presence of lenses and seams within the samples. The soil was classified in general accordance with the Unified Soil Classification System (USCS). Further details can be found in our *USCS Summary* within the Appendix.

2.2 Groundwater Measurements

The drill crew noted the depth of any free water observed on the drilling rods or sampling spoon during the drilling process. After completion of the borings, if wet or saturated soils were encountered, the drill crew measured the depth of water through the hollow stem auger, after auger retrieval, and in some cases may have left the borehole open for a short period of time and remeasured the water level.

Further details of groundwater encountered, and any measurements taken would be further detailed within the *Borings Logs* included within the Appendix.

2.3 Borehole Abandonment

After completion of the borings, and any subsequent groundwater readings that may have been taken, the borings were backfilled in accordance with Minnesota Department of Health (MDH) regulations.

Bore holes completed within structural or trafficked areas may be subject to future settlement. We compact the soil or materials used to backfill the borings to the best of our abilities and in general accordance with industry standards.

The completed bore hole locations should be subsequently monitored for any signs of bore hole surface settlement that poses a safety issue, such as within pavement areas subject to live traffic or areas with foot traffic where surface settlement may create a trip hazard. If the bore holes do show signs of surface settlement, we ask you contact us to discuss remedial measures.

2.4 Boring Logs

A geotechnical engineer or their designated representative reviewed the field logs prepared by the drilling crew, observed the samples obtained, and classified the soil using visual and manual methods in accordance with the Unified Soil Classification System (USCS). Other soil conditions such as grain size, color, moisture condition, plasticity, gravel content, etc., may also be presented within the *Boring Logs*.

3.0 EXPLORATION RESULTS

3.1 Subsurface Soils

The soils encountered within our borings generally consisted of the following profile:

Table 1: Subsurface Soil Summary

Strata	Soil Type	Boring Numbers	Depths Encountered
Topsoil	SC, CL (Clayey Sand, Lean Clay)	1 - 13, 15	0.1 – 1.5+ Feet
Glacial Deposits	CL, CL-ML, SC, CH (Lean Clay, Lean Clay with Sand, Sandy Lean Clay, Silty Clay, Clayey Sand, Fat Clay)	1 - 18	1.5 – 15.0 Feet
	Poorly Graded Sand (SP)	7, 13	8 – 15 Feet
	Peat (PT)	10	7 – 8.5 Feet

In general, a dark brown clayey sand lor lean clay topsoil was found in fourteen of the eighteen borings conducted. No apparent topsoil was encountered in the remaining borings, with surface soils being mostly lean clay or lean clay with sand. These soils were overlying what appeared to be glacial till deposits consisting of lean clay with varying amounts of sand, clayey sands, silty clays and fat clay. Poorly graded sands were located in Borings B-7 and B-13. Peat was found in boring number B-10.

3.2 Groundwater Conditions

Apparent groundwater was encountered during the drilling process. We measured water levels at Boring B-4, at an elevation of approximately 987.5 feet, Boring B-7, an approximate elevation of 977.3 feet, and Boring B-10, an approximate elevation of 968.0 feet, either immediately after auger removal or after a period of time was allow to elapse to allow water levels to further stabilize. The Boring Logs provided contain further details on the water levels and the times at which they were measured.

Groundwater levels often will fluctuate due to seasonal variations and other factors that may not have been present at the time of drilling. The borings were only left open for a brief period of time and therefore groundwater levels may not have completely stabilized. Groundwater measurements can be difficult to obtain, especially in cohesive soils such as clays and silts. These types of soils have low rates of permeability and therefore may take an extended period for the groundwater levels to equalize and stabilize. Our borings were only left open for a brief period of time therefore the water level measurements taken may not be completely accurate and should not be relied upon directly for design.

If more accurate groundwater level data is required, we recommend that piezometers be installed and monitored over a period of several months or up to the time of construction. This type of work was not within our proposed or authorized scope of services. We would be happy to discuss how we can assist if this information is sought.

If gray colored soils or mottled soils were encountered, this may indicate the soils are or have been subject to previous saturation or exposed ground water.

Note that any sand veins or lenses that appeared wet or waterbearing may be indicative of a perched groundwater table. Such lenses, veins or seams may be under pressure which could lead to significant water flow into excavations when such a zone is disturbed, such as when disturbed through open cut excavation.

3.3 Strength Characteristics

The penetration resistance, N-values, of the materials encountered were recorded during drilling and are indicated as blows per foot (BPF). These values provide an indication of soil strength characteristics and can be found on the *Boring Logs* included in the Appendix. Also, visual-manual classification techniques and apparent moisture contents were also utilized to make an engineering judgment of the consistency of the materials in conjunction with any laboratory testing that may have been performed.

Table 2 presents a summary of the penetration resistances (N-value which are indicated by Blows Per Foot BPF) in the soils for the borings completed and remarks regarding the material strengths of the soils.

Table 2: Penetration Resistance Data Summary

General Soil Type	USCS Classification	Penetration Resistance (BPF)	General Remarks
Glacial Deposits	SC	7 BPF to 20 BPF	Loose to Medium Dense
	CL	4 BPF to 19 BPF	Soft to Hard
	CL-ML	9 BPF to 18 BPF	Firm to Medium Firm
	CH	0 BPF to 10 BPF	Very Soft to Firm
	SP	6 BPF to 11 BPF	Loose to Medium Dense
	PT	2 BPF	Soft

3.4 Laboratory Test Results

Laboratory testing may have been performed on select samples as directed by a Geotechnical Engineer or their representative.

Samples are to be retained for a minimum of 180 days. We may conduct additional lab testing on select samples to help guide our recommendations as development plans are further refined.

4.0 RECOMMENDATIONS

4.1 General

The naturally deposited soils encountered appear to be generally suitable for the proposed development.

Topsoil depths ranged from 0 to over 18 inches. Topsoil removal should be planned for any areas that require structural support such as for building foundations or pavements. Topsoil should also be completely removed prior to any fills that may need to be placed which are intended to provide structural support for proposed structures and roadways.

The soils encountered in Boring, B-10, are likely to be problematic for any type of structural support. We recommend considering using this area for other purposes during development planning. Additional borings in this area should be performed to further determine the extent of these problematic soils.

4.2 Foundations

We assume the various buildings being proposed will be slab on grade using standard frost depth reinforced concrete foundations. Assuming typical loadings for the various structures and assuming minimal grading, most of the naturally deposited soils should be capable of supporting the loads. Some areas may require soil corrections, although we expect any necessary corrections will be relatively minimal and can be achieved with over excavation and structural fill placement.

In general, once the topsoil is removed, the underlying naturally deposited soil should provide adequate support for the structures being considered.

4.3 Pavements

No borings were conducted within any anticipated pavement areas. Based on the soils encountered in general, we assume the roadway subgrade will consist primarily of lean clays. These soils are considered generally suitable for pavement support provided measures are taken to promote drainage. We recommend planning for a minimum of a 12-inch granular subbase to help collect and control the water throughout the proposed pavement areas. This should help limit the risk associated with subgrade movements associated with changes in its moisture condition. A granular subbase is common practice when constructing roads on poorly draining subgrade soils such as the lean clay soils encountered. Adequate drainage of the granular subbase should be provided by placing draintile at low points of the subgrade.

In addition, a geotextile separation fabric may also be warranted. We recommend using a MnDOT Type 5 geotextile for this purpose. These recommendations are preliminary and may change when borings are performed specifically for pavement design within the street locations.

4.4 Underground Utilities

We assume underground utilities such as water, sanitary and storm water will be installed on site and that such utilities will be installed at standard depths. Most of the soil encountered should be suitable for supporting such utilities. In areas where organic soils or soft soils are encountered, a soil correction may be necessary which would consist of additional subcuts below the utilities and backfilling with a structural fill, essentially increasing the pipe bedding thickness.

Although we don't assume water will have a large impact on underground utility construction, water should be anticipated, especially in areas where sandy soils were encountered. Several sand lenses were discovered which may hold water under pressure that could fill excavations rather quickly. Based on the relatively impermeable lean clays expected, any groundwater encountered should be able to be adequately controlled by the means of sump and pumps at excavation low points. We do not anticipate excessive dewatering efforts will be required for the development.

4.5 Stormwater Basins

Most of the soils discovered are of Hydrologic Soil Group D and are not generally considered conducive to infiltration. Other stormwater treatment practices should be considered for stormwater control and best management practices.

5.0 CONSIDERATIONS

5.1 Construction Disturbance

Soils exposed to water ponding may become unstable. Positive surface drainage away from excavations should be maintained during the entire construction process.

Any water that enters excavations should be immediately removed through the means of sump and pumps or through other measures as necessary.

5.2 Re-use of In-Place Soils

Existing soils that are free of debris, non-organic, non-plastic and do not contain an excessive amount of gravel may be used as structural fill if both compaction and moisture requirements can be met.

If in-place soils are excessively dry or overly wet, compaction requirements can be difficult or impossible to achieve without wetting or drying the soils to near optimum moisture. Depending on the soil type, this may take extensive time and space to do this and therefore may not be a viable option in contrast to importing more suitable soil.

5.3 Organic Soils

Organic soils are not recommended for any type of structural support. We do not recommend organic soil be left below pavements, or other structural elements. We understand that this may not always be feasible financially for the proposed construction. Leaving any such soil in place, unless exclusively outlined within this report, shall be acknowledged as an acceptable risk to the Owner.

5.4 Existing Fills

Any apparent existing fill encountered within our borings or discovered during site excavations are not considered suitable for bearing loads associated with the proposed construction. Without documentation of the existing fill soils, showing how they were placed in a controlled means, and if adequate compaction was met during placement, we do not recommend any existing fill be considered for structural support.

5.5 Cold Weather Construction

It is our understanding that construction is not likely to occur during winter or times subject to freezing weather conditions. However, if the construction does occur in such conditions, we recommend placement of fill should not be permitted on frozen soil. Excessive post-construction settlement could occur as the frozen soils thaw. At no time should frozen soil be used for fill or backfill.

5.6 Construction Safety/OSHA

All excavations should comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P "Excavations and Trenches". This document states that excavation safety is the responsibility of the contractor. Reference to this OSHA requirement should be included in the job specifications.

The responsibility to provide safe working conditions on this site, for earthwork, utility installation, or any associated operations is solely that of the contractor. This responsibility is not borne in any manner by GeoServices.

5.7 Use of Report

This report is for the exclusive use of the parties this report is addressed to. Without written approval, we assume no responsibility to others regarding this report and the recommendations it contains. This report is likely not appropriate for other parties, properties, or projects.

The entire report should be kept together; for example, boring logs should not be removed and placed in specifications separately.

5.8 Plan Review

The observations, recommendations and conclusions described in this report are based primarily on the preliminary development information that was provided to us, obtained from our subsurface exploration, our experience, and the agreed upon scope of services developed for this project. This information is for the sole use of our client only.

We recommend that GeoServices be retained to perform a review of final design drawings and specifications to evaluate if the geotechnical engineering recommendations have been properly interpreted. Should there be changes in the design or location of the structures related to this project or if there are uncertainties in the report we should be notified. We would be pleased to review project changes and modify the recommendations in this report or provide clarification in writing.

The boring logs and related information included in this report are indicators of the subsurface conditions only at the specific locations indicated on the *Boring Location Map* and at the times noted on the *Boring Logs* included in the Appendix. The subsurface conditions, including groundwater levels, at other locations on the site may differ significantly from conditions that existed at the time of sampling and at boring locations.

The soil borings were conducted by GeoServices solely to obtain indications of subsurface conditions as part of our geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.

GeoServices has not performed observations, investigations, explorations, studies or testing that are not specifically listed in the scope of service. GeoServices should not be liable for failing to discover any condition whose discovery required the performance of services not authorized under our scope of services.

5.9 Field Observations and Testing

The soil conditions illustrated on the *Boring Logs* in *the Appendix* are indicative of the conditions only at the boring locations.

For this reason, we recommend that any excavations at this site be observed by a geotechnical engineer or a qualified soil technician prior to structural fill or backfill placement

These observations are recommended to help judge if all unsuitable soil has been completely removed from within the planned construction area and if an appropriate degree of lateral oversize has been provided.

GeoServices would be pleased to provide the recommended field observations, monitoring and testing services during construction.

6.0 STANDARD OF CARE

The recommendations and opinions contained in this report are based on our professional judgment. The soil testing and geotechnical engineering services performed for this project have been performed with the level of skill and diligence ordinarily exercised by reputable members of the same profession under similar circumstances, at the same time and in the same or a similar locale. No warranty, either expressed or implied, is made.

Prepared By:

Joe Carlson

Joe Carlson, PE
GeoServices
952.303.4190 (O)
952.207.6747 (M)
Joe.Carlson@GeoEngServices.com

Attachments:
Boring Location Map
Boring Logs
USCS Summary

BORING LOCATION MAP


Pulaski Rd.
Griffing Park Rd.
Lakeview Pkwy
Roberts Rd.
Collector St. 80' R/W
Collector Pkwy - 80' R/W
65' SF
55' SF
45' Villas
Entry Feature
Buffalo Hills ST.
Twins
36 un.
Row Townhomes
126 un.
Pond
Wetland
PARK
~10.2 ac
Pickleball Ct.
Senior
APTS
~120 un
APTS
~70 un
20th ST NE
8th ST NE

BORING LOGS

GEOTECHNICAL BORING LOG B-1

PROJECT NUMBER 24BLP001	**START TIME** 2:36 PM	**SURFACE ELEVATION** 997
PROJECT LOCATION S.Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25"	**WATER LEVEL WHEN DRILLING (1)** N/E
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** N/E
DRILLING DATE 1/6/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 14.5'

COMMENTS

LOGGED BY PS
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5, 10, 15, 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	996		1	Grab					TOPSOIL: 1" Clayey Sand, dark brown, moist 17" Lean Clay, brown, moist						
2	995														
3	994		2	SPT	9	11		Firm	LEAN CLAY, grayish-brown, moist	CL					
4	993														
5	992		3	SPT	9	11		Firm	LEAN CLAY, grayish-brown, iron oxide staining, moist	CL					
6	991														
7	990		4	SPT	17	9		Firm	LEAN CLAY WITH SAND, grayish-brown, moist	CL					
9	988														
10	987		5	SPT	15	6		Medium Firm	8" SANDY LEAN CLAY, brown, iron oxide staining, moist 7" FAT CLAY WITH SAND, brown, moist	CL CH					
11	986														
12	985		6	SPT	18	9		Loose	CLAYEY SAND, dark brown, moist	SC					
14	983														
15	982		7	SPT	18	15		Firm	SANDY LEAN CLAY, grayish-brown, iron oxide staining, moist	CL					
16	981								Boring Terminated at 14.5', Sampled to 16.0'						

Disclaimer This bore log is intended for getechnical purposes only.

produced by ESlog.ESdat.net on 06 Feb 2025

GEOTECHNICAL BORING LOG B-2

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/6/2025

START TIME 1:39 PM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25"
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 993
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 13.0'

COMMENTS

LOGGED BY PS
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5 10 15 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	992		1	Grab					TOPSOIL: 12" Clayey Sand, dark brown, moist 6" Sandy Lean Clay, brown, moist						
2	991														
3	990		2	SPT	11	10		Firm	SANDY LEAN CLAY, brown-dark brown, moist	CL					
4	989														
5	988		3	SPT	12	10		Firm	LEAN CLAY WITH SAND, iron oxide staining, brown, moist	CL					
6	987														
7	986		4	SPT	16	14		Firm	SANDY LEAN CLAY, light brown, moist	CL					
8	985														
9	984														
10	983		5	SPT	16	10		Firm	SANDY LEAN CLAY, light brown, moist	CL					
11	982														
12	981														
13	980		6	SPT	17	14		Firm	SILTY CLAY, grayish-brown, moist	CL-ML					
14	979														
15	978		7	SPT	18	18		Hard	SILTY CLAY, brown, moist	CL-ML					
16	977								Boring Terminated at 14.5', Sampled to 16.0'						

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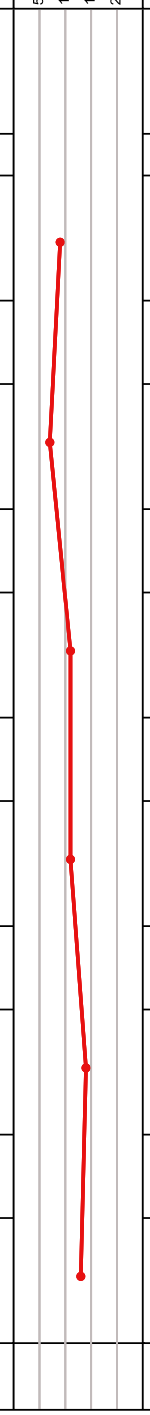
GEOTECHNICAL BORING LOG B-3

PROJECT NUMBER 24BLP001	**START TIME** 12:47 PM	**SURFACE ELEVATION** 990
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25"	**WATER LEVEL WHEN DRILLING (1)** N/E
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** N/E
DRILLING DATE 1/6/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 14.25'

COMMENTS

LOGGED BY PS
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	989		1	Grab				TOPSOIL: 18" Lean Clay with Sand, dark brown, moist					
2	988												
3	987		2	SPT	11	9	Firm	2" LEAN CLAY WITH SAND, dark brown, moist 9" LEAN CLAY WITH SAND, gray, moist	CL CL				
4	986												
5	985		3	SPT	18	7	Loose	CLAYEY SAND, dark brown, moist	SC				
6	984												
7	983		4	SPT	18	11	Firm	SILTY CLAY, light brown, moist	CL-ML				
8	982												
9	981												
10	980		5	SPT	18	11	Firm	LEAN CLAY, light brown, moist	CL				
11	979												
12	978												
13	977		6	SPT	18	14	Firm	SILTY CLAY, light brown, iron oxide staining, moist	CL-ML				
14	976												
15	975		7	SPT	18	13	Firm	LEAN CLAY WITH SAND, dark gray, moist	CL				
16	974							Boring Terminated at 14.5', Sampled to 16.0'					



GEOTECHNICAL BORING LOG B-4

PROJECT NUMBER 24BLP001	**START TIME** 11:33 AM	**SURFACE ELEVATION** 997
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25"	**WATER LEVEL WHEN DRILLING (1)** 11.0'
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** 9.5'
DRILLING DATE 1/6/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 12.0'

COMMENTS (2) Water level measured approximately 24 hours after drilling

LOGGED BY PS
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5 10 15 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	996		1	Grab					TOPSOIL: 1" Clayey Sand, dark brown, moist 17" Lean Clay with Sand, brown, moist						
2	995														
3	994		2	SPT	13	13		Firm	LEAN CLAY WITH SAND AND TRACE GRAVEL, brown, moist	CL					
4	993														
5	992		3	SPT	17	10		Firm	LEAN CLAY WITH SAND, brown, moist	CL					
6	991														
7	990		4	SPT	18	9		Firm	LEAN CLAY WITH SAND, brown, moist	CL					
9	988	▽ 2													
10	987		5	SPT	18	12		Medium Dense	CLAYEY SAND, medium to coarse grained, iron oxide staining, brown, moist	SC					
11	986	▽ 1													
12	985														
13	984		6	SPT	16	12		Medium Dense	CLAYEY SAND, medium to coarse grained, brown, waterbearing	SC					
14	983														
15	982		7	SPT	18	15		Firm	SILTY CLAY, brown, moist	CL-ML					
16	981								Boring Terminated at 14.5', Sampled to 16.0'						

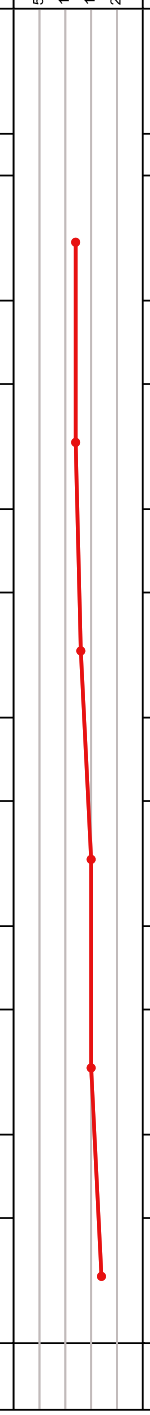
GEOTECHNICAL BORING LOG B-5

PROJECT NUMBER 24BLP001	**START TIME** 3:15 PM	**SURFACE ELEVATION** 1001
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25	**WATER LEVEL WHEN DRILLING (1)** N/E
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** N/E
DRILLING DATE 1/8/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 14.0'

COMMENTS

LOGGED BY PS
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	1000		1	Grab				TOPSOIL: 14" Clayey Sand, dark brown, moist 4" Lean Clay, brown, moist						
2	999													
3	998		2	SPT	8	12	Firm	LEAN CLAY, brown, moist	CL					
4	997													
5	996		3	SPT	18	12	Firm	LEAN CLAY WITH SAND, grayish-brown, moist	CL					
6	995													
7	994		4	SPT	19	13	Firm	LEAN CLAY WITH SAND, grayish-brown, iron oxide staining, moist	CL					
8	993													
9	992													
10	991		5	SPT	20	15	Firm	LEAN CLAY WITH SAND, grayish-brown, iron oxide staining, moist Cobble at 11'	CL					
11	990													
12	989													
13	988		6	SPT	20	15	Firm	LEAN CLAY WITH SAND, grayish-brown, iron oxide staining, moist	CL					
14	987													
15	986		7	SPT	22	17	Hard	LEAN CLAY WITH SAND, grayish-brown, iron oxide staining, moist	CL					
16	985							Boring Terminated at 14.5', Sampled to 16.0'						



GEOTECHNICAL BORING LOG B-6

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/8/2025

START TIME 4:00 PM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 998
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 13.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	997		1	Grab				TOPSOIL: 15" Clayey Sand, dark brown, moist 3" Lean Clay, gray, moist						
2	996													
3	995		2	SPT	11	11	Firm	LEAN CLAY, gray, moist	CL					
4	994													
5	993		3	SPT	14	10	Firm	LEAN CLAY WITH SAND, gray, iron oxide staining, moist	CL					
6	992													
7	991		4	SPT	17	9	Firm	LEAN CLAY WITH SAND, gray, iron oxide staining, moist	CL					
9	989													
10	988		5	SPT	18	13	Firm	LEAN CLAY WITH SAND, gray, moist	CL					
11	987													
12	986		6	SPT	18	12	Firm	9" SANDY LEAN CLAY, gray-brown, moist 9" LEAN CLAY, gray, moist	CL					
14	984													
15	983		7	SPT	18	10	Firm	LEAN CLAY, gray, moist	CL					
16	982							Boring Terminated at 14.5', Sampled to 16.0'						

N Value: 5, 10, 15, 20

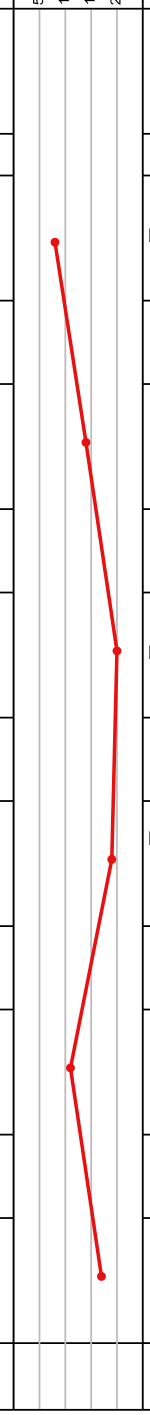
GEOTECHNICAL BORING LOG B-7

PROJECT NUMBER 24BLP001	**START TIME** 10:20 AM	**SURFACE ELEVATION** 986
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25	**WATER LEVEL WHEN DRILLING (1)** 10'
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** 8.7'
DRILLING DATE 1/6/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 9.7'

COMMENTS (2) Water level measured approximately 24 hours after drilling

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	985		1	Grab				TOPSOIL: 10" Clayey Sand, dark brown, moist 8" Lean Clay with sand, brown, moist					
2	984												
3	983		2	SPT	8	8	Medium Firm	SANDY LEAN CLAY, brown-gray, moist	CL				
4	982												
5	981		3	SPT	11	14	Firm	SILTY CLAY, gray, moist	CL-ML				
6	980												
7	979		4	SPT	16	20	Medium Dense	CLAYEY SAND, fine to medium grained, brown, moist	SC				
8	978												
9	977	▽2											
10	976	▽1	5	SPT	14	19	Medium Dense	CLAYEY SAND, fine to medium grained, brown, moist to waterbearing	SC				
11	975												
12	974		6	SPT	16	11	Loose	8" POORLY GRADED SAND, medium-coarse grained, brown, moist	SP				
13	973						Firm	9" SANDY LEAN CLAY, brown, moist	CL				
14	972												
15	971		7	SPT	17	17	Loose	3" POORLY GRADED SAND, medium-coarse grained, brown, water bearing	SP				
16	970						Firm	SANDY LEAN CLAY, brown, moist	CL				
								Boring Terminated at 14.5', Sampled to 16.0'					



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GEOTECHNICAL BORING LOG B-8

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/8/2025

START TIME 9:43 AM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 979
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 14.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5 10 15 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	978		1	Grab					TOPSOIL: 12" Clayey Sand, dark brown, moist 6" Lean Clay with sand, gray-brown, moist						
2	977														
3	976		2	SPT	12	5		Medium Firm	LEAN CLAY WITH SAND, gray, trace roots, moist	CL					
4	975														
5	974		3	SPT	15	8		Medium Firm	LEAN CLAY WITH SAND, gray, moist	CL					
6	973														
7	972		4	SPT	17	13		Firm	LEAN CLAY WITH SAND, gray, iron oxide staining, moist	CL					
8	971														
9	970														
10	969		5	SPT	16	17		Firm	LEAN CLAY WITH SAND, gray, moist	CL					
11	968														
12	967														
13	966		6	SPT	20	15		Firm	LEAN CLAY, gray, moist	CL					
14	965														
15	964		7	SPT	18	13		Firm	LEAN CLAY, gray, moist	CL					
16	963								Boring Terminated at 14.5', Sampled to 16.0'						

GEOTECHNICAL BORING LOG B-9

PROJECT NUMBER 24BLP001	**START TIME** 2:10 PM	**SURFACE ELEVATION** 981
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25	**WATER LEVEL WHEN DRILLING (1)** N/E
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** N/E
DRILLING DATE 1/8/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 7.0'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	980		1	Grab				TOPSOIL: 15" Clayey Sand, dark brown, moist 3" Lean Clay, brown, moist						
2	979													
3	978		2	SPT	7	12	Firm	SANDY LEAN CLAY, gray-brown, moist	CL					
4	977													
5	976		3	SPT	14	11	Medium Dense	CLAYEY SAND, gray-dark brown, moist	SC					
6	975													
7	974		4	SPT	19	14	Firm	LEAN CLAY, brown, moist	CL					
8	973													
9	972													
10	971		5	SPT	17	15	Firm	LEAN CLAY, gray, moist, lenses of sandy clay, brown, moist	CL					
11	970													
12	969													
13	968		6	SPT	10	14	Firm	LEAN CLAY, gray, moist, lenses of clayey sand, moist to waterbearing	CL					
14	967													
15	966		7	SPT	19	15	Firm	LEAN CLAY, gray, moist	CL					
16	965							Boring Terminated at 14.5', Sampled to 16.0'						

N Value: 5, 10, 15, 20

GEOTECHNICAL BORING LOG B-10

PROJECT NUMBER 24BLP001	**START TIME** 9:35 AM	**SURFACE ELEVATION** 976
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25	**WATER LEVEL WHEN DRILLING (1)** 14.0'
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** 8.0'
DRILLING DATE 1/9/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 13.0'

COMMENTS (2) Water level measured approximately 24 hours after drilling

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5, 10, 15, 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	975		1	Grab					TOPSOIL: 18" Lean clay, dark brown, moist						
2	974														
3	973		2	SPT	8	4		Soft	LEAN CLAY, roots, dark brown, moist	CL					
4	972														
5	971		3	SPT	4	4		Soft	FAT CLAY, dark brown, moist	CH					
6	970														
7	969														
8	968	▽ 2	4	SPT	14	2		Soft	PEAT, dark brown, organic, trace fibers, moist	PT					
9	967														
10	966		5	SPT	16	WH		Very Soft	FAT CLAY, gray, wet	CH					
11	965														
12	964														
13	963		6	SPT	11	9		Firm	FAT CLAY WITH SAND, gray, wet	CH					
14	962	▽ 1													
15	961		7	SPT	18	10		Firm	SANDY FAT CLAY, gray, water saturated	CH					
16	960								Boring Terminated at 14.5', Sampled to 16.0'						

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GEOTECHNICAL BORING LOG B-11

PROJECT NUMBER 24BLP001	**START TIME** 1:10 PM	**SURFACE ELEVATION** 988
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25	**WATER LEVEL WHEN DRILLING (1)** N/E
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** N/E
DRILLING DATE 1/8/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 14.0'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5, 10, 15, 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	987		1	Grab					TOPSOIL: 8" Lean clay, dark brown, moist 10" Lean Clay, brown, moist						
2	986														
3	985		2	SPT	8	9		Firm	LEAN CLAY WITH SAND, grayish-brown, moist	CL					
4	984														
5	983		3	SPT	13	14		Firm	LEAN CLAY WITH SAND, light gray, iron oxide staining, moist	CL					
6	982														
7	981		4	SPT	16	19		Hard	SANDY LEAN CLAY, light gray, iron oxide staining, moist	CL					
8	980														
9	979														
10	978		5	SPT	17	12		Firm	LEAN CLAY WITH SAND, grayish-brown, iron oxide staining, moist	CL					
11	977														
12	976														
13	975		6	SPT	23	16		Hard	LEAN CLAY WITH SAND, grayish-brown, iron oxide staining, moist	CL					
14	974														
15	973		7	SPT	21	13		Firm	LEAN CLAY, gray, moist	CL					
16	972								Boring Terminated at 14.5', Sampled to 16.0'						

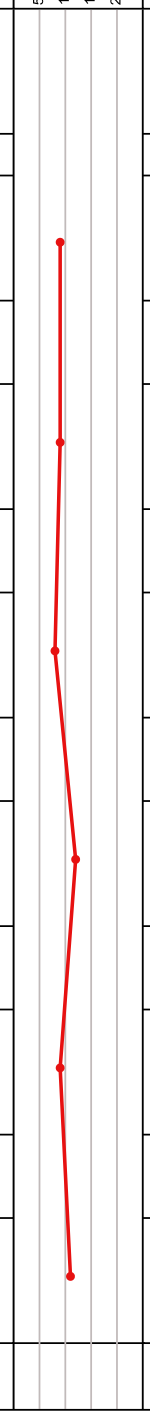
GEOTECHNICAL BORING LOG B-12

PROJECT NUMBER 24BLP001	**START TIME** 12:10 PM	**SURFACE ELEVATION** 992
PROJECT LOCATION S. Shores on Lake Pulaski	**SAMPLED DEPTH** 16.0	**REFUSAL ELEVATION**
CITY, STATE Buffalo, Minnesota	**AUGER I.D.** 3.25	**WATER LEVEL WHEN DRILLING (1)** N/E
CLIENT Pulaski Shores LLC	**REFUSAL** No	**WATER LEVEL AFTER DRILLING (2)** N/E
DRILLING DATE 1/8/2025	**BORING ADVANCED BY** CME 45	**CAVE IN DEPTH** 7.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	991		1	Grab				TOPSOIL: 18" Lean clay, dark brown, moist						
2	990													
3	989		2	SPT	8	9	Firm	LEAN CLAY WITH SAND, gray, moist	CL					
4	988													
5	987		3	SPT	13	9	Loose	CLAYEY SAND, gray, moist	SC					
6	986													
7	985		4	SPT	15	8	Loose	CLAYEY SAND, brown, moist	SC					
8	984													
9	983													
10	982		5	SPT	16	12	Firm	SANDY LEAN CLAY, gray, moist	CL					
11	981													
12	980													
13	979		6	SPT	18	9	Firm	LEAN CLAY WITH SAND, gray, moist	CL					
14	978													
15	977		7	SPT	10	11	Firm	LEAN CLAY WITH SAND, gray, moist	CL					
16	976							Boring Terminated at 14.5', Sampled to 16.0'						



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GEOTECHNICAL BORING LOG B-13

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/8/2025

START TIME 10:35 AM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 1003
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 13.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	1002		1	Grab				TOPSOIL: 1" sandy clay, dark brown, moist 17" sandy clay, brown, moist						
2	1001													
3	1000		2	SPT	11	15	Firm	LEAN CLAY, brown, moist	CL					
4	999													
5	998		3	SPT	18	15	Firm	LEAN CLAY, brown, moist	CL					
6	997													
7	996		4	SPT	14	12	Medium Firm	6" SANDY LEAN CLAY, brown, moist 6" POORLY GRADED SAND, fine to medium grained, brown, moist	CL SP					
8	995													
9	994													
10	993		5	SPT	13	6	Loose	POORLY GRADED SAND, medium to coarse grained, trace gravel, brown, moist	SP					
11	992													
12	991													
13	990		6	SPT	16	11	Medium Dense	POORLY GRADED SAND, medium to coarse grained, trace gravel, brown, moist	SP					
14	989													
15	988		7	SPT	18	13	Firm	SILTY CLAY, brown, moist	CL-ML					
16	987							Boring Terminated at 14.5', Sampled to 16.0'						

N Value: 5, 10, 15, 20

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GEOTECHNICAL BORING LOG B-14

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/9/2025

START TIME 11:35 AM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 998
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 14.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5, 10, 15, 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	997		1	Grab					LEAN CLAY, brown, moist	CL					
2	996														
3	995		2	SPT	17	8		Medium Firm	LEAN CLAY WITH SAND, brown, moist	CL					
4	994														
5	993		3	SPT	19	8		Medium Firm	LEAN CLAY WITH SAND, brown, moist	CL					
6	992														
7	991		4	SPT	21	10		Firm	LEAN CLAY WITH SAND, brown, iron oxide staining, moist	CL					
8	990														
9	989														
10	988		5	SPT	20	12		Firm	LEAN CLAY WITH SAND, brown, moist	CL					
11	987														
12	986		6	SPT	19	10		Firm	SILTY CLAY, brown, moist	CL-ML					
13	985														
14	984														
15	983		7	SPT	17	12		Firm	LEAN CLAY WITH SAND, brown, moist	CL					
16	982								Boring Terminated at 14.5', Sampled to 16.0'						

GEOTECHNICAL BORING LOG B-15

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/8/2025

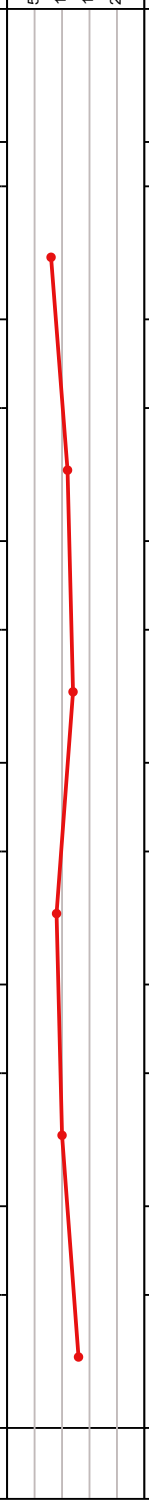
START TIME 11:30 AM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 993
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 14.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	992		1	Grab				TOPSOIL: 1" Clayey Sand, dark brown, moist 17" Lean Clay, brown, moist						
2	991													
3	990		2	SPT	8	8	Medium Firm	LEAN CLAY WITH SAND, brown, moist	CL					
4	989													
5	988		3	SPT	15	11	Firm	LEAN CLAY WITH SAND, brown, moist	CL					
6	987													
7	986		4	SPT	17	12	Firm	LEAN CLAY WITH SAND, brown, moist	CL					
8	985													
9	984													
10	983		5	SPT	20	9	Firm	LEAN CLAY WITH SAND, trace gravel, brown, moist	CL					
11	982													
12	981													
13	980		6	SPT	22	11	Firm	LEAN CLAY WITH SAND, brown, moist	CL					
14	979													
15	978		7	SPT	24	13	Firm	LEAN CLAY WITH SAND, brown, iron oxide staining, moist	CL					
16	977							Boring Terminated at 14.5', Sampled to 16.0'						



GEOTECHNICAL BORING LOG B-16

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/8/2025

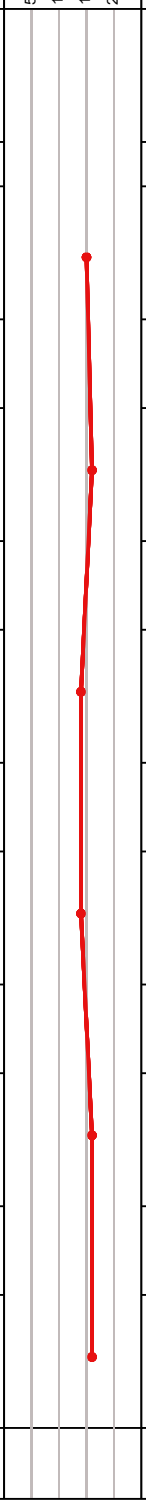
START TIME 10:32 AM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 993
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 14.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	992		1	Grab				LEAN CLAY WITH SAND, brown, moist	CL					
2	991		2	SPT	9	15	Firm	LEAN CLAY WITH SAND, brown, moist	CL					
3	990													
4	989		3	SPT	16	16	Hard	SANDY LEAN CLAY, brown, moist	CL					
5	988													
6	987		4	SPT	18	14	Firm	LEAN CLAY WITH SAND, brown, iron oxide staining, moist	CL					
7	986													
8	985		5	SPT	19	14	Firm	LEAN CLAY WITH SAND, brown, iron oxide staining, moist	CL					
9	984													
10	983		6	SPT	19	16	Hard	LEAN CLAY WITH SAND, trace gravel, brown, iron oxide staining, moist	CL					
11	982													
12	981		7	SPT	22	16	Hard	LEAN CLAY WITH SAND, trace gravel, brown, iron oxide staining, moist	CL					
13	980													
14	979													
15	978													
16	977							Boring Terminated at 14.5', Sampled to 16.0'						



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GEOTECHNICAL BORING LOG B-17

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/9/2025

START TIME 1:00 PM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 1021
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH 14.5'

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	1020		1	Grab				LEAN CLAY, brown, moist	CL					
2	1019													
3	1018		2	SPT	12	10	Firm	LEAN CLAY WITH SAND, brown, moist	CL					
4	1017													
5	1016		3	SPT	12	9	Firm	LEAN CLAY WITH SAND, brown, moist	CL					
6	1015													
7	1014		4	SPT	15	6	Medium Firm	LEAN CLAY WITH SAND, brown, moist	CL					
8	1013													
9	1012													
10	1011		5	SPT	18	11	Firm	LEAN CLAY WITH SAND, brown, moist	CL					
11	1010													
12	1009													
13	1008		6	SPT	21	6	Medium Firm	LEAN CLAY WITH SAND, brown, iron oxide staining, moist	CL					
14	1007													
15	1006		7	SPT	18	8	Medium Firm	LEAN CLAY WITH TRACE GRAVEL, brown, moist	CL					
16	1005							Boring Terminated at 14.5', Sampled to 16.0'						

N Value: 5, 10, 15, 20

GEOTECHNICAL BORING LOG B-18

PROJECT NUMBER 24BLP001
PROJECT LOCATION S. Shores on Lake Pulaski
CITY, STATE Buffalo, Minnesota
CLIENT Pulaski Shores LLC
DRILLING DATE 1/9/2025

START TIME 12:15 PM
SAMPLED DEPTH 16.0
AUGER I.D. 3.25
REFUSAL No
BORING ADVANCED BY CME 45

SURFACE ELEVATION 1014
REFUSAL ELEVATION
WATER LEVEL WHEN DRILLING (1) N/E
WATER LEVEL AFTER DRILLING (2) N/E
CAVE IN DEPTH N/A

COMMENTS

LOGGED BY PS BW
CHECKED BY JC

Depth (feet)	Elevation (feet)	Water Levels	Samples No.	Sample Type	Recovery, in.	N-Value	N Value (5, 10, 15, 20)	Consistency	Material Description	USCS	Graphic Log	Moisture (%)	P200 (%)	Qu (TSF)	O.C. (%)
1	1013		1	Grab					LEAN CLAY WITH SAND, brown, moist	CL					
2	1012														
2	1012		2	SPT	10	10		Firm	LEAN CLAY WITH SAND, brown, moist	CL					
3	1011														
4	1010														
5	1009		3	SPT	14	9		Firm	SILTY CLAY, light brown, moist	CL-ML					
6	1008														
7	1007		4	SPT	17	9		Firm	LEAN CLAY WITH SAND, brown, moist	CL					
8	1006														
9	1005														
10	1004		5	SPT	19	13		Firm	LEAN CLAY WITH TRACE GRAVEL, brown, iron oxide staining, moist	CL					
11	1003														
12	1002		6	SPT	20	15		Firm	LEAN CLAY WITH SAND, grayish-brown, moist	CL					
13	1001														
14	1000														
15	999		7	SPT	20	14		Firm	SANDY LEAN CLAY, brown, moist	CL					
16	998								Boring Terminated at 14.5', Sampled to 16.0'						

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USCS SUMMARY

USCS Summary

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[a]				Soils Classification	
				Group Symbol	Group Name[b]
Coarse-grained Soils more than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels 5% or less fines	$C_u \geq 4$ and $1 \leq C_c \leq 3^c$	GW	Well-graded Gravel[d]
			$C_u < 4$ and/or $1 > C_c > 3^c$	GP	Poorly graded Gravel[d]
		Gravels with Fines More than 12% fines	Fines classify as ML or MH	GM	Silty Gravel[d,f,k]
			Fines classify as CL or CH	GC	Clayey Gravel[d,f,k]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands 5% or less fines	$C_u \geq 6$ and $1 \leq C_c \leq 3^c$	SW	Well-graded Sand[h]
			$C_u > 6$ and/or $1 > C_c > 3^c$	SP	Poorly graded Sand[h]
		Sands with Fines More than 12% fines	Fines classify as ML or MH	SM	Silty Sand[f,k,h]
			Fines classify as CL or CH	SC	Clayey Sand[f,k,h]
Fine-grained Soils 50% or more passed the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI > 7 and plots on or above "A" line[j]	CL	Lean Clay[k,l,m]
			PI < 4 or plots below "A" line[j]	ML	Silt[k,l,m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OL	Organic Clay[k,l,m,n]
				OL	Organic Silt[k,l,m,o]
	Silts and Clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line	CH	Fat Clay[k,l,m]
			PI plots below "A" line	MH	Elastic Silt[k,l,m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OH	Organic Clay[k,l,m,p]
				OH	Organic Silt[k,l,m,q]
	Highly Organic Soils	Primarily organic matter, dark in color and organic odor		PT	Peat

Drilling Notes

Standard penetration test borings were advanced by 3 1/4" or 6 1/4" ID hollow-stem augurs unless noted otherwise. Jetting water was used to clean out auger prior to sampling only where indicated on logs. Standard penetration test borings are designated by the prefix "ST" (Split Tube). All samples were taken with the standard 2" OD split-tube sampler, except where noted.

Power auger borings were advanced by 4" or 6" diameter continuous-flight, solid-stem augers. Soil classifications and strata depths were inferred from disturbed samples augured to the surface and are, therefore, somewhat approximate. Power auger borings are designated by the prefix "B".

Hand auger borings were advanced manually with a 1 1/2" or 3 1/4" diameter auger and were limited to the depth from which the auger could be manually withdrawn. Hand auger borings are designated by the prefix "H".

BPF: Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value. The sampler was set 6" into undisturbed soil below the hollow-stem auger. Driving resistances were then counted for second and third 6" increments and added to get BPF. Where they differed significantly, they are reported in the following form: 2 1/2 for the second and third 6" increments, respectively.

WH: WH indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WR: WR indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

TW: TW indicates thin-walled (undisturbed) tube sample.

Note: All tests were run in general accordance with applicable ASTM standards.

b. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders or both" to group name

c. $C_u = D_{60} / D_{10}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

d. If soil contains ≥ 15% sand, add "with sand" to group name.

e. Gravels with 5 to 12% fines require dual symbols:

GW-GM	well-graded gravel with silt
GW-GC	well-graded sand with clay
GP-GM	poorly graded gravel with silt
GP-GC	poorly graded gravel with clay

f. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.

g. If fines are organic, add "with organic fines" to group name.

h. If soil contains ≥ 15% gravel, add "with gravel" to group name.

i. Sand with 5 to 12% fines require dual symbols:

SW-SM	well-graded sand with silt
SW-SC	well-graded sand with clay
SP-SM	poorly graded sand with silt
SP-SC	poorly graded sand with clay

j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.

k. If soil contains 10 to 29% plus No. 200, ass "with sand" or "with gravel" whichever is more predominant.

l. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.

m. If soil contains ≥ 30% plus No. 200 predominantly gravel, ass "gravelly" to group name.

n. PI ≥ 4 and plots on or above "A" line.

o. PI < 4 or plots below "A" line.

p. PI plots on or above "A" line.

q. PI plots below "A" line.

Particle Size Identification

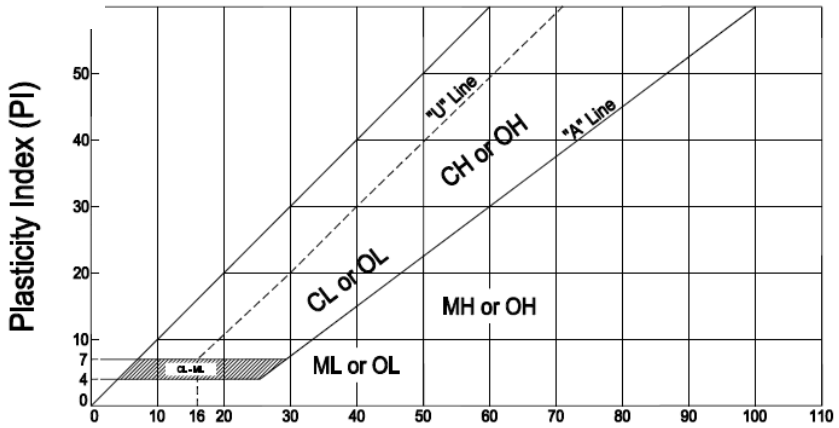
Boulders	over 12"
Cobbles	3" to 12"
Gravel	
Coarse	3/4" to 3"
Fine	No. 4 to 3/4"
Sand	
Coarse	No. 2 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Silt	< No. 200, PI ≥ 4 and on or above "A" line

Relative Density of Cohesionless Soils

Very Loose	0 to 4 BPF
Loose	5 to 10 BPF
Medium Dense	11 to 30 BPF
Dense	31 to 50 BPF
Very Dense	over 50 BPF

Consistency of Cohesive Soils

Very Soft	0 to 1 BPF
Soft	2 to 3 BPF
Rather Soft	4 to 5 BPF
Medium	6 to 8 BPF
Rather Stiff	9 to 12 BPF
Stiff	13 to 16 BPF
Very Stiff	17 to 30 BPF
Hard	over 30 BPF



DD	Dry Density, pcf	OC	Organic Content, %
WD	Wet Density, pcf	S	Percent of Saturation, %
MC	Natural Moisture Content, %	SG	Specific Gravity
LL	Liquid Limit, %	C	Cohesion, psf
PL	Plastic Limit, %	Ø	Angle of Internal Friction
PI	Plasticity Index, %	qu	Unconfined Compressive Strength, psf
P200	% Passing 200 Sieve	qp	Pocket Penetrometer Strength, tsf

APPENDIX F – PRELIMINARY MASTER PLAN

Preliminary Master Plan

CONCEPT DATA:

Gross Site Area:	**219.3 ac**
-Major R/W:	**8.2 ac**
-Delineated Wetlands:	**24.4 ac**
-Pipeline Easements:	**4.2 ac**
(net wetlands)	
Net Developable Area:	**~182.2 ac**
Parks:	**~16.4 ac**
(Outlot A: 15.0 ac + Outlot F: 1.4 ac)	
Project Open Space:	**~ 55.9 ac**
(includes parks & outlots; see prelim plat data)	

Proposed Single Fam Lots: 300 lots

45' wide Villa Lots	*64 lots*
55' wide Single Family	*67 lots*
65' wide Single Family	*108 lots*
85' wide (Shoreland)	*61 lots*

Proposed Attached Resid: 264 un.

Twinhomes	*78 un.*
Row Townhomes	*26 un.*
Back - Back Townhomes	*160 un.*

Proposed Apartments: TBD

Net Density: 3.4 un/ac
(564 un / 165.6 ac net developable; excludes apartment sites)

Aerial photography from State of Minnesota;
Topography from State LIDAR

Pulaski Shores, LLC

A Partnership Between

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Westwood Professional Services, Inc.

0057163

07-15-2025

South Shores on Pulaski
Buffalo, MN

N

0' 200' 400' 600'