July 2013 version

ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:
http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.
Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.
Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project title:** Bemidji Upper Elementary School

2. **Proposer:** Bemidji Public Schools (ISD 31)
   Contact person: Chris Leinen
   Title: Director of Business Services
   Address: 502 Minnesota Ave NW
   City, State, ZIP: Bemidji, MN 56601
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3. **RGU:** Beltrami County
   Contact person: Bill Best
   Title: Environmental Resource Specialist
   Address: 701 Minnesota Ave NW, Suite 113
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4. **Reason for EAW Preparation:** (check one)

Required:	Discretionary:
□ EIS Scoping	□ Citizen petition
✔ Mandatory EAW	□ RGU discretion
	□ Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

Minnesota Rules 4410.4300, Subpart 14 (B), 1. Industrial, commercial and institutional facilities.

For the construction of a new or expansion of an existing industrial, commercial, or institutional facility, other than a warehousing or light industrial facility, equal to or in excess of 100,000 square feet expressed as gross floor space, in an unincorporated area.

5. Project Location:

County: Beltrami
City/Township: Grant Valley Township
PLS Location (¼, ¼, Section, Township, Range): Southwest ¼ of the Southeast ¼ Section 12, Township 146N, Range 34W
Watershed (81 major watershed scale): Headwaters Mississippi River
GPS Coordinates: 47.470607, -94.937952
Tax Parcel Numbers: PIN 150025801

6. Project Description:

a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

Bemidji Public Schools proposes to construct a new 120,000 square foot elementary school and associated facilities to support the growth in student enrollment and alleviate overcrowding issues in existing facilities. The new school will also reduce classroom sizes and improve learning environments in the district.

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

Bemidji Public Schools (Independent School District 31) serves Beltrami County and portions of northern Hubbard County, Minnesota. The school district enrollment population currently contains over 5,000 students from pre-kindergarten programs through 12th grade. Enrollment within the district is projected to increase corresponding to the large population growth rate observed from 2002 to 2012 in the region served by the district. The district contains seven elementary schools, one middle school, and one high school.

Bemidji Public Schools completed a study to identify the projected enrollment for the 2017-2018 school year. The study also investigated the existing available square footage of school space per student and ways to support the growing population of students (DLR 2014). The 2014 Review and Comment document indicates that the Minnesota Department of Education Guidelines recommends a minimum of 125-155 square feet of space be allotted per student. Currently, the Bemidji Public Schools elementary facilities provide a square footage of 124 square feet per student, which is just below the minimum recommendation. Due to the space requirements being below the minimum recommendations combined with the projected increases in future student enrollment, the study concluded an additional school is needed for the district.

To meet the needs of Bemidji Public Schools, a new elementary school will be constructed. The 2014 Review and Comment document examined all of the existing facilities and found that the majority of the existing elementary schools do not meet the 125 square feet per student minimum. No other facilities are available within the municipal or county sectors or neighboring school districts to support the increased enrollment of students. Construction of the facility is anticipated to cost approximately $30,000,000, which would be funded through voter approved general obligation building bonds. Taxes for these bonds would be levied for 20 years from 2016 to 2036.

The school will be constructed on approximately 55 acres (project site) of the southeast portion of an undeveloped 160-acre parcel located north of the intersection of Division Street and Becida Road. The project site is located in unincorporated Grant Valley Township (see Figure 1 – Site Location Map). According to Minnesota Rules 4410.4300, subpart 14(B), construction of a new institutional facility of 100,000 square feet or greater in an unincorporated area requires completion of an EAW. The new facility will be approximately 120,000 square feet and will accommodate approximately 900 students in the fourth and fifth grades (proposed project). The elementary school system restructuring will create more room for grades kindergarten through third in the existing elementary schools. The new upper elementary school will consist of a main floor and an upper floor, two gymnasiums, a cafeteria, administrative offices, a media center, and 36 classrooms.

The school will be operational during the traditional school year for approximately 9.5 months from September to June. The school is anticipated to open to students for the beginning of the 2018 school year after Labor Day. Construction of the proposed project is estimated to take approximately 17 months, beginning in April 2017 with project completion in September 2018. The school will operate approximately between the hours of 8:00 am and 3:30 pm.

The project site consists of approximately 55 acres within a mostly undeveloped 160-acre agricultural parcel. The construction limits (see Figure 2 – Site Detail Map) within the project site equal just over 25 acres, where the new school and associated features will be constructed. Outside of the 25 acre construction limits, there will be minimal site work conducted. Construction of the proposed project will require the building demolition of a former restaurant and a homestead with several outbuildings in the southeast corner of the project site. Materials removed during the demolition of these existing features will be disposed of by a licensed demolition contractor who will dispose of all materials in an appropriate solid waste facility. In the event that asbestos containing materials are identified during demolition they will be isolated and disposed of following applicable state regulations outlined under Minnesota Rules 7035.0805.

Construction of the proposed project will include the two-story elementary school, associated parking lots, student drop-off zones, school bus parking, and driveways. The parking lot will consist of 303 spaces and a drop-off zone to the north along the southern side of the school. School bus drop-off and parking will be located east of the school and will provide space for 20 buses to park. Four turf athletic fields and a playground would also be constructed. Two of the athletic fields will be 150 X 300 feet in size; the other two fields will be 150 X 150 feet in size (Figure 2). Fencing may be installed along the north boundary of the new school footprint for student safety purposes. Student and school activity will be concentrated around the proposed facilities, which are located away from the wetlands and habitat. If the need for fencing is identified to ensure student safety this would protect the habitat areas by limiting student access.

Overhead electrical transmission lines are currently located through the center of the project site. Bemidji Public Schools has established an agreement with Minnkota Power to relocate the overhead transmission lines to allow for development of the new school. The existing overhead

lines will be relocated north of the school perimeter. The new utility route was selected to eliminate the need for vehicles to drive under the lines and to avoid clearance issues. By routing overhead utilities to north side of the school it will also improve aesthetics and allow for the building footprint to be moved further from the lakes on the northwest side of the 160 acre parcel. The route was established with the assistance of Minnkota Power representatives and will provide new electrical service on the property to support the needs of the school.

City sewer and water utilities do not currently exist at the project location. The City of Bemidji has presented the School District the opportunity to partner in extending municipal sewer and water services to the location. The School District has declined this opportunity. A new well will be drilled to support domestic water needs, including student use and the fire system. Bemidji Public Schools is also investigating the construction of a second well, which would provide water for irrigation. Should a second well be required, it will be located east of the school. An area to the north of the proposed facility has been identified for construction of a Large Sewage Treatment System (LSTS) for the treatment of wastewater and the dispersal of the treated effluent back to the soil.

c. Project magnitude:

Table 1: Project Magnitude Information

Total Project Acreage	25.18 grading area
Linear project length	NA
Number and type of residential units	NA
Commercial building area (in square feet)	NA
Industrial building area (in square feet)	NA
Institutional building area (in square feet)	120,000 gross floor space; (building footprint is 85,224)
Other uses – specify (in square feet)	Turf athletic fields: 135,000 Septic area: 90,000 Parking lots: 178,489
Structure height(s)	School: 32 feet Cafeteria: 23 feet Music wing: 18 feet Gymnasium: 32 feet Mechanical room: 18 feet/50 feet (18 feet above 32-foot height of school)

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

The purpose of the proposed project is to provide a new school and associated facilities to support the growing population of students in Bemidji Independent School District 31. The project will construct a facility for fourth and fifth grade students, creating more room for kindergarten through third grade students at existing facilities. Bemidji Public Schools identified

a need for another elementary school to support the area's growing population (DLR, 2014). This will reduce overcrowding issues in elementary schools and reduce classroom sizes, improving student learning environments.

e. Are future stages of this development including development on any other property planned or likely to happen? □ Yes × No
If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

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

7. Cover types: Estimate the acreage of the site with each of the following cover types before and after development:

Table 2: Cover Types

	Before	**After**		**Before**	**After**
Wetlands*	0.873	0.87	Lawn/landscaping	0	40.97
Deep water/streams	0	0	Impervious surface	0.62	12.31
Wooded/forest	0	0	Stormwater Pond	0	1.25
Brush/Grassland	33.78	0	Other (describe) Low-density Residential	10.11	0
Cropland	11.34	0			
			TOTAL	**55.4**	**55.4**

*There is one confirmed wetland and three potential wetlands present in the 55 acre project site as indicated by the preliminary wetland delineation. This total includes all potential wetlands. Further investigation of the three potential wetlands is required. There are additional wetlands present within the greater 160 parcel which contains the project site. As part of the CUP requirements, a full wetland delineation will be performed on site prior to the start of construction.

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

Table 3: Permits and Approvals

Unit of Government	**Type of Application**	**Status**
MPCA	SDS Permit for On Site Waste Water System/Discharge	To be applied for
	NPDES Storm Water Construction Permit	To be applied for
Minnesota Department of Health	Well Drilling Permit	To be applied for
Minnesota DNR	Water Appropriations Permit	To be applied for (if needed)
Beltrami County	Conditional Use Permit	To be applied for

	Building Permit	To be applied for
	Variance from height requirement in shoreland ordinance	To be applied for
	Wetland Conservation Act	To be applied for (if needed)

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land use:

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The project site consists of 55 acres within a privately-owned, 160-acre parcel, located west of the City of Bemidji in Grant Valley Township, Beltrami County. The project site is less than one mile west of U.S. Highway (Hwy) 2 and Bemidji High School. The project site is directly north of the intersection of Division Street W (County Road (CR) 14) and Becida Road NW (CR 7) (Figure 1). The project site is currently used for agricultural purposes. The southeast corner of the site has a homestead, several outbuildings, and a former restaurant (see Figure 3 – Cover Types) all of which are vacant. A Minnkota Power electrical transmission line runs from southwest to northeast across the southern half of the project site. Low density residential development is located south of the project site across Division Street W, east of Becida Road NW. Also south of the project site and west of Becida Road NW is an area that is primarily forested with little development. The areas adjacent to the west and north of the project site are wetland areas and include two Minnesota Department of Natural Resources (DNR) Public Waters. These Public Waters basins are surrounded by several wetlands (Figure 3). Based on a preliminary wetland field investigation there are three potential wetlands located throughout the project site. A formal wetland delineation will be performed during the growing season to verify the presence of wetlands within the project site. Any proposed wetland impacts will be permitted as needed through WCA. Please refer to EAW Item 11 for more details on water resources.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

The project site is located in rural Beltrami County and is not specifically included in a local comprehensive plan. The Greater Bemidji Area Joint Planning Board (GBAJPB) developed a future land use plan in 2011. The future development goals of the GBAJPB are to maintain the rural and small-town character of the greater Bemidji area, while designating some areas for suburban unsewered (i.e., does not provide centralized sewer) and suburban

sewered (i.e., does provide centralized sewer service) development. However, the project site is located west of the GBAJPB planning boundary, which is Adams Avenue SW (Figure 1) and therefore, is not included in the GBAJPB current or future land use plan or zoning map. Based on the Bemidji Area Future Land Use 2025 map, the project site is located less than one-half mile west of areas designated for suburban unsewered and suburban sewered use. If future development similar to what is designated on the GBAJPB future land use map extends beyond the current planning boundary toward the project site, the project would be compatible with the land use and land use goals identified in the GBAJPB Land Use Plan.

The project site is located in the Mississippi Headwaters major watershed. The Beltrami County Soil and Water Conservation District developed a local water management plan which identifies priority concerns and action plans for each of the major watersheds within the County. The reach of the Mississippi River in this watershed is impaired for dissolved oxygen and Lake Irving and Lake Bemidji have experienced decreased water quality, clarity, and aesthetic appeal due to increasing phosphorus inputs. The water management plan aims to remediate the existing impairments. Intensive riparian development and loss of shoreland have contributed to this issue in the Mississippi Headwaters major watershed.

Water quality and riparian areas on the project site will be protected by restricting development to areas outside of wetland buffer zones. Buildings will be located outside of the potential wetland boundaries within the project site. All project infrastructure will be placed outside of a 500-foot shoreland buffer on the project site (Figure 4 – Site Setbacks Map). The Beltrami County shoreland management ordinance, as further discussed below, regulates the shorelands of public waterbodies within the County.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The project site is located in an unincorporated area of Beltrami County and is outside of City zoning districts. However, the project site is located within 1,000 feet of a Public Water, and therefore, the Beltrami County Shoreland Ordinance will apply. Shoreland is defined by the Beltrami County Shoreland Ordinance as “Land located within the following distances from public waters: 1,000 feet from the ordinary high water level of a lake, pond or flowage; and 300 feet from a river or stream, or the landward extent of a floodplain designated by ordinance on a river or stream, whichever is greater.” (Beltrami Co., 1992).

Article II of the Shoreland Ordinance defines all DNR public waters with a sub-classification of special protection lakes: sensitive area lakes, natural environment lakes, recreational development lakes, and general development lakes. Located adjacent to the project site on the greater 160 acre parcel, DNR Public Waters Inventory (PWI) Wetlands 205W and 206W are identified as sensitive area lakes and have a designated management district within the Shoreland Ordinance (Figure 5 – Public Waters Inventory). While the PWI wetlands do not fall within the project site, the associated shoreland management zones are contained within the project site. According to the Shoreland Ordinance, “the Sensitive Area (SA) management district is established to properly manage areas which may be sensitive to

development due to flooding, steep slopes, erosion, limiting soil conditions, the presence of wetlands, or other physical constraints" (Beltrami Co., 1992).

Setback distances are defined for Sensitive Area lakes in Section 503.2 of the Shoreland Ordinance. Structure setback from the ordinary high water level (OHWL) must be a minimum of 150 feet. Project facilities for the new school will be constructed over 500 feet from the OHWL with the new school building being setback approximately 750 feet, and therefore, meeting setback requirements (Figure 4). Sewage treatment systems must also be a minimum of 150 feet from the OHWL. The proposed sewage treatment system will be located over 500 feet from the OHWL, and therefore meets setback requirements (Figure 4).

Certain land uses, per the Shoreland Ordinance, require a conditional use permit (CUP). A CUP is required for land use or development, as defined by the Shoreland Ordinance, which would not be appropriate generally but may be allowed with appropriate restrictions. The construction of the new school and associated facilities within the SA district requires a CUP. Additionally, a transmission power line is considered a conditional use in an SA district, and therefore, relocation of the Minnkota Power transmission line will require a CUP. The school district will submit an application for a CUP for both the new school and the relocation of the transmission line in one combined application. As part of the County CUP application, all regulated wetlands on the project site will be identified and confirmed with a final wetland delineation and boundaries shown on a site map. The CUP application will also require a site stormwater plan and evaluation of potential environmental impacts to the nearby waterbodies.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

In general, the project will be compatible with adjacent land use and future land use plans for areas east of the project site. Portions of the project site are currently developed and will require demolition and redevelopment for the project. The project site plan takes into account nearby wetlands and waterbodies to minimize potential impacts. A CUP is required for construction of the new school and the relocation of the transmission line, which will further address potential impacts.

Bemidji Public School Board, the Minnesota Department of Education, and the voters of the Bemidji School District have identified a need for an additional elementary school to support the growing local population and the increased enrollment of students (DLR, 2014). The project will be located near the existing Bemidji High School and will also be compatible with low density residential development adjacent to the project site. The project supports the identified institutional facility needs of the Bemidji area.

The Beltrami County Shoreland Management Ordinance section 505 identifies a maximum structure height of 35 feet within the 1,000 foot shoreland zone. The proposed mechanical room on the school has a maximum height of 50 feet. A variance would need to be approved in order for this project to receive final approval.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

A CUP will be required for construction of the school and relocation of the transmission line within the SA District. The CUP application will be reviewed by the County and appropriate measures will be incorporated into a permit.

10. Geology, soils and topography/land forms:

a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

The project site is located within the Mississippi River Headwaters Watershed with a topography that is gently rolling to somewhat flat, being formed by the later advances of the Wadena and Des Moines glacial lobes during the late Wisconsinan glacial age. Unconsolidated glacial deposits in the area extend to thicknesses of up to 550 feet (Oakes & Bidwell, 1968). The uppermost bedrock underlying the extensive glacial deposits are Precambrian igneous and metamorphic crystalline rocks including granite, gneiss and schist (Stark, Busch and Deters, 1991). There are no shallow limestone (carbonate) formations, or karst formations (such as sinkholes that may form in carbonate bedrock) within the project site or vicinity.

The deeper crystalline bedrock units are of low permeability with only minimal potential to yield water from fractures and the weathered bedrock surface. As such, the bedrock in the area is generally not used for water supply.

Regionally, the glacial drift includes till, outwash sand, glacial lake and ice-contact deposits. The principal glacial feature in the project area is the Bemidji-Bagley sand plain which occupies approximately 500 square miles in portions of Beltrami, Cass, Clearwater and Hubbard Counties. The project site is centrally located within the Bemidji-Bagley sand plain. The glacial outwash deposits are the primary source of groundwater supply from both unconfined and upper confined aquifers in glacial drift. The project site is situated over the unconfined Bemidji-Bagley aquifer, which is differentiated from the uppermost-confined aquifer by fine-grained till or lake deposits (Reppe, 2005). Because of the geologic setting that includes relatively permeable glacial deposits, the aquifer is considered highly sensitive to potential contamination from surface activities (MDH, 2016).

The geologic conditions of the project site have been evaluated by a geotechnical investigation that included 30 soil borings (Braun, 2016). Boring depths ranging from 15 to 71 feet below grade and identified a general soil profile that consists of silty sand topsoil, underlain by glacial outwash sands, lean clay glacial till, and a silty sand till unit at depth. The outwash sand unit appeared continuous across the project site as it was encountered at each of the boring locations. The outwash sand thickness averaged slightly over 10-feet, but ranged from less than

5 feet to as much as 27.5 feet. The thickest deposits were north of the northeast corner of the project site. Borings that extended to sufficient depth encountered the clayey glacial till horizon that may also be continuous across the site. The geotechnical report does not indicate potential limitations for the construction of the proposed project based on the site soils and geology.

Groundwater observed in the soil borings appears to represents two groundwater units. Perched groundwater was observed in the outwash deposits atop the less permeable clay till in five soil borings. Depth to the perched water was recorded as 10 to 13 feet which corresponds to elevations of approximately 1392 feet to 1394 feet.

Deeper soil borings completed in the northeastern portion of the project site, in the vicinity of the proposed wastewater treatment area, observed groundwater at depths over 40 feet with corresponding elevations of roughly 1353 feet to 1357 feet. The geotechnical reports interprets this lower groundwater to be the hydrostatic groundwater surface (Braun, 2016).

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

The NRCS Web Soil Survey lists the dominant soil series as the Eagleview-Menahga complex, Hiwood loamy fine sand, and Andrusia loamy sand (Figure 6 – Soils Map). The Andrusia and Eagleview-Menahga series consist of sandy outwash parent material and the Hiwood series consists of sandy glaciolacustrine deposits. These series range from moderately well-drained to somewhat excessively well-drained. According to the NRCS Web Soil Survey, soils on the project site exhibit a low to medium susceptibility to water erosion (K Factor ratings from 0.10 to 0.24) and a high susceptibility to wind erosion (Wind Erodibility Group rating of 2). Onsite soil borings during the geotechnical evaluation revealed soils to consist of a layer of topsoil between a half and one foot thick over glacial outwash sands underlain by clay. The outwash material contained poorly graded sand and poorly graded sand with silt glacial outwash. The clay layer was dominated by lean clay with sand, clayey sand or silty sand glacial till soils (Braun, 2016).

Construction of the proposed project is anticipated to cause temporary impacts to soils through excavation. Permits for erosion and sediment control are discussed under Item 11.b.ii. These impacts would be temporary and limited to construction. All of the proposed project construction would occur through open-cut/trench excavation practices. Based on the current site development plan there would be approximately 79,000 cubic yards of soil moved during excavation, grading and site preparation within the 25 acres of the site where grading would occur. This is an estimated soil quantities based on the current design. Much of this soil that is

excavated will be reused where possible as part of the site construction. Final soil quantities could vary based on the contractor construction methods or potential soil corrections due to unsuitable material encountered at the site. The initial cut and fill balance indicates there could be excess soil from the development and construction of the school. The construction contractor selected for the project will provide final earthwork bids to Bemidji Public Schools (site owner) based on the final plans and specifications for the proposed project. If it is determined that there is excess soil material, the contractor will work with the Bemidji Public schools to utilize the soil as part of the project and determine appropriate areas for reuse of the soil within the project site.

Operation of the proposed project would result in dispersal of treated wastewater into the soil. The proposed Subsurface Sewage Treatment System (SSTS) would address nitrogen treatment by supplemental components to treat total nitrogen to less than or equal to 10 mg/L end-of-pipe (prior to soil dispersal). These components include a series of fixed activated sludge aerobic treatment units (ATU) and an anoxic denitrification unit with carbon source additive. Due to the sandy textured soils present across the SSTS absorption area, there would be minimal nitrogen uptake within the soil. Water movement within the soil would be dominantly vertical as it recharges groundwater approximately 40.5 - 47 feet or more below grade. The proposed SSTS would effectively treat wastewater to reduce nitrogen levels and remove other wastewater constituents including organics, pathogenic bacteria, and viruses.

11. Water resources:

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

The project site is approximately 55 acres in size and contains agricultural and rural vacant land adjacent to two Public Water Wetlands located just outside the project site boundaries (DNR #206W and 437W). A third Public Water Wetland is located on the westernmost border of the parcel (DNR #205W). These PWI Wetlands form a large wetland complex and additional Public Water Wetlands are located both north and south of the project site (Figure 5). PWI Wetlands 205W and 206W are identified as sensitive area lakes under the Beltrami County shoreland management ordinance (Beltrami County, 1992).

One perennial stream channel is located through PWI Wetland 437W. No Public Water Streams were identified on the project site; however, the Mississippi River is located approximately 0.8 miles directly south. This reach of the Mississippi River is listed on the MPCA 303d Impaired Waters List as impaired for dissolved oxygen. No other impaired waters are located within a mile of the site, though Lake Bemidji and Lake Irving are approximately 1.7 miles east and are listed as impaired for nutrients. No designated trout

streams or outstanding value resource waters are located on the project site or within a one mile radius of the project site (Figure 5).

A review of the National Wetlands Inventory (NWI) reveals there are no wetlands on the project site, but shows there are three NWI wetlands adjacent to project site (USFWS, 2014) within the overall 160 acre parcel. DNR PWI Wetland 437W is categorized as a Type 3, PEMCd, ditched shallow marsh. Two additional shallow marsh wetlands are identified on the northeast and southwest fringes of DNR PWI Wetland 206W (Figure 7 – National Wetlands Inventory). The property just beyond the southeast corner of the project site contains three small Type 2, PEMB wet meadow wetlands.

A preliminary wetland investigation identified one wetland at the eastern boundary of the project site and three potential wetlands within the project site boundaries. These potential wetland areas will be confirmed with a formal wetland delineation during the growing season which is required as part of the CUP application. In the event that wetland impacts would occur as a result of construction of the proposed project, these impacts will be minimized to the extent practicable and will be permitted accordingly with Beltrami County dependent on the findings of the formal wetland delineation. Construction, grading, and vegetation removal activities will be limited to the areas necessary to construct the new school, which does not include disturbance to the adjacent wetland and habitat areas.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Review of site topography indicates land surface elevations range from 1388 feet to 1408 feet above sea level. As described in Item 10.a. the Braun 2016 geotechnical investigation included documentation of groundwater as observed in their soil borings. Perched groundwater was recorded at relatively shallow depths of 10 to 13 feet below ground surface (elevations of approximately 1392 feet to 1394 feet) in 5 of the 30 soil borings. Perched groundwater may occur seasonally and fluctuate in response to wet and dry climatic conditions. The hydrostatic groundwater surface (regional water table) was documented in three deeper soil borings completed in the northeastern portion of the project site. Depth to water in these borings was observed at depths over 40 feet with corresponding elevations of roughly 1353 feet to 1357 feet.

In the region of the project site, groundwater flow within the Bemidji-Bagley aquifer is toward the Mississippi River, which is a major groundwater discharge boundary. In the vicinity of the project site groundwater flow is interpreted to be toward the east-southeast, toward Lake Bemidji and the Mississippi River (Stark, Busch & Deters, 1991). On a more local basis flow may be toward smaller surface water bodies such as streams and lakes.

Review of the Minnesota Geological Survey's online County Well Index (CWI) identifies four private water supply wells located in the southeastern corner of the property. All four are

situated in the southeastern corner of the property and used for likely used for domestic water supply associated with the vacant homestead and restaurant (Figure 8 – County Well Index). These found wells will be capped and sealed according to Minnesota Department of Health standards as part of the school construction project. Numerous other water supply wells are located within a one-mile radius of the project site as illustrated on Figure 8 and summarized on Appendix A.

The project site is not located within a Minnesota Department of Health wellhead protection area. The nearest such area is associated with the City of Bemidji water supply wells north of the property as illustrated on Figure 9, Wellhead Protection Areas. The water supply for Bemidji is obtained from 5 primary wells all of which are constructed in glacial deposits to depths of 157 to 198 feet below land surface. Because of the geologic setting that includes relatively permeable glacial deposits, the aquifer used by the water supply wells is considered highly sensitive to potential contamination from surface activities (Minnesota Department of Health, Source Water Assessment). The new school will be located outside of the wellhead protection area and it will not be impacted by the proposed project.

The proposed project will incorporate a new water supply well as described in Item 11.b.iii. below.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.
   i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.
      1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

         The proposed project would result in the construction of a new subsurface sewage treatment system (SSTS) composed of a wastewater treatment system and soil absorption beds, which would be a school district-owned treatment facility that will be designed for current and projected wastewater flows. The SSTS treatment area will be located on the northeast corner of the project site to the north of the bus drop off area (Figure 2). The system is composed of a wastewater treatment system with a control building and a soil absorption bed area. The wastewater treatment system and soil absorption beds will be located entirely underground. In these two areas of the treatment system, only the control building will be visible above ground. Each area of the treatment system will be fenced (both the system buildings and underground soil absorption beds) to prevent unwanted entry and to act as a safety measure for students. All SSTS related structures and facilities will be placed outside of the 500-foot setback (Figure 4). However, the fenced areas of the wastewater treatment system may encroach on the 500-foot setback line from the adjacent wetlands.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

The proposed project includes the construction of a SSTS to treat the wastewater generated by the school. The SSTS is considered a Large SSTS (LSTS) as the estimated wastewater flow is in excess of 10,000 gallons per day (GPD) and requires permitting through the Minnesota Pollution Control Agency State Disposal System process.

During pre-design of the LSTS, hydraulic and organic loadings generated from the school were evaluated. Table 4 provides a summary of hydraulic and organic loadings. These data will be used during SSTS final design to determine component sizing.

Table 4: Summary of Hydraulic and Organic Wastewater Loadings

Hydraulic Loading (Permit Flow per MN Rule)			
Parameter	**Units**	**Values**	**Comments**
School Attendant (900 students)	gpd	24,750	27.5 gpd/student Per MN Rules 7081.0130
School Attendant (100 faculty)	gpd	1,500	15.0 gpd/employee Per MN Rules 7081.0130
Gravity Sewer Inflow/Infiltration Allowance	gpd	180	200 gpd/in. diameter piping/mile Per MN Rules 7081.0140
Total Peak Wastewater Flow (rounded up)	gpd	26,500	Peak Permit Wet Weather Flow
Average Wastewater Flow	gpd	15,000	Peak Average Wastewater Flow
Expected Raw Organic Loadings			
Parameter	**Units**	**Values**	**Comments**
Biochemical Oxygen Demand (CBOD)	lb/day	98	Raw wastewater generated from the school
Total Suspended Solids (TSS)	lb/day	27	Raw wastewater generated from the school
Total Nitrogen	lb/day	18	Raw wastewater generated from the school

The proposed LSTS would include necessary primary, secondary, and tertiary treatment equipment and be designed to meet LSTS end-of pipe effluent Total Nitrogen limitations of 10 mg/L. This would be accomplished through use of septic tanks, equalization tank, ATUs, and a denitrification unit. Duplex pumps within the equalization tank would dose a specified volume of settled wastewater to three (3) ATU trains for purposes of physical, chemical, and biological treatment processes. Each train would consist of an ATU for purposes of reducing Chemical Biological Oxygen Demand (CBOD) and another for the conversion of ammonia to nitrite/nitrate. Pretreated wastewater would flow downstream to the denitrification unit for purposes of converting nitrate to nitrogen gas. After denitrification, treated wastewater would flow to the dose tank which would deliver effluent to a network of equally sized below-grade drainfield adsorption beds for final dispersal into the ground.

The LSTS soil absorption site (Figure 2) was selected in part because of its favorable soil conditions, separation distance to the seasonal high groundwater elevation, and distance from nearby water supply wells and water bodies. The LSTS design would treat wastewater such that it would meet end of pipe effluent limitations being less than or equal to 10 mg/L total nitrogen. Most wastewater pollutants would be removed in the primary, secondary, and tertiary stages of the treatment system. Pumping of sludge would be monitored on a routine bases. It is expected the first septic tank chamber would be pumped roughly on an annual basis.

The proposed pretreatment technology employs attached growth aerobic treatment processes. Bacteria present in the wastewater attach themselves to the surface of the ATU media substrate. Ambient air is forced from remote blowers through piping and into the center of the ATU module. Air exits the piping at the bottom of the chamber and flows upward lifting aerated wastewater, or mixed liquor, toward the top of the chamber. The mixed liquor gravitates through the media which allows aerobic bacteria to extract nutrients, organic matter, and pathogens by utilizing the dissolved oxygen within the mixed liquor. Oxygen is readily available within the module and promotes various chemical and biological reactions. Also, nitrification (conversion of ammonia to nitrite/nitrate) occurs during this process. Excess solids that are created through the treatment process slough off the ATU substrate and accumulate within the tank bottoms.

To meet the LSTS total nitrogen 10 mg/L end-of-pipe limit, supplemental anoxic denitrification components are proposed. A supplemental carbon feed system would supply a carbon source to the tank for the denitrification process to occur as the wastewater at this stage in the system would be highly treated and low in carbon. The denitrification unit would include quiescent recirculation pumps that would mix nitrate and carbon throughout the media. Denitrifying bacteria grown on the media utilize nitrate as the final electron acceptor in metabolism transforming nitrate to nitrogen gas. A final ATU polishing unit is proposed downstream of the denitrification unit to remove excess carbon. Final pretreated effluent would enter a dose tank that would contain submersible pumps. The pumps would dose eight equally sized below-grade soil

absorption beds.

The proposed LSTS would require routine operation and maintenance responsibilities. Typical tasks include monitoring and logging wastewater flows, rotating soil absorption beds, inspecting pumps and controls, examining ATU and denitrification components, field flushing absorption bed distribution laterals, monitoring wastewater quality, and examining treatment tanks for sludge. Tank sludge would be pumped periodically, as required by MPCA and hauled to an appropriate approved facility for proper disposal. Also, the system would be equipped with remote telemetry that would allow the operator to perform operation and maintenance activities remotely and while also notifying the operator of alarm conditions. These measures would avoid potential for groundwater contamination from the proposed project by maintaining system performance and efficiency.

The proposed LSTS life span would vary depending on the component of the system. Mechanical items, such as pumps and blowers, typically have a lifespan of 10 to 15 years. These items would be maintained, repaired, and replaced as necessary as part of proper operation of the LSTS. Other items like tanks and pretreatment modules would be anticipated to last 50 years or more. Tanks are manufactured from high grade concrete to provide for longer lifespans and would include an additive into the concrete mixture to prohibit corrosion, extending the life of the system. The LSTS drainfield would be expected to last 50 years or longer as well. As soils on site are very favorable for the soil absorption beds, the drainfield will serve mostly as a location to eliminate pretreated water out of the system.

The proposed project provides a wastewater treatment system that would produce pretreated effluent. The end result would be a pretreatment system that properly pretreats wastewater and allows effluent to effectively infiltrate in the proposed LSTS soil absorption area. The proposed LSTS would address nitrogen treatment by supplemental components to treat total nitrogen to less than or equal to 10 mg/L end-of-pipe (prior to soil dispersal). These components include a series of fixed activated sludge aerobic treatment units (ATU) and an anoxic denitrification unit with carbon source additive. Impacts to groundwater are not anticipated.

3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

There would be no direct discharge from the proposed LSTS operations or contact water runoff to surface water. The purpose of the LSTS function and design is to protect public health and water quality by implementing a treatment system designed to meet MPCA standards for management of wastewater. None of the nearby water bodies would receive surface water discharge from the LSTS operations. The drainfield adsorption beds would allow treated effluent to gradually infiltrate through the soil and disperse downward to assimilate with the groundwater.

ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

The project site consists of 55 acres within the southeast portion of a 160 acre parcel. Within this parcel there is a variety of land types, uses, and vegetation that all contribute to a unique drainage pattern. Of the entire 160 acre parcel, about 77 acres is outlined as a drainage boundary that will be affected from the proposed project. The drainage boundary is surrounded by two lakes, a wetland, and surrounding greenspace/foliage and shrubbery. The project site is currently dominated by pervious surfaces, including agricultural fields, open grassland, and low density residential areas.

Currently, impervious surfaces account for very little of the project site, totaling approximately 0.62 acres from existing buildings and accessory structures. The proposed project will demolish the existing structures and will result in a post-project impervious acreage of 12.31 acres, which will consist of the new school buildings, driveways and parking areas. Of the approximately 55 acre project site, 24% impervious surface is proposed. The remainder of the site will be pervious surfaces, including athletic fields and landscaping. Of the total 160 acre parcel, approximately 7.6% will be impervious surfaces.

A stormwater management plan was developed for the project site and is available in Appendix B. A stormwater model was developed to assess site runoff from the existing and proposed site conditions. The 2-year, 10-year and 100-year stormwater events were modeled. Conditions of the County CUP permit will require that stormwater runoff rates for the proposed developed conditions with the new school and associated facilities do not exceed the existing runoff conditions. To ensure future stormwater runoff rates do not exceed current site conditions, the stormwater management plan includes the construction of two new settling ponds at the southwest corner of the parking lot.

These ponds will capture and treat stormwater runoff from an area approximately 11 acres in size that includes the majority of the new impervious surfaces at the school. The ponds have been designed to be dry ponds that will provide water quality treatment through infiltration. They will contain stormwater flows up to the ten-year storm event without outflow or discharge. In the case of large stormwater events (i.e. 25 year storm flows or greater) runoff will outlet from the second smaller pond and overland flow towards the ditch to the west. The school district has an existing long term maintenance and monitoring program for existing stormwater ponds on other properties which will be adopted for the proposed site, once constructed.

Stormwater will flow into the first pond from the school and parking lot by means of a storm sewer network under the parking lot. Water will then flow into the second pond under the school entrance road through a 24 inch culvert. The second pond will naturally overflow onto surrounding managed landscapes prior to traveling into the wetland complex west of the project site. Together, the two storage ponds will have 2.28 acre-feet of storage capacity and are sized for the 10-year storm event of 3.6 inches. Stormwater flow from the school bus drop-off area will flow to the northeast to a natural depression just west of the project site boundary, as shown in the Exhibit B - Proposed Conditions in Appendix B.

The increase in impervious surface and construction of new structures on the project site will result in a change in runoff patterns and an increase in stormwater runoff for the property. Construction of the proposed project will disturb more than one acre of land and will require an NPDES construction stormwater permit from the MPCA. The project construction will require the development of a Stormwater Pollution Prevention Plan (SWPPP), which must identify the use of Best Management Practices (BMPs) to be utilized and maintained at the site during project construction.

A variety of measures will be implemented such as rock construction entrances, silt fencing, bio-rolls, and/or temporary settling basins to ensure stormwater runoff is treated on site and downstream receiving waters are protected from construction runoff. Conditions of the SWPPP and NPDES permit will require that BMPs be periodically inspected and maintained throughout project construction to ensure their effectiveness. Identified deficiencies or failures in this BMPs will require actions to repair or restore BMPs.

iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

The proposed project will use a groundwater well to supply water to the new school. The primary well will supply water to the school for domestic use and a second well is under consideration to provide water for irrigation for the athletic fields. Should a second well be required, it will be located east of the school building. Groundwater use from the proposed well is anticipated to be approximately 10,800 gallons per day and 1,868,400 gallons per year, which is based on an average water use of 12 gallons per day per student. A DNR water appropriations permit will be required as daily domestic use is anticipated to be over 10,000 gallons per day. Preliminary written approval is required from the DNR before drilling a well that will withdraw more than 10,000 gallons of water per day. Additionally, the Minnesota Department of Health must receive notification prior to construction. The installation of the well will require a 24-hour drawdown pump test as part of the DNR water appropriations review and approval process. In the event that the proposed project includes

a second well for irrigation, it will be included as part of the required pump tests and water appropriations permitting process that will be completed for the primary well serving the school.

The size and depth of the wells are currently being evaluated during project design. Based on the water needs of the school and the size of wells at the nearby high school, the new primary well will likely be an eight to twelve inch casing with a standard operating pressure of 60 pounds per square inch. A variable speed electric pump approximately 50 horsepower in size would be used to pump water from the well to the school. These design details will be finalized as the detailed engineering of the school continues. The proposed well would be located northwest of the facility, beyond the fire lanes and would provide fire protection to the school. The fire sprinkler system will not rely on the well to supply water during a fire event; instead, it will rely on the fire protection tanks, which will store water sourced from the well. There will be two tanks that each contain 30,000 gallons of water, which meets the NFPA requirements for a specific rate and time duration.

As part of the water appropriates permit process an initial preliminary well assessment will be required prior to construction of the new well. The initial assessment includes the information regarding the well location, intended use, depth, size, and estimated pumping rates must be provided to the DNR. Upon review and approval of the preliminary assessment the new well can be installed. However, prior to actual operations of the new well, additional information must be provided to the DNR before an appropriations permit is granted for water use. The additional information required by the water appropriations permit process could include pump test data, water level and water capacity readings from other wells in the area, and/or evaluation of the capacity of the water source identified for appropriation. Based on this analysis, conditions within the water appropriations permit would be identified and required to ensure operations of the new well for the school would not impact ground water resources or other wells in the area. If a second well is included as part of the proposed project for irrigation of the athletic fields, it will be included as part of the permitting and analysis process described for the primary well.

iv. Surface Waters

a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

   The project site does not contain any Public Waters, though the greater 160 acre parcel contains two Public Water Wetlands (DNR #206W and 437W – Figure 5) A third Public Water Wetland is located on the westernmost border of the project site (DNR #205W).

There are no public waters within the 55 acre area of the site where the new school will be developed. Onsite investigation identified one wetland and three potential wetland areas within the project site, which will be further investigation with a complete wetland delineation as part of the permitting process. The National Wetlands Inventory (NWI) was reviewed for the presence of wetlands on the site and confirmed the presence of PWI wetlands identified by the Public Waters Inventory (USFWS, 2014). The NWI identified PWI wetlands 206W and 205W as lakes. The wetlands form a large wetland complex on the northwestern portion of the 160 parcel. Additional Public Water Wetlands are located both north and south of the project site (Figure 5). PWI Wetlands 205W and 206W are identified as sensitive area lakes under the Beltrami County shoreland management ordinance (Beltrami County, 1992).

Based on the existing site plan (Figure 2) all construction within the 55 acre area for development of the new school will take place outside of PWI wetland areas. A formal wetland delineation will be performed as required for the CUP application to be submitted to Beltrami County in order to confirm the presence or absence of wetlands in the three potential wetland areas identified on the project site. In the event that the site layout is altered or the formal wetland delineation documents the presence of wetlands in project work areas, a wetland permit and mitigation plan would be required and developed.

The project is located within the Shoreland Management Zone designated by Beltrami County ordinance, triggering the need for a Beltrami County Conditional Use Permit (CUP) to construct the school. Due to the proximity of the proposed project to PWI Wetlands (Beltrami Co. sensitive area lakes), appropriate best management practices for erosion and sediment control will be implemented during construction to prevent indirect wetland impacts. The septic area will be constructed over 500 feet from the boundary of the nearest PWI Wetland to prevent indirect impacts to the waterbody.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

   No other surface waters will be directly altered by the proposed project. There are no additional surface waters present on the site aside from those discussed above.

12. Contamination/Hazardous Materials/Wastes:

a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

   A Phase I ESA was conducted on the property in February 2016. Findings of the Phase I indicate that no hazardous substances or petroleum products, underground storage tanks, above ground storage tanks, fuel pipelines, pits, ponds or lagoons were present on the site. Additionally, the Minnesota Pollution Control Agency What's in My Neighborhood map search did not indicate the presence of known contamination or potential environmental hazards (MPCA 2016). The Phase I report identified one empty 55-gallon metal drum and some surface disposal of concrete, metal, wood, and miscellaneous debris, mainly associated with the old buildings and restaurant in the southeast corner of the project site.

   A septic system was located at the west side of the vacant house in the southeast corner of the project site and one additional septic system was located north of the cottage. Existing debris and waste will be removed as part of the structure demolition and site preparation phase of construction. The septic systems will be closed in place or removed as needed as part of the overall construction project. Closure of the septic system will be completed following procedures outlined in Minnesota Rules 7080.2500 as well as the requirements outlined within the Beltrami County SSTS ordinance. All other debris and buildings associated with the home and old buildings will be demolished and removed as part of the development of the new school at the project site. A demolition contractor will be hired to complete all removal of remnant building materials and debris at the site and will be responsible for proper disposal of the materials removed from the site during demolition. This includes the isolation, removal, and disposal of potentially asbestos containing materials following all State requirements for disposal outlined under Minnesota Rules 7035.0805, including the removal of the asbestos containing materials prior to demolition.

b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

   The school will generate solid waste consistent with other institutional and domestic facilities. According to a Minnesota Pollution Control Agency study conducted in 2010, the common sources of solid waste in schools include food waste, true garbage, recyclable paper, non-recyclable paper, and other compostable waste and organics. The new SSTS will generate sludge as a by-product of the treatment system (MPCA, 2010). The sludge will periodically be pumped from the SSTS and hauled by an approved contractor to an appropriate disposal facility.

Once constructed, the school will be served by a private waste hauling company to haul solid waste to offsite disposal areas. The Bemidji area is serviced by both rural disposal sites and two transfer facilities in the City of Bemidji. Beltrami County is required to recycle at least 35% of its waste stream (Beltrami County 2014) and waste stream contributors are expected to recycle in order to assist the County in meeting this goal. The new school will institute a recycling program in order to meet the solid waste disposal and recycling goals of Beltrami County. Additionally, Bemidji Public Schools has a recycling plan in place at all of its school facilities, which is described within the school districts Facility Custodial Maintenance Department Reference Guide. The district recycling program will be implemented at the new school to ensure school district and Beltrami recycling goals are met.

c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

   The proposed project will include a limited amount of storage of hazardous materials, mainly associated with the heating system. The school will be heated by three natural gas fired boilers. Liquid Propane (LP) gas will serve as the backup fuel for the boilers. Two above ground LP gas tanks will be installed on the site. Bemidji Public Schools utilizes a local LP supplier for all of the schools in the district. This local supplier will install, fill, service and maintain the LP tanks for the new elementary school. The tanks are currently estimated to be 2,000 gallons in size and would be located outside and aboveground at the northwest corner of the school and will include a fence around the tanks to limit access and ensure student safety. The final location and size of the LP tanks will be determined as part of final design and engineering for the proposed project. In the event that the capacity of the two LP tanks exceeds 10,000 pounds of propone to be stored on site, Bemidji Public Schools will be required to complete Tier II reporting to the Minnesota Emergency Planning and Community Right to Know Act (EPCRA) Program. No other hazardous materials will be used or stored on site at the new school.

d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

   There will be no project related generation or storage of hazardous wastes.

13. 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.

The project site is located on an agricultural parcel with a small number of existing buildings (homestead, cottage, and café), three small potential wetland areas, and a large PWI wetland and deep water complex outside the project boundaries in the northwest portion of the parcel (Figure 4). The existing NWI and PWI wetlands (sensitive area lakes) adjacent to the project site serve as habitat for wildlife communities. The project site is framed by forested land to the northeast, which provides habitat for wildlife. The dominant land cover type in the vicinity of the project area is agriculture, forested land and low density residential land.

Due to the relatively undeveloped nature of the project site and its surroundings, the forested areas and the wetlands on 160 acre parcel likely serve as native habitat for fish, amphibians, birds, small mammals, and rodents. The forested areas bordering the project site are part of a larger contiguous patch of forest habitat that intermixes with wetland complexes north of the project site. Additionally, the Mississippi Headwaters State Forest is located 1.25 miles directly west, which contains a well-preserved and pristine reach of the Mississippi River. The development of the new school will not disturb the large wetlands northwest of the project site or the adjacent forested lands where the majority of the wildlife habitat is located. Student activity will be concentrated around the school facilities including the buildings and athletic fields, which will be located to the south east side of the school. The school facilities are located several hundred feet away from the wetlands and habitat areas which will result in minimal disturbance to wildlife. Some temporary disturbance of wildlife may occur in the form of avoidance during portions of project construction. However, after construction is complete and the new school is operating wildlife will likely continue to utilize the wetland and forest habitats adjacent to the facility. Bemidji Public Schools will investigate the potential need for fencing along the north boundary of the school site to ensure student safety. If fencing is installed along the north boundary of the school site this would further limit student access to these areas reducing the potential impacts to wildlife and their habitat.

Water resources bordering the project site will be protected by implementing construction best management practices for erosion and sediment control. All structures will be constructed over 500 feet from the shoreland (Public Water Wetland) boundaries. Forested areas adjacent to the project site are not included within the project boundaries and will not be impacted by the proposed project.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

The Minnesota DNR lists 50 rare species for Beltrami County, including four state endangered species and eleven state threatened species. The remainder of the list includes DNR state species of concern. None of the listed species are federally threatened or endangered. There are no Minnesota County Biological Survey Sites of Biodiversity Significance on the project site or within a one mile radius of the project site. Additionally, there are no wildlife management areas, scientific and natural areas, or sites of ecological significance within one mile of the

project site. The nearest wildlife management area, Bemidji Slough WMA, is located over four miles southeast of the project site.

The DNR was contacted to determine if rare or endangered plant or animal species or sensitive resources or habitats are present within a one mile radius of the project site. A National Heritage Information System (NHIS) query was submitted and results were received April 4, 2016 (see Appendix C). The response (ERDB 20160349) indicated known occurrences of rare features within a one-mile radius of the proposed project, but none of the occurrences included any federally listed species and were either historical or not of concern given the project details.

The DNR also reported that the northern long-eared bat is a species of special concern in Minnesota and was listed as threatened by the US Fish and Wildlife Service in April 2015. No known hibernacula or roost trees are identified in Beltrami County and therefore the proposed project is not anticipated to impact this species.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

The proposed project will not result in direct impacts to wildlife habitat. The greatest direct impacts will be to agricultural land on the project site. All proposed structures will be constructed outside of the 500-foot wetland buffer for each of the PWI Wetlands identified adjacent to the site. Construction of the project will not require large-scale tree removal activities; tree removal will only occur as needed to allow for demolition and clearing of the existing structures on the project site. Project activities will occur on previously disturbed agricultural and residential land and will not result in impacts to fish, wildlife, rare plant communities or ecosystems. To avoid indirect impacts to water quality, appropriate erosion and sediment control best management practices will be implemented during the construction phase.

Operation of the school will not result in direct impacts to wildlife. The school will treat wastewater in a new LSTS system that will not discharge to adjacent surface water bodies. Solid waste will be collected and disposed offsite. The septic system is located and designed to prevent groundwater contamination to the adjacent PWI wetlands. Two settling ponds are proposed in the southwest portion of the project site to provide storage and treatment of stormwater prior to discharging to the existing wetland complex to the west.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Areas of the project site that will be impacted by construction are previously disturbed agricultural areas. There are no anticipated adverse effects to fish, wildlife, plant communities, or sensitive ecological resources.

14. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

The Minnesota State Historic Preservation Office (SHPO) was contacted to determine if known historical structures or archeological sites were present within the vicinity of the project site. The SHPO report indicated that no historic structures were identified in a search of the Minnesota Archaeological Inventory and Historic Structures Inventory for the project area and is attached in Appendix D. The Inventory report identified one archaeological site in the SW ¼ of Section 13, Township 146N, Range 13W. The site is classified as a lithic artifact scatter location. The archaeological site is located across the road from the project site, is not within the boundaries of the site, and will not be disturbed by construction of the proposed project. Therefore, no archaeological or historical sites will be impacted or disturbed by project activities. Should suspected historical or archaeological resources be encountered during construction, work will cease and the Minnesota SHPO will be contacted for further guidance.

15. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The project site has a view of the two lakes (PWI wetlands) located to the north of the site. The surrounding areas consist of forested areas, rural residential areas, agricultural fields, and parks. Construction of the proposed project will not result in detrimental effects to views or drastically alter sightlines on the property. The school will be situated to take advantage of views on the property. Due to the position, size, and location of the school on the project site, much of the sightlines on the property will remain unchanged post construction.

Overhead electric transmission lines will be rerouted from their existing position through the project site to north of the school. The new route was identified to supply the needed electrical service to the facility and to maintain aesthetics on the project site. Transmission lines will be relocated to north of the school to provide the optimal functional layout and visual aesthetic of the new school. The majority of the facility will be 32 feet high and will not create negative visual impacts to neighboring properties. No vapor plumes or intense lighting will result from the proposed project.

16. Air

a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment.

Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

The school will be heated by natural gas boilers which will be the main source of air emissions on the project site. There will be three natural gas fired boilers which will be capable of also running on LP gas as a back-up fuel. Pursuant to Minn. R. 7007.0250, a facility requires an air permit if the following apply:

- The facility's potential to emit (PTE) exceeds a state or federal permitting threshold;
- The facility is subject to a New Source Performance Standard (NSPS); and/or
- The facility is subject to a National Emission Standard for Hazardous Air Pollutants (NESHAP) under 40 CFR Part 61.

The PTE of a facility is typically defined as the maximum capacity of all sources that emit pollutants operating 24 hours each day of the year (a total of 8,760 hours per year). With regards to stationary source air permitting, the only proposed air emissions sources for the proposed project include the three small boilers, one make-up air unit, and two water heaters. Each unit will be fueled with natural gas with LP gas as a back-up fuel. Potential emissions were calculated for these sources based on the maximum heat input for each piece of equipment. A comparison of potential emissions from the proposed project in tons per year (tpy) to the state and federal permitting thresholds is below is provided in Table 5. The PTE calculations for the proposed project are below all State and Federal permitting thresholds for all applicable air pollutants.

Table 5: PTE of the proposed elementary school compared to State and Federal air permitting thresholds.

Air Pollutant	Federal Permit PTE Threshold (tpy)	State Permit PTE Threshold (tpy)	Proposed Project PTE (tpy)
Nitrogen Oxide (NO_x)	100	100	4.56
Sulfur Dioxide (SO_2)	100	50	0.53
Volatile Organic Compounds (VOC)	100	100	0.28
Particulate Matter (PM)	100	100	0.25
PM_{10}	100	25	0.25
$PM_{2.5}$	100	100	0.25
Carbon Monoxide (CO)	100	100	2.65
Lead (Pb)	10	0.5	1.57E-05
Carbon Monoxide Equivalents (CO_2e)	100,000	100,000	4,371
Single HAP[1]	10	10	0.06
All HAPs[1]	25	25	0.06

[1] HAP is defined as Hazardous Air Pollutant. Single HAP represents the individual HAP with the highest emissions. In this case, the HAP represented in the table is Hexane.

New Source Performance Standard (NSPS)

NSPSs are technology-based, pollution control standards that apply to new, modified, and reconstructed equipment at affected facilities. To determine NSPS applicability, equipment must be individually assessed. The full standards are found in 40 CFR Part 60 and are divided into categories.

The boilers for the proposed project were assessed for their applicability to 40 CFR Part 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The boilers are not subject to this NSPS, because it applies to equipment with a maximum heat input capacity between 10 and 100 MMBtu/hr. The boilers are the only source for which there is a New Source Performance Standard category for evaluation.

National Emission Standard for Hazardous Air Pollutants (NESHAP)

NESHAPs are standards for stationary sources that emit HAPs. NESHAPs are separated into categories and can be found in 40 CFR Part 61 and 40 CFR Part 63. Based on the potential HAP emissions of the facility, the source is considered to be an area source of HAP. An area source is defined as a minor source of HAPs. The major source threshold for HAPs is 25 tons/year of total combined HAPs and 10 tons/year of each individual HAP. The applicability of an area source NESHAP standard does not trigger the need for an air permit. Additionally, there are no applicable NESHAP standards for the proposed air emission sources.

b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

The proposed project will not generate significant vehicle-related air emissions. Traffic levels will be highest at the morning drop-off and afternoon pickup times, when parent vehicles, school buses, and staff vehicles will be in operation. Vehicle idling will be minimized to student pick-up times at the end of the school day.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

The primary sources of dust generated by the project will occur during the construction phase. Sources include ground disturbance and site preparation, grubbing and demolition of existing structures and associated movement of demolition debris, the construction of roads, and the transport of construction materials and vehicles across the project site. If necessary dust control measures may be utilized (such as water spraying) during construction to minimize dust impacts to adjacent properties. Operation of the school will not result in significant sources of dust generation.

Odors may be generated during the construction phase by paving of roads and parking lots. Asphalt materials used for paving roads generate fumes while the mixture is heated for application and manipulation. These odors may be detectable during the construction phase of the project by passersby or adjacent property owners. The nearest property owner is over 600 feet from the proposed parking areas. Other nearby property owners exceed this distance. A significant impact from asphalt odors is not anticipated. Operation of the school will not result in significant sources of odor generation.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Construction of the project will generate noise consistent with typical institutional or large-scale residential construction noises. Sources of noise will include mobilization of heavy equipment, demolition of existing structures, and construction of the facility and associated structures. Sources of noise during operation of the project include school bus transportation noises, student activities, and heating, cooling, and exhaust systems in the facility. Both construction and operational noise associated with the new school will generally be limited to daytime hours.

Existing noise levels in the project area are anticipated to be relatively low given the rural and low density development that is prevalent in the vicinity. Construction of the project will temporarily increase the existing noise levels in the vicinity. Noise levels when the new school is operational are not anticipated to be significant. Operations noise levels will increase from existing noise levels, though the facility will produce noise in-kind with current land use. Noise levels will fluctuate throughout the day, with greater noise levels during the student drop-off and pick-up hours.

18. Transportation

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

   The proposed project consists of a new elementary school located on the north side of Division Street at Becida Road. The proposed project will construct 303 parking spaces for the school facility, which will be located south of the building (Figure 2). Twenty school bus parking spots will be constructed east of the building. The school is expected to open in 2017 and will have an ultimate enrollment of 900 students. The school will have direct access to Division Street at Becida Road and at a location approximately 700 feet east of Becida Road. A traffic impact study (SRF, 2016) completed for the project is included in Appendix E.

The traffic study presents Level of Service (LOS) analysis of traffic flow. LOS is reported based on potential traffic delays at an intersection. The LOS range is from A to F. LOS A represents the best intersection operation, with little delay for each vehicle using the intersection and LOS F represents the worst intersection operation with excessive delay, impacts to traffic speeds, and impacts to the movement of traffic. The LOS criteria in terms of delays in travel times through an intersection on a per vehicle basis are presented in Table 5.

Table 6: Level of Service (LOS) Criteria for Signalized and Unsignalized Intersections

LOS Designation	Signalized Intersection Average Delay/Vehicle (seconds)	Unsignalized Intersection Average Delay/Vehicle (seconds)
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

Traffic operations were analyzed for the weekday a.m. and p.m. peak periods of the adjacent roadway network as well as the school peak periods. The school a.m. peak period coincides with the adjacent roadway network peak period, which was determined to be 7:30 to 8:30 a.m. by the study. The school p.m. peak periods occurs from 2:30 to 3:30 p.m. which does not coincide with the overall p.m. peak study for the adjacent roadway network, which was found to be from 4:45 to 5:45 p.m. As a result, traffic operation results were analyzed and reported for three conditions including the weekday a.m. peak hour, the school p.m. peak hour, and the weekday p.m. peak hour.

The traffic study investigated the intersections around the new school including the Division Street/Becida Road intersection and the new school access intersection 700 feet east (see Figure 10 – Traffic Analysis Areas). Under existing conditions, all movements at the Division Street/Becida Road intersection operate at LOS A during the weekday a.m. peak and p.m. peak hours and the school p.m. peak hour. The overall intersection also operates at LOS A under all time periods. The new proposed future school access intersection that will be 700 feet east of Becida Road does not exist under existing conditions and therefor was not included in the existing conditions analysis.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 *(available at: http://www.dot.state.mn.us/accessmanagement/resources.html)* or a similar local guidance,

Future condition traffic forecasts were developed based on the expected school attendance. Trips generated by staff, parent drop-off/pickup activities, and school buses were added to the

surrounding street system to develop year 2018 traffic forecast volumes (Appendix E). The school is estimated to generate 567 trips during the a.m. peak from (7:30 to 8:30 a.m.), 429 trips during the school p.m. peak hour (2:30 to 3:30 p.m.), 135 trips during the p.m. peak hour (4:45 to 5:45 p.m.), and total of 1,660 daily trips.

Traffic operations were initially studied with a new school access intersection located on Division Street approximately 700 feet east of Becida Road as the single access point for the school. Under these conditions with a new school access intersection as the only point for all traffic to access the school the traffic study determined that under 2018 conditions the Division Street/Becida Road intersection would operate at LOS A under all future conditions (a.m. peak hour, p.m. peak hour, school p.m. peak hour, and overall conditions). However, the new school access/Division Street intersection would operate at an LOS D during the a.m. peak hour, LOS B during the school p.m. peak hour, and LOS A for the p.m. peak hour. This indicates there would be some traffic congestion during the morning school drop off times at the new school access/Division Street intersection if there were to be a single access point for the school.

Traffic operations during the peak 15 minute period of each hour were analyzed to account for the unique peaking characteristic of schools. Under 2018 conditions, with the new school access/Division Street intersection as the single access point, all movements at the Division Street/Becida Road intersection operate at LOS A during the weekday a.m. peak and p.m. peak hours and the school p.m. peak hour. However, the new school access/Division Street intersection would operate at LOS E the weekday a.m. peak hour, LOS B during the school p.m. peak hour, and LOS A during the p.m. peak hour. These results indicate that during the busiest morning school drop off times there would be traffic impacts in the form of traffic delays and hindrance to movement. LOS E is below optimal levels for traffic flow and intersections that operate at this level of service are often considered for potential improvements or upgrades that could alleviate traffic issues.

In summary, the traffic study determined that for future conditions with a single proposed access point for the new school at the Division Street/Becida Road intersection there would be no traffic impacts for all time periods analyzed. The study also determined that for the school access/Division Street access there would be potential traffic impacts during the a.m. peak hour period (7:30 to 8:30 a.m.) but no impacts during the school p.m. peak hour (2:30 to 3:30 p.m.) or p.m. peak hour (4:45 to 5:45 p.m.) periods.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

The traffic study indicated that some intersections would experience a decrease in service level as result of operation of the new school. The school access/Division Street intersection would operate at LOS D during the weekday a.m. peak hour, and at LOS E during the a.m. peak 15 minute period. Both of these future conditions for the a.m. peak hour, which are below optimal service levels. In order to accommodate the expected school traffic, the following improvements are recommended by the traffic study:

- Consider constructing a roundabout at the Division Street/Becida Road intersection. The north leg of the intersection serves at the main access for the school. This would add a second access point to the school and alleviate some of the traffic congestion issues associated with the single access school point that was analyzed within the traffic study.
- Utilize the east school access/Division Street intersection for bus and delivery truck trips, to minimize the mixing of bus and parent drop off traffic, further improving traffic movements associated with the new school.
- Construct a westbound right turn lane at the Division Street/school access intersection.

The Bemidji School District will consult with Beltrami County utilizing the analysis and recommendations of the traffic study. Based on these discussions, traffic improvements will be constructed to ensure impacts to traffic flow are minimized to the maximum extent practical and that traffic can access the new school in a safe, desirable manner.

19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

The new school will be constructed within a 55 acre area of a mostly undeveloped, vacant 160 acre parcel. The remainder of the parcel will not be disturbed. The proposed project will be constructed over a 17 month period and then will begin operations. The school will be expected to operate for the next 30 years to service the needs of the Bemidji School District. Some alterations to the existing site conditions will occur as result of construction and operation of the new school include land use, wastewater, and traffic. A discussion of the potential cumulative impacts for these areas is provided.

<u>Land use</u>

The proposed project will alter land use within the 55 acre project site, mainly converting open grassland areas to uses associated with the school. The project site is not located within an area regulated by a comprehensive land use plan or zoning ordinance. However, the new school is generally compatible with the land use and land use goals identified in the GBAJPB Land Use Plan as well as the land uses of the area immediately adjacent to the site. The proposed project would not result in significant loss of wildlife habitat, forests or wetlands. The project site is located within a shoreland district which requires a conditional use permit for the construction of the new school and relocation of the transmission line, however all features associated with the proposed project will exceed all required shoreland setback distances. There are no other identified projects in the area that would be located within a shoreland district that would potentially result in cumulative impacts with the proposed project.

<u>Wastewater</u>

City sewer and water utilities do not currently exist at the project location. The City of Bemidji has presented the School District the opportunity to partner in extending municipal sewer and water services to the location. The School District has declined this opportunity. There are no future plans to connect the proposed project to the municipal wastewater system. As a result the proposed project will include the construction of a new large SSTS. The new system will be

designed to adequately capture and treat all wastewater produced by the school and meet all MPCA state discharge requirements, preventing impacts to groundwater quality. There are no other known large development projects in the area that would include an SSTS and contribute to wastewater generation and/or treatment near the project site. No cumulative impacts to wastewater from the proposed project are anticipated.

Traffic

Construction of the new school will add traffic to the intersection Division Street/Becida Road. The traffic study (Appendix E) provides recommendations for improving future traffic flow at this intersection to accommodate the school, which is discussed under item 18. In addition to the elementary school the traffic study included an analysis of existing and future traffic conditions at other intersections in the area. The following five intersections located east of the site were also analyzed within the traffic study:

- Division Street/Adams Avenue
- Division Street/High School west access
- Division Street/High School east access
- Division Street/US 71 west ramps
- Division Street/US 71 east ramps

These intersections are located closer to the existing high school campus (Figure 10), which impacts road operations near the proposed elementary school to the east during the peak periods. Under existing conditions, operational issues occur at the Division Street/High School east access and Division Street/US 71 west ramps intersection during the a.m. peak hour. All other intersections operate at acceptable levels of service during the a.m. peak hour. During the school p.m. peak hour and the weekday p.m. peak hour, all intersections operate at acceptable levels of service under existing conditions.

Under 2018 Build conditions, operational issues are expected at the Division Street/Adams Avenue, Division Street/High School west access, Division Street/High School east access, and Division Street/US 71 west ramps intersection during the a.m. peak hour. During the school p.m. peak hour, operational issues are expected at the Division Street/US 71 west ramps intersection. During the weekday p.m. peak hour, all intersections are expected to operate at acceptable levels of service.

The operational issues expected in this area are due to a combination of existing high school traffic with forecasted traffic volume growth due the proposed elementary school and other development in nearby areas. In order to adequately accommodate the future traffic volumes, the following improvements were recommended within the traffic study:

- Division Street/Adams Avenue – install traffic signal control and dedicated left turn lanes on the east and west approached.

- Division Street/High School west access – consider the installation of a secondary access directly to Adams Street to help improve intersection operations.

- Division Street/High School east access – install dual westbound left turn lanes on Division Street.

- Division Street/US 71 west ramps – install traffic signal or roundabout control.

- Division Street/US 71 east ramps - install traffic signal or roundabout control.

As part of the proposed elementary school project the Bemidji School District will consult with the Beltrami County Highway Depart utilizing the analysis and recommendations of the traffic study. Based on these discussions, roadway and/or intersection improvements may be constructed to address potential cumulative impacts of traffic in the project area.

Stormwater and Surface Waters

Construction of the project will result in an increase of impervious surfaces on the project site of 12.24 acres, or approximately 7.6% of the 160 acre parcel containing the project site. Proposed surface water volumes will not exceed existing site conditions. In order to meet this requirement, two stormwater ponds will be constructed at the southwest corner of the construction area along either side of the entrance road. These basins will capture and settle stormwater from the school, parking lot, and entrance road and flow west towards adjacent wetlands. The ponds are designed to capture and contain stormwater runoff up to the 10 year storm event without discharge. The stormwater captured from these events would mainly infiltrate into the soils which would provide water quality treatment through the removal of nutrients and suspended solids. Large stormwater events greater than the 25 year storm would discharge by means of overland flow from the ponds to the west towards the existing ditch. The school bus drop-off area will flow to a natural depression to the east. The project will also utilize the same vegetated overland flow that currently exists to slow the rate of stormwater traveling across the site to nearby water resources. These naturally existing vegetated areas allow for rate reduction and infiltration of stormwater prior to entry into surface waters. During construction, appropriate BMPs will be used to prevent erosion and sedimentation of nearby water resources. Through the utilization of construction BMPs and the proper design of permanent stormwater control measures, such as the stormwater ponds to ensure the proposed stormwater site conditions will not exceed existing conditions, there will be no cumulative impacts to impaired downstream sources.

20. Other potential environmental effects: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No additional environmental effects were identified.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature _____ Date _____

Title _____