

APPLICATION FILING REQUIREMENTS TRANSMISSION LINE PROJECTS IN WISCONSIN

**PUBLIC SERVICE COMMISSION OF WISCONSIN
WISCONSIN DEPARTMENT OF NATURAL RESOURCES**

SEPTEMBER 2015





PUBLIC SERVICE COMMISSION OF WISCONSIN
Application Filing Requirements
Electric Transmission Lines
September 2015

This document lists information required for a complete application to construct a new electric transmission project that requires either a Certificate of Authority (CA) under Wis. Stat. § 196.49 or a Certificate of Public Convenience and Necessity (CPCN) under Wis. Stat. § 196.491 from the Public Service Commission of Wisconsin (PSC).

The CPCN and CA are PSC certifications, but the applicant also might need to request certain Wisconsin Department of Natural Resource (DNR) permits. This document therefore also refers to information required for permits from the DNR under Wis. Stat. § 30.025.

Overall, the filing requirements are intended to organize information consistently and to facilitate PSC and DNR application reviews.

Joint PSC/DNR Pre-Application Consultation Process

An applicant must consult with both the PSC and DNR prior to submitting its application (Wis. Stat. § 30.025(1m) and Wis. Admin. Code § PSC 4.70(1)). This pre-application consultation process is a series of discussions with the staff of these two agencies. Each agency has its own requirements, but the two agency reviews interrelate.

Topics discussed during the pre-application process include:

- PSC and DNR staff contacts
- Applicable portions of the filing requirements for each agency
- Appropriate application formats and subject matter, such as for maps and diagrams
- Specific permits and approvals required for the project
- PSC's and DNR's projected review timelines and important milestones
- Alternative routes or designs
- Appropriate type, scope, and timing of required field work (habitat assessments, archeological surveys, wetland delineations, biological surveys, etc.)

During the pre-application period, the applicant should also solicit additional information from other interested persons through public outreach.

DNR Application Needs

Like the PSC, the DNR requires a complete application for the project review to proceed. The applicant must consult DNR staff to ensure that particular requirements for the DNR project review are met.

Permits and Application Requirements

DNR permits required for the project will be identified during the pre-application process.

Under Wis. Stat. § 30.025, the two agencies must follow a common review timetable, if wetlands or navigable waters are involved. For this reason, a complete application containing both DNR and PSC required information is submitted to both agencies at the same time. Specific DNR permit application requirements can be confirmed by the DNR Bureau of Energy Transportation and Environmental Analysis (BETEA). The requirements include information and materials needed for analysis of potential impacts to rare species and natural communities, and wetland or waterway construction permits. Applications must include an Endangered Resources (ER) review from the DNR or obtain concurrence from DNR for an ER Review completed by a certified individual. The ER Review includes an analysis of the information contained in the Natural Heritage Inventory (NHI) database.

Habitat Assessments and Biological Surveys

Habitat assessments or biological (plant and/or animal) surveys may be required for the DNR portion of the application or at some point in the application process. Natural resources of particular concern include (1) areas that support high quality, rare, or important wetlands, rivers, or natural communities or habitat features (e.g., bat hibernacula or bird rookeries); and (2) areas where state or federal endangered, threatened, or special concern species occur or may occur.

The applicant should meet early in the pre-application process with DNR Office of Energy staff to determine the type of field work that should be completed. DNR may require fieldwork to be conducted (1) prior to submitting an application, (2) while the application is under review, (3) prior to the start of construction, and (4) post construction. At least two to four months before the beginning of the appropriate field season, DNR will require project information such as the project schedule, major project actions, and current aerial photos of the project area. For most species, the field season begins in the second quarter of the year; however, some rare species may require that field work be conducted earlier or later in the year. DNR will discuss with the applicant the timing and scope of the required studies based on project specifics and the application schedule.

Wetlands and Waterways

The applicant must submit two completed tables for DNR, a Waterway/Wetland Impact Location Table (DNR Table 1) and a Waterway/Wetland Environmental Inventory Table (DNR Table 2). The DNR tables describe each waterway or wetland that would be crossed by the proposed project and must be completed as stipulated by the DNR.

To complete the DNR tables, it is desirable to use the best available information source. If field surveys are not possible, the applicant must consult with DNR staff to determine alternative sources of information which may include a combination of maps, aerial photos, and ground-truthing.

The WWI wetland classification and unique field ID that are used in the DNR tables must also be included in the attributes tables of the submitted wetland Geographical Information Systems (GIS) shapefiles that are part of the project application.

Application Formats

Application Tables

The tables specified in these requirements must be properly filled out. These tables include the PSC Route Summary and Segment Impact Tables, cost breakdowns, two DNR tables, and the mailing lists. They are to be submitted in Adobe Acrobat (*.pdf) as well as Microsoft Excel spreadsheets.

Some tables include an example worksheet which shows how the table should be completed. Many of the tables have embedded in the worksheet cells, the appropriate format for the data. Shaded cells contain protected embedded formulas which will generate the correct data.

The DNR Waterway/Wetland Impact Location Table is provided as a Microsoft Excel spreadsheet to be completed. A sample DNR Waterway/Wetland Environmental Inventory Table is also provided.

In addition, a tabular mailing list must be submitted. The mailing list must meet the following format criteria as demonstrated below:

- Submit the table in Microsoft Excel
- Do not use punctuation marks
- Only use capital letters for all entries excluding email addresses.
- Populate the Sort column with the last name of a private property owner or the name of the business or organization for governments, groups, etc.
- Comply with current U.S. Postal Service mailing standards.
- Only use the Email column if addresses are not more than one year out-of-date.
- Mailing list should be able to be cross-referenced with the submitted GIS property shapefile.

Sample Mailing List Table

	A	B	C	D	E	F	G	H
1	attention	name	address	city	state	zip	email	sort
2		ROBERT SMILEY	PO BOX 1452	KENOSHA	WI	zip+4		SMILEY
3		DORIS J & KEN R SMITH	N2457 CTH X	ARENA	WI	zip+4	doris.smith@google.com	SMITH
4	MARY KLEIN CLERK	ALLEN COUNTY	7894 ELM ST STE 74	MILWAUKEE	WI	zip+4	mary.clerk@allen.wi.us	ALLEN COUNTY
5	JOHN FINCH DIR	FRIENDS OF WETLANDS	5885 FANCY DR	WEST BEND	WI	zip+4	jfinch@wetland.r.us	FRIENDS OF WETLANDS
6		ALBERT & RITA MILES TRUST	PO BOX 986	HAYWARD	WI	zip+4		MILES TRUST
7								

Contact PSC staff regarding questions for proper completion or modifications to the Route Summary and Segment Impact tables, cost breakdowns, and mailing lists.

Contact DNR BETEA staff for questions regarding the two DNR tables.

Geographical Information System Submissions

GIS data files must be submitted in shapefile format, in the current version of ArcGIS (ESRI ArcGIS 10.X). Geodatabases may also be used. Data files should clearly describe the contents and be appropriately named.

Provide the following GIS-related items as part of the application:

- GIS shapefiles or a geodatabase that contains all the data used to produce all maps submitted as part of the application.
- A spreadsheet listing all GIS data files, a file description, the source of the data, and the date when the data was collected or published.
- Map files in ESRI ArcView *.mxd format for all GIS maps in the application.
- ESRI ArcReader published map files in *.pmf format for all applicable GIS maps in the application.

All GIS data must include a *.prj file. Wisconsin state agencies use the Wisconsin Transverse Mercator (WTM) projection system.

Photographic and Line Drawing Submissions

- Line drawings must be in AutoCad and may be in either *.dwg or *.dxf format. The preference is *.dwg.
- Any photographic renderings (photo simulations) of proposed facilities on the existing landscape must be submitted in a high-resolution raster format.
- Digital aerial photographic images must be properly georeferenced and must be accompanied by the geographic coordinate and projection system.
- Scanned maps and diagrams that cannot be submitted in any other format must be submitted in *.gif format at a depth of 256 colors or less.

Application Size

Applicants are required to minimize the physical size of their applications by eliminating superfluous information not material to the case.

- Only submit those pages relevant to the information requirement. Do not submit multi-page ordinances, land use plans, etc. unless the entire document would be helpful for context.
- Minimize duplicative information. An appendix is the appropriate location for information that is referred to in several different sections of the application.

- Submit only official correspondence between the applicant and state, local and federal government agencies. PSC staff needs to review this correspondence to verify that the applicant has applied for the necessary permits and to ascertain the status of the permit review. Do not include unofficial minutes of meetings, records of telephone conversations, or billings from the PSC or DNR.
- Applications should be printed double-sided. Exceptions to this requirement are maps sized larger than 11 x 17 inches.

Confidential Materials

Organize the application so that all confidential materials are only in Appendices and separated from non-confidential materials. Submit confidential materials in compliance with the confidential materials handling procedures of each agency.

DNR Natural Heritage Inventory (NHI) related information must be submitted confidentially to both agencies.

PSC Electronic Regulatory Filing (ERF) System

The ERF system is the official file for all dockets considered by the Commission. Use the ERF system to post all **confidential** and **non-confidential** application materials, including all materials provided to DNR. Both the initial application and the complete application must be submitted using the ERF system. Items submitted in native formats, such as ESRI ArcGIS shapefiles, Microsoft Excel tables, Microsoft Word versions, modeling, etc. should be documented in a letter filed on ERF.

Instructions for submitting documents to the ERF system can be found on the PSC web site.

Application Completeness

For CPCNs, PSC and DNR staff will examine the application during a 30-day completeness review period as required under Wis. Stat. §196.491(3)(a)(2). The applicant will be notified if an application is deemed complete by the end of the 30-day period. If the application is found to be incomplete, PSC will send the applicant a letter identifying the deficiencies. The applicant may then submit revised or supplemented application materials to the PSC and DNR for a new 30-day application completeness review. There is no statutory time limit for an applicant to submit the revised or supplemental materials in order to remedy identified deficiencies.

Applicants should be aware that complete applications rarely answer all the questions that the PSC and DNR must address. It is likely that applicants will be called upon to provide additional information and data to support their applications throughout the review process. Applicants will be expected to respond to all staff inquiries made subsequent to a determination of completeness in a timely, complete, and accurate manner.

Filing the Application

For CA applications, check with PSC docket coordinator and the DNR during the pre-application process to determine how the application should be filed and how many paper copies are necessary. Electronic versions of all submitted application materials must be sent to both the PSC and the DNR. Flash drives will not be accepted.

For CPCN applications, a two-step process must be followed.

Step 1 -- Initial CPCN Applications

- Send to the PSC docket coordinator the number of paper copies of the non-confidential portion of the application agreed upon by PSC staff and the applicant.
- Send to the PSC docket coordinator CDs or DVDs¹ containing
 - The entire non-confidential portion of the application in Adobe Acrobat (*.pdf) format.
 - Microsoft Word versions of the text portion of the application.
 - Microsoft Excel versions of the PSC- and DNR-required tables.
 - ESRI ArcView shapefiles/geodatabase files and appropriate ESRI ArcReader published files (*.pmf) for all maps submitted in the application.
- File with PSC Records Management, using confidential material handling procedures, electronic versions of **confidential** portions of the application including modeling, spreadsheets, etc.

Post to the PSC ERF, all application materials both confidential and non-confidential, including all materials provided to DNR.

Send to the DNR BETEA:

- Two paper copies of the non-confidential and **confidential DNR NHI-related materials** portion of the application. (Do not provide paper copies of confidential portions of the application that do not apply to DNR requirements.)
- CDs or DVDs containing
 - The non-confidential portion of the application and the **confidential DNR NHI-related materials** in Adobe Acrobat (*.pdf) format.
 - Microsoft Word versions of the text portion of the application.
 - Microsoft Excel versions of the PSC and DNR-required tables.
 - ESRI ArcView shapefiles/geodatabase files and ESRI ArcReader published files (*.pmf) for all maps submitted in the application.

¹ Thumb drives will not be accepted by the PSC.

Step 2 -- After CPCN Application Is Deemed Complete

The PSC may require as many as 25 complete paper applications. Again check with the PSC docket coordinator to verify the appropriate number of paper applications. Applicants are encouraged to reuse applicable portions of the initial applications in order to create the required number of complete paper applications. Upon the PSC declaring the application to be complete, submit the following:

- Send to the PSC docket coordinator, paper versions of the non-confidential portions of the complete application. Again, the PSC encourages the reuse of unchanged portions of the initial applications.
- Send to the PSC docket coordinator, paper copies of the **confidential** portions of the application.
- CDs or, DVDs containing
 - The non-confidential portion of the complete application in Adobe Acrobat (*.pdf) format.
 - Microsoft Word versions of the text portion of the complete application.
 - Microsoft Excel versions of the PSC- and DNR-required tables.
 - ESRI ArcView shapefiles/geodatabase files and ESRI ArcReader published files (*.pmf) for all maps submitted in the application.
- Using confidential material handling procedures, file with PSC Records Management, the **confidential** appendices, modeling, spreadsheets, etc.

Post to ERF the revised complete application (confidential and non-confidential).

Send to the DNR BETEA:

- Two paper copies of the non-confidential portions of the application and the **confidential DNR NHI-related materials**. (Do not provide paper copies of confidential portions of the application that are not required by DNR.)
- CDs or DVDs containing
 - The non-confidential portion of the application and the **confidential DNR NHI-related materials** in Adobe Acrobat (*.pdf) format.
 - Microsoft Word versions of the text portion of the application.
 - Microsoft Excel of the required tables.
 - ESRI ArcView shapefiles/geodatabase files and ESRI ArcReader published files (*.pmf) for all maps submitted in the application.

Public Copies of CPCN Applications

Electronic copies of the initial application and a combination of paper and electronic copies of the complete application must be sent to the clerks of municipalities and towns in the project area and the main public libraries that serve the project area (Wis. Admin. Code § PSC 111.51).

Within 10 days of submitting a CPCN application, the PSC docket coordinator may require the applicant to send copies of the application on a CD, DVD, or flash drive to an approved mailing list of political subdivisions and libraries. Proof of delivery will be required. The application must be accompanied by an approved statement on the initial page of the electronic document explaining that this is an initial application and that it may differ from the application that the PSC deems complete.

As soon as practicable, but no more than 30 days after the CPCN application is deemed complete, the applicant must send an electronic copy of the complete application to the approved list of municipalities, towns, and libraries. An approved map book and the Technical Support Document (text portion of the application without appendixes) may be offered in paper format. At the request of a clerk or main public library, a paper copy of the application must be sent. Proof of delivery is required.

Public Copies of CA Applications

There are no requirements for distributing copies of the CA applications to the public.

Contact for Questions

Adam Ingwell, PSC, (608) 267-9197

Application Filing Requirements Electric Transmission Lines

A complete application must contain the following information or a showing must be made as to why the information is not applicable. The application's organization should follow the major format and numbering system of these filing requirements.

If substation construction is part of the application, the substation application materials may be presented within the related sections of the larger application or as separate sections, provided the organization of the application remains clear and easy-to-understand. There is a separate Application Filing Requirement for substation construction.

Questions about the applicability of specific information requirements and the organization of the application should be discussed with PSC and DNR staff during pre-application consultation.

1.0 Project Overview

- 1.1** Identify the owners and investors of the proposed project including their names, addresses, and percent of ownership (Wis. Admin. Code § PSC 111.55(6)).
- 1.2** Provide contractual agreements between developer and utilities to construct, finance, lease, use or own transmission facilities.²
- 1.3** Describe the location of the proposed project and its end points.
- 1.4** Provide a list of all cities, villages, and townships and their respective counties that the proposed project, any associated facilities, and any potential construction activities would cross or potentially impact.

1.5 PSC Review

- 1.5.1.** State if the application is for a Certificate of Authority (CA) or a Certificate of Public Convenience and Necessity (CPCN) under Wis. Stat. §§ 196.49 and 196.491.
- 1.5.2.** Identify the expected type of Commission action under Wis. Admin Code § PSC 4.10.
- 1.5.3.** State if the project qualifies for the CPCN exemption under Wis. Stat. § 196.491(4)(c)1m.
- 1.5.4.** State if the applicant is seeking an expedited review for the project under Wis. Stat. § 196.491(3b)(a).

² PSC confidential procedures may be used for the submittal of sensitive information.

1.6 Project Details and Project Area Information

Provide general descriptions of each of the proposed routes and the project area, including the following:

- 1.6.1. The location of route(s) and associated facilities.
- 1.6.2. The footprints of associated facilities.
- 1.6.3. Generalized geology, topography, land cover, and land use.
- 1.6.4. Any special or unique natural or cultural resources.
- 1.6.5. Areas of residential concentrations and urban centers.
- 1.6.6. Transmission configuration (such as single-circuit or double-circuit with existing line, overhead or underground, conductor replacement or new construction, etc.)
- 1.6.7. The proposed project right-of-way (ROW)
(for example: new ROW, partially overlapping existing transmission ROW, completely within existing ROW, etc.).

1.7 Other Agency Correspondence/Permits/Approvals

- 1.7.1. Provide copies of all official correspondence between the applicant and all state, federal, or local government agency as described in the *Introduction, page v.*³
- 1.7.2. Provide a list of all state and federal permits/approvals that would be required for this project and their status.
- 1.7.3. **Local Permits**
 - 1.7.3.1. For CA applications, provide a list of all local permits and/or ordinances that apply to the proposed project and the status of those permits.
 - 1.7.3.2. For CPCN applications and applications filed under the Wis. Stat. § 196.491(4)(c)1m exemption, provide a list of local permits and/or ordinances that would apply to the proposed construction activities, if the exemption did not apply.
- 1.7.4. **Railroad ROWs**
 - 1.7.4.1. Identify route segments that cross or share railroad ROWs.
 - 1.7.4.2. Identify the owners of the railroad ROWs.
 - 1.7.4.3. Identify abandoned railroad ROWs that are crossed or shared by route segments.
 - 1.7.4.4. Provide documentation, if possible, that the proposed ROW crossing or sharing is acceptable to the company.
- 1.7.5. **Pipeline ROWs**
 - 1.7.5.1. Identify route segments that cross or share any pipeline ROWs.
 - 1.7.5.2. Identify the owners of the ROW property or easements, as applicable.
 - 1.7.5.3. Provide documentation, if possible, that the proposed ROW crossing or sharing is acceptable to the company.

³ The applicant must continue to submit copies of all official correspondence between the applicant and any federal, local government, or other state agency while the application is under review.

1.7.6. Wisconsin Department of Transportation (WisDOT) ROWs:

- 1.7.6.1. Identify route segments that cross or share WisDOT ROW easements and/or properties.
- 1.7.6.2. Supply documentation, if possible that the proposed ROW crossing or sharing is acceptable to the agency.

1.8 Construction Schedule

- 1.8.1. Provide the anticipated general construction schedule, identifying any potential seasonal or regulatory construction constraints.
- 1.8.2. Generally discuss any generation or transmission outage constraints that may have to be accommodated.

1.9 Project Maps

Provide route maps that use the best and most recent data available. Maps must clearly portray the project in a format and scale that is unambiguous and easy to understand. Labels and symbology used on the maps must be clearly visible. Boundary information which is unknown or assumed at the time of submittal should be symbolized differently and discussed in the application. The scale of the maps, the applicable project data, the number of map sets necessary to show all relevant data, and whether they will be submitted electronically or on paper will be discussed during pre-application consultations.

- Aerial photographs not more than three years old
- Project Data
 - Alternative routes/segments, not presented in application
 - Proposed routes and segments (subsegments also, if used for magnetic field analyses)⁴
 - Segment nodes
 - Proposed associated facilities
 - Proposed access roads
 - Proposed laydown areas
- Environmental Data
 - Rivers, lakes, and other waterways
 - Wetlands
 - Archeological sites
 - Soils
 - NHI rare species occurrences (confidential)
 - Topographic maps
 - Floodplains
- Parcel Data
 - Private properties (GIS data cross-referenceable with mailing lists)
 - Public properties (symbolized differently than private properties)
 - Tribal or other types of properties
 - Political subdivision boundaries
 - Township, range, section
- Land Use
 - Land cover (correlatable to PSC Table 4)
 - Zoning

⁴ If possible, GIS segment routes should use the pole alignments as opposed to centerline of the ROW. Identify which was used in the GIS spreadsheet (Section 1.10.2).

- Active mines and quarries
- Sensitive sites (e.g. daycare centers, schools, hospitals, cemeteries, etc.)
- Confined animal dairy operations within one-half mile of the proposed centerline
- Agricultural buildings within 300 feet of the proposed centerline
- Airports, airstrips (public and private)
- Communication towers
- Recreation areas, trails
- Utility/Infrastructure Data
 - Existing transmission, pipelines, and other applicable infrastructure
 - Existing distribution lines that would be modified or relocated due to the proposed project or are adjacent to proposed routes
 - Roads, highways, interstates
 - Applicable infrastructure ROWs (e.g., DOT, pipeline, electric distribution, electric transmission, railroad, trail)
- DNR-required information (see Section 8.4) such as locations of possible Chapter 30 activities (e.g., grading, riprap), temporary clear span bridges, pole locations and ROW, Wisconsin Wetland Inventory, wetland/waterway field data (correlatable to DNR tables), hydric soils, etc.

1.10 ESRI ArcGIS Data Files (see *Introduction*, page iv)

- 1.10.1. Use the most recent version of ESRI ArcGIS to support all maps and information submitted as part of the application.
- 1.10.2. Provide a spreadsheet that lists each GIS file (clearly named and organized), a description of the data, data source, and the date when the data was generated or collected for field data.

1.11 Mailing Lists

- 1.11.1. Provide a Microsoft Excel mailing list in an acceptable format and cross-correlatable to GIS parcel data as described in the *Introduction*, pages iii-iv.
- 1.11.2. Identify the source of the information contained in the mailing lists and discuss the potential for inaccuracies in the data set (new development, poor data, etc.).
- 1.11.3. Provide a list of libraries that the application will be mailed to.
- 1.11.4. Mailing lists must include:
 - 1.11.4.1. All property owners within 300 feet of a proposed transmission centerline and associated facilities. List should include properties on both sides of a roadway regardless of distance.⁵
 - 1.11.4.2. All public property owners such as schools or other government entities within 300 feet of a proposed transmission centerline and associated facilities. List should include properties on both sides of a street or road.
 - 1.11.4.3. The chief executive officers of the counties, towns, villages, or cities in which the routes or other proposed facilities would occupy.
 - 1.11.4.4. The appropriate Regional Planning Commission(s).
 - 1.11.4.5. Applicable state and federal agencies.

⁵ The term “roadway” includes streets, highways, interstates, etc.

2.0 Project Need and Engineering

2.1 Project Need

Describe the purpose or need for the project with supporting data.

2.2 Area Load Information

Submit historical peak load by substation, if available, for the study area for at least the past ten years. In the cases where coincident peak load data is not available by substation, provide annual peak load data by substation. Indicate for each substation whether the load data is coincident peak or annual peak. Explain each component of the forecasted load with quantitative detail. Any changes in the projected growth rates over the forecast period should be fully explained. Area load information requirements will be discussed at the pre-application consultations. Based on the need and scope of the proposed project, different historical data may be required.

2.3 Modeling Information

- 2.3.1. For Reliability and Generation Interconnection Projects submit network modeling information from PSSE or PowerWorld for steady-state power flow solutions. If submitting data from PSSE, submit the *.raw file. If submitting data from PowerWorld, submit the *.pwb file.
- 2.3.2. For Market Efficiency Projects submit POWERBASE and PROMOD modeling information.

2.4 Discuss no-build options and their potential electrical supply and environmental impacts.

2.5 Provide an analysis of the ability of energy conservation and efficiency and load response to reduce, alter, or eliminate the need for this project. Analysis should include:

- 2.5.1. A description of the energy conservation and efficiency and load response programs and services available to customers in the project area.
- 2.5.2. An indication of the amount of additional energy efficiency and demand response, not already included in the forecast, needed to reduce, alter, or eliminate the need for this project.
- 2.5.3. A discussion of the feasibility of achieving the level of energy efficiency and demand response identified in Section 2.5.2.

2.6 Discuss the potential for non-transmission solutions to the identified problem, as prioritized in Wis. Stat. §§ 1.12(4) and 196.025(1)(ar).

- 2.6.1. Noncombustible renewable energy resources
- 2.6.2. Combustible renewable energy resources
- 2.6.3. Nonrenewable combustible energy resources in the following order:
 - 2.6.3.1. Natural gas
 - 2.6.3.2. Oil or coal with a sulphur content of less than 1%
 - 2.6.3.3. All other carbon-based fuels

2.7 For Market Efficiency Projects

Provide the scenario(s) analyses that details adjusted production cost benefits or other market attributes that show the cost and the benefits of the proposed project and/or alternatives. Benefits should include a present value analysis with cumulative tables for the life of the project.

2.8 Transmission Network Alternatives

Provide transmission system alternative studies, including alternative costs, based on current NERC and MISO transmission planning and operating standards.

- 2.8.1. Provide relevant regional studies of transmission network solutions.
- 2.8.2. Provide details of the reliability and performance benefits of each network solution studied, as available.
- 2.8.3. Supply the electrical losses for each alternative, peak MW and annual GWH estimates.
- 2.8.4. For generator interconnections, supply the detailed short circuit, stability and thermal analysis studies that have been performed. There must be some initial studies performed in order for the application to be complete.
- 2.8.5. For new distribution substations, supply the information from the Load Serving Entity on the need and alternatives considered. Those issues include existing conditions, voltage profiles, line capacities, outages, load growth, alternate substation feed pickup capability, etc.
- 2.8.6. On an individual application basis, as requested by the assigned engineer, provide the computer network simulation(s) data input files, output files, and/or output summaries.

2.9 Local Transmission Level Alternatives

- 2.9.1. Describe local transmission level alternatives that have been studied and rejected for the proposed project. Local transmission level alternatives can include but are not limited to:
 - An upgrade of existing transmission circuits with larger capacity conductors
 - Installation of capacitor banks
 - Installation of new substation equipment
 - New operating guides
 - Smaller and less expensive line/s in other locations.
- 2.9.2. Explain why the alternatives were not selected.
- 2.9.3. Identify and describe any substation facilities that would be added or altered for this project. Include electric schematics where appropriate. Substation Filing Requirements may also apply.

2.10 Regional Transmission Organization Information

- 2.10.1. For regional projects, supply the cost benefit analysis and the likely cost allocation per the Midwest ISO's filings.
- 2.10.2. Description of applicable transmission tariffs.
- 2.10.3. Provide transmission service agreements, if applicable.

3.0 Magnetic Fields

Project specific magnetic field data will be discussed during pre-application consultations. The following information should be provided in Table 1 or elsewhere in the application. For rebuilding or reconductoring existing transmission lines or where the proposed line would be double-circuited with an existing line or built next to an existing line (including distribution lines), provide the magnetic field data of the current line and the magnetic field data with the proposed project in place (Section 3.1.2). If asymmetric magnetic profiles are anticipated, the full magnetic field profile may be required for both sides of the centerline as determined during the pre-application consultation process.

- 3.1** Submit the estimate magnetic field data in PSC Table 1 from the following magnetic field profiles:
 - 3.1.1. Each unique structure type or circuit configuration (new and existing) with the exception of dead-end structures adjacent to substations.
 - 3.1.2. Each existing line that would be affected by the proposed transmission line and a post-construction scenario that incorporates the new and the existing lines.
 - 3.1.3. Each set of circuit configurations for routes that would have multiple adjacent underground circuits.

- 3.2** Includes the following information in PSC Table 1 for each estimated magnetic field scenario.
 - 3.2.1. Estimate the proposed lines at 80 percent and at 100 percent of peak load for one year post-construction and 10 years post-construction. For existing lines, use present day loadings to estimate the magnetic fields levels.
 - 3.2.2. Provide expected current levels for 80 and 100 percent of peak load at one and ten years post-construction.

- 3.3** Provide all assumptions used to model magnetic field levels including:
 - 3.3.1. Phase ID and angles.
 - 3.3.2. Pole design diagram that includes the dimensions of pole arms, dimensions of conductor locations, horizontal distance from the pole to the conductors, and the distance of conductors from the ground at the pole.
 - 3.3.3. Height of lowest conductor(s) at mid-span.
 - 3.3.4. Depth from ground surface to circuits, for underground construction.

4.0 Project Costs

Cost tables should be based on the projected in-service year. Tables must be submitted in a Microsoft Excel format, in addition to Adobe Acrobat (*.pdf) format.

4.1 Transmission Route Cost Estimate Tables

Provide table(s) detailing the projected total costs for each proposed route broken into the major categories listed below. Each major category of costs should be broken down into logical components and/or contracts. If portions of the route are to be constructed underground, those costs should be separated from overhead construction costs. Substation costs should also be separated out (see Substation Application Filing Requirements).

- Material Costs
- Labor Costs
- Other Costs
- Pre-certification Costs
- High-Voltage Transmission Impact Fees
- Operation and Maintenance Costs

4.2 For 345 kV projects: Provide a summary table of total costs (transmission and substation) for each proposed route, broken down by the following voltage classes.

- 345 kV
- Less than 345 kV
- Distribution

5.0 Route Information

5.1 Describe the factors considered in the applicant's evaluation of potential routes and locations for the transmission line and its associated facilities.

- 5.1.1. Identify route(s) that were considered and explain why those corridors were or were not chosen.
- 5.1.2. Describe the use of any weighting criteria used to evaluate potential routes.
- 5.1.3. Describe how the transmission line siting priorities in Wis. Stat. § 1.12(6) were considered.

5.2 Changes to Existing Easements

If the proposed project contains segments that share part or all of an existing transmission easement submit the following for each of those segment(s):

- 5.2.1. Describe changes to the location or width of existing electric easements.
- 5.2.2. Provide the results of the analysis of existing transmission easements that would be shared by application routes and the potential problems that may be encountered.
- 5.2.3. State if the existing easements are to be renegotiated and/or rewritten. If so, indicate the reason (for example language modernization, change in easement size, change in transmission, etc.).

5.3 Route Segments

For each route segment describe and/or show the following. Figures and/or illustrations may be necessary to adequately convey complicated projects.

- 5.3.1. Type and dimensions of structure and foundation (such as underground/overhead, single-pole/H-frame, direct embed/concrete caisson, type of material, typical span length, etc.).
- 5.3.2. Transmission configuration (single-circuit, double-circuit, etc.).
- 5.3.3. Conductor information (for example size, voltage, etc.).
- 5.3.4. Existing transmission affected by proposed project.
- 5.3.5. Existing distribution affected by the proposed project.
- 5.3.6. Shared ROW configuration.

5.4 PSC Impact Tables

Complete the Route Summary and Segment Impact Tables (PSC Tables 2-7) in the Microsoft Excel spreadsheets provided. For each table, indicate the type and date of source material and the methods used to determine the table inputs.

5.5 Construction Impacts

- 5.5.1. Discuss the proposed construction sequence for both overhead and underground lines in the project.
- 5.5.2. Describe the construction impacts associated with each phase of construction, including:
 - 5.5.2.1. The size of excavations for foundations or other underground structures.
 - 5.5.2.2. The type of construction machinery that would be used.
 - 5.5.2.3. The construction disturbance zone, if different from the ROW.
 - 5.5.2.4. How spoil materials would be managed on and off-site.
- 5.5.3. For unique construction methods (e.g., directional boring, jack and bore, helicopter, vibratory caissons, etc.), provide the following:
 - 5.5.3.1. The location and reason for the construction method.
 - 5.5.3.2. A description of the construction method.
 - 5.5.3.3. The temporary construction needs and limitations such as boring pits, staging areas, frac-outs, timing, weather, etc.

5.6 Identify and describe the location, footprint, and existing land use of staging areas and any additional temporary workspace.**5.7 Off-ROW Access Roads**

- 5.7.1. Identify those areas along the proposed routes where off-ROW access roads may be required.
- 5.7.2. For each route, provide the total length of off-ROW access roads.
- 5.7.3. Discuss the reasons for the necessity for off-ROW access roads such as topography, rivers/wetlands, etc. If protection of a natural resource is a reason, discuss how the resource would be protected during construction and operation of the proposed project.
- 5.7.4. Provide quantitative land cover information for off-ROW access roads similar to the information provided in PSC Impact Tables.
- 5.7.5. If the off-ROW access roads would be modified post-construction, provide details.

6.0 Natural Resource Impacts

6.1 Forested Lands

Forested lands are defined as any wooded landscapes (greater than 20% canopy cover) excluding narrow windbreaks located between agricultural areas, but including woodlands adjacent to waterways.

- 6.1.1. For each route segment describe the woodlands that would be impacted by the proposed project. Include the following information in the description.
 - Type of woods.
 - Dominant species.
 - Average age, size of trees.
 - Ownership (private, county, etc.).
 - Use (recreation, timber, riparian habitat, etc.).
- 6.1.2. Managed Forest Law (MFL) and Forest Crop Law (FCL)
 - 6.1.2.1. Identify properties within proposed ROWs that are enrolled in the MFL or FCL programs.
 - 6.1.2.2. Discuss how the proposed project would affect the properties enrolled in the MFL or FCL programs.
- 6.1.3. Provide specific details for mitigating or minimizing construction impacts in and around woodlands.

6.2 Wetlands (see Section 8.0)

- 6.2.1. For each route segment, provide the total number of proposed wetland crossings.
- 6.2.2. For each route segment, provide the number of structures that would be constructed within wetlands.
- 6.2.3. Provide the methods to be used for avoiding, minimizing or, if necessary, mitigating construction impacts in and near wetlands.
- 6.2.4. For “significant” or “high-quality” wetlands in the project area, identify:
 - 6.2.4.1. The location where the proposed project would cross or potentially impact these wetlands.
 - 6.2.4.2. The wetland type (forested, shrub, emergent, or open water).
 - 6.2.4.3. The specific methods that would be used to mitigate the potential impacts.

6.3 Waterbodies/Waterways (see Section 8.0)

- 6.3.1. For each route segment, provide the total number of proposed waterbody or waterway crossings.
- 6.3.2. For each route segment, provide the number of structures that would be constructed below the ordinary high-water mark (OHWM) of a waterbody or waterway.
- 6.3.3. For each proposed waterbody and waterway crossing, identify the need and method for constructing the crossing.
- 6.3.4. Provide the methods to be used for avoiding, minimizing, and finally mitigating construction impacts in and near waterbodies and waterways.

- 6.3.5. Identify the waterways in the project area that are classified as follows and the site-specific methods that would be used to mitigate potential impacts to these waterways:
 - 6.3.5.1. Outstanding or Exceptional Resource Waters
 - 6.3.5.2. Trout Streams
 - 6.3.5.3. Wild or Scenic Rivers.

6.4 Rare Species and Natural Communities (see Section 9.0)

- 6.4.1. Document communication with DNR and USFWS, as applicable.
- 6.4.2. Document compliance with DNR and USFWS direction, as applicable.
- 6.4.3. For each route, discuss concerns and potential impacts to rare species as identified in the Endangered Resources Review and field studies.
 - 6.4.3.1. For any DNR-identified follow-up actions that must be taken to comply with endangered species law, discuss how each action or rare species identified would affect the proposed project and the specific segment.
 - 6.4.3.2. For any DNR-identified recommended actions to help conserve Wisconsin's rare species and high-quality natural communities, discuss which actions would be incorporated into the proposed project.

6.5 Invasive Species (Uplands and Wetlands)

- 6.5.1. Describe areas where invasive species or disease-causing organisms have been observed or are a concern for the construction of the project (e.g., invasive plants, oak wilt, emerald ash borer, etc.).
- 6.5.2. Describe mitigation methods that would be used to avoid the spread of invasive plants or disease-causing organisms and comply with Wis. Admin. Code ch. NR 40, such as cleaning of machinery, surveys, etc.

6.6 Archeological and Historic Resources

- 6.6.1. List each county, town, range, section and ¼, ¼ section in which any construction would occur, or identify where this information can be determined from application materials.
- 6.6.2. Provide a copy of the results of a Wisconsin Historic Preservation Database (WHPD) cultural resources search for the entire project construction area, whether it is completed in-house or by a consulting archaeologist. In the search results, list each archeological, historical, or sacred resource from the WHPD that would be found in areas of project-related construction, by State Site number, Burial Site number (if any), and Name. Submit this information to the PSC Historic Preservation Officer under separate cover and do not enter it into the ERF. Reference the review in the application.
- 6.6.3. For each archeological or historical resource identified, describe without showing the specific location of the resource how the proposed project might affect the resource and how the project could be modified to reduce or eliminate any potential effect on the resource.

6.7 Conservation Easements

- 6.7.1. By route segment, for each route identify properties with conservation easement agreements.
- 6.7.2. For each conservation easement that would be crossed by a route, identify and discuss:
 - 6.7.2.1. The holder and type of easement.
 - 6.7.2.2. The conditions of the easement.
 - 6.7.2.3. The approvals necessary to construct on the property.
 - 6.7.2.4. The potential impacts to the landowner, including costs, penalties etc.
 - 6.7.2.5. Whether the proposed project is consistent with the stated goals of the easement.

6.8 Restoration of Disturbed Areas

Provide a detailed re-vegetation and site restoration plan which discusses the following items:

- 6.8.1. Type of re-vegetation proposed for impacted areas.
- 6.8.2. Vegetative monitoring criteria (number of post-construction years or percent cover achieved) and methods.
- 6.8.3. Invasive species monitoring and management (see Section 6.5).

7.0 Community Impacts

7.1 Communication with Potentially Affected Public

- 7.1.1. List all attempts made to communicate with and provide information to the public.
- 7.1.2. Provide a description of public information meetings and who was invited.
- 7.1.3. Submit copies of public outreach mailings and handouts
- 7.1.4. Provide electronic copies of written public comments (e.g., letters, emails, forms, etc.) submitted prior to filing the application with the PSC.

7.2 Community Issues

Discuss any concerns that groups or potentially impacted communities have raised.

7.3 Land Use Plans

Provide relevant portions of land-use plans that describe future land uses potentially impacted by the project. (Land use plans include recreational plans, agricultural plans, etc.)

7.4 Agriculture

For each route, by route segment, provide the following:

- 7.4.1. Type of farming: pasture, row crops, or other type (e.g., orchards, tree plantations, cranberry bogs, etc.).
- 7.4.2. Any agricultural practices that may be affected by the project (construction or operation), such as irrigation systems, aerial seeding or spraying, windbreaks, organic farms, and drainage tiles.
- 7.4.3. Identify the number and size of parcels enrolled in farmland preservation programs that may be affected by the proposed project.
- 7.4.4. Specific details for mitigating or minimizing construction impacts in and around agricultural lands.
- 7.4.5. **Agricultural Impact Statement⁶**
 - 7.4.5.1. State whether the route would affect more than five acres of any one farm operation alone or in addition to other routes, and if the applicant has the power to condemn property (eminent domain).
 - 7.4.5.2. Provide official correspondence with the Department of Agriculture, Trade and Consumer Protection regarding the need for an Agricultural Impact Statement and document its progress to-date.

⁶ http://datep.wi.gov/Environment/Agricultural_Impact_Statements/index.aspx

7.4.6. Neutral-to-Earth Voltage (NEV) and Induced Voltage

Provide for each route and/or route segment:

- 7.4.6.1. The number of confined animal dairy operations within one-half mile of the proposed centerline.
- 7.4.6.2. The number of agricultural buildings located within 300 feet of the proposed centerline.
- 7.4.6.3. Discuss NEV and induced voltage issues as they relate to the project and routes.

7.5 Residential and Urban Areas

- 7.5.1. Discuss anticipated impacts to residential/urban neighborhoods and communities such as ROW clearance and temporary construction impacts, including noise, dust, duration of construction, time-of-day of construction, road congestion, impacts to driveways, etc.
- 7.5.2. Discuss how anticipated impacts would be mitigated.

7.6 Aesthetic Impacts

- 7.6.1. Submit photo simulations of the project for public-valued views based on collaboration with the agencies.
- 7.6.2. Identify scenic roads within the project area and discuss the potential impact of the project.

7.7 Parks and Recreation Areas

- 7.7.1. Identify any parks and recreation areas or trails that may be impacted by the proposed project and the owner/manager of each recreation resource
- 7.7.2. Discuss how short- and long-term impacts to these resources might be mitigated.

7.8 Airports

- 7.8.1. Identify the location of all private and public airports/airstrips in the project area.
- 7.8.2. Describe the airports/airstrips, their runways (length, orientation), and type of use.
- 7.8.3. Describe any potential for impact to aircraft safety and intrusion into navigable airspace (runway approaches).
- 7.8.4. Identify potential construction limitations and permit issues.
- 7.8.5. Provide documentation of consultation with the WisDOT Bureau of Aeronautics and the FAA.

7.9 Communication Towers

- 7.9.1. Identify the types of communication towers that are located adjacent to the proposed route segments.
- 7.9.2. Discuss any potential interference to the function of communication towers within the project area by the proposed project.

7.10 Community Income from High-Voltage Transmission Impact Fees

- 7.10.1. Provide an estimate of all fee payments that must be made to the Department of Administration as required under Wis. Stat. §196.491(3g).
- 7.10.2. Identify which components of the total project cost were used as the base cost and how the fees were calculated.
- 7.10.3. Provide estimates of one-time and annual payments that would be made to each affected city, village, town, or county.

8.0 DNR Permits and Approvals for Impacts to Waterways and Wetlands

Submit the appropriate waterway and wetland permit application materials for all proposed project construction that may impact a waterway or wetland. DNR permit materials can be found at <http://dnr.wi.gov/topic/sectors/energy.html>. Permits may also be required by the U.S. Army Corps of Engineers. Application materials will also include the following items.

8.1 DNR Tables for Wetland and Waterways

For each route, complete a DNR Waterway/Wetland Impact Location Table and a Waterway/Wetland Environmental Inventory Table (DNR Tables 1 and 2) in the directional order that the wetlands and waterways would be encountered.

8.2 Wetland Practicable Alternatives Analysis (Wis. Admin. Code Ch. NR 103)

- 8.2.1. Describe how wetlands were factored into the corridor and route selection process.
- 8.2.2. Describe how the location of proposed routes and design of the line avoids and minimizes wetland impacts including consideration for placing structures outside wetlands. Explain how proposed access routes will avoid or minimize wetland impacts.
- 8.2.3. For proposed construction that will impact wetlands, detail why project alternatives are not practicable after taking into consideration cost, available technology, and logistics in light of overall project purpose.
- 8.2.4. If wetland impacts cannot be avoided, describe all temporary and permanent impacts, as well as the construction and restoration methods that would be used to minimize wetland impacts.

8.3 Wetland Delineations

Identify all wetlands on a map in accordance with the U.S. Army Corps of Engineers' January 1987 Technical Report Y-87-1 entitled, "Corps of Engineers Wetland Delineation Manual" and relevant guidance documents. Wetland delineation reports should not be submitted as part of the printed application but in electronic format only.

In lieu of field-delineating wetlands, it is acceptable to identify wetland boundaries by utilizing a more conservative approach including the use of remote sensing tools. These wetland determinations can then be refined with simple field surveys to determine the general upland/wetland boundaries.

Remote sensing of wetland boundaries should include wet and potentially wet areas identified from existing mapping resources, including: Wisconsin Wetland Inventory, NRCS Soil Survey, USGS Topographic Maps, and available USDA FSA Slides.

These wetland boundary determinations can be refined with field verification by taking into account topography and vegetation. If vegetation is lacking, hydrology indicators⁷ such as inundation, saturation in upper 12 inches, watermarks, drift lines, sediment deposits, drainage patterns, and water-stained leaves should be used to define the general edge of the wetland.

⁷ A more complete list of hydrology indicators can be found in the Corps of Engineers Wetland Delineation Manual, Report Y-87-1, 1987, Appendix B, Routine Wetland Determination form.

8.4 Mapping Wetland and Waterway Crossings

For segments in or adjacent to wetlands or waterways provide maps with the following information:

- 8.4.1. Recent aerial photo.
- 8.4.2. Transmission line.
- 8.4.3. ROW.
- 8.4.4. Pole locations
Label each pole by number if appropriate. For rebuild projects, the maps should include the location of existing poles and proposed poles if they are to significantly change location.
- 8.4.5. Waterways.
- 8.4.6. Wisconsin Wetland Inventory.
- 8.4.7. Delineated wetlands.
- 8.4.8. Hydric soils.
- 8.4.9. Proposed temporary bridge locations (labeled to correlate with DNR Table 1).
- 8.4.10. Locations for other Chapter 30 activities such as grading or riprap (labeled to correlate with DNR Table 1).

9.0 Endangered, Threatened, Special Concern Species and Natural Communities

Pre-application meetings with DNR staff are required to determine the information necessary to be included in the application. DNR staff will indicate the type, scope, and timing of required field work relative to the application process. In the *Introduction, pages ii* of this document, additional details about performing habitat assessments and how to file results of DNR-required field surveys is provided. More information can be found on the DNR website:

<http://dnr.wi.gov/topic/endangeredresources/laws.html>.

Endangered Resource (ER) Reviews may be done by either requesting a review from the Utility and Energy Reviewer in the DNR Bureau of Endangered Resources (BER) or by submitting a proposed ER review completed by a certified individual to the Utility and Energy Reviewer for concurrence. Please note that NHI-related information (i.e., the names and locations of endangered, threatened, special concern species, natural communities, and habitat features) are considered confidential. Submit information in both a redacted (non-confidential) and confidential version.

- 9.1** Submit a DNR-ER review for all route segments.
- 9.2** Submit maps and/or data files showing NHI occurrences.
- 9.3** Submit results from habitat or natural community assessments and biological surveys for the proposed routes segments that WNDR has requested to be included in the application. Results from additional surveys conducted during the review of the application, prior to the start of construction, and/or post-construction must be submitted as they are completed.

DNR Guidance Information (not PSC CPCN or CA requirements)

This and the following three checklists serve as guidance in the completion of the DNR Erosion Control, Material Management, and Dewatering Plans necessary to meet the requirements of Chapter 30 and NR 216 Permits. These are not requirements for a PSC CPCN or CA.

DNR Guidance for Erosion Control Plans

WNDR may require if appropriate, a description of erosion control measures to be utilized. If the project will involve land disturbance in excess of 1 acre, the applicant's request for permits under Wis. Stat § 30.025 must include a request for a Construction Site Erosion Control and Storm Water Discharge Permit from DNR. This permit may also authorize construction site pit and trench dewatering wastewater discharges to surface waters or seepage systems.

Also if the project will involve land disturbance in excess of 1 acre, the applicant will be required to submit a Construction Site Notice of Intent (NOI) form and to develop an Erosion Control and Storm Water Management Plan describing the best management practices that will be used on-site for erosion control. The DNR-approved erosion and sediment control technical standard and NOI form are available on the DNR Storm Water Program web-site at: <http://dnr.wi.gov/topic/stormwater/>.

Applicants may opt to refer to that company's state agency-approved Standard Erosion Control Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required.

- **Erosion Control Methods and Materials**

The types of erosion control methods that will be used during project construction to protect disturbed areas. Include where applicable:

 - ✓ Soil and slope stabilization.
 - ✓ Seeding and mulching.
 - ✓ Matting, tracking pads, silt fences, stockpile protection.
 - ✓ Dewatering-related erosion control.
 - ✓ Channel protection.
 - ✓ Any other appropriate erosion control measures.
 - ✓ Details and typical section drawings of all the erosion control methods utilized.

- **Erosion Control Measure Site Plan**

Include a site plan view and typical drawings illustrating:

 - ✓ Construction site boundary.
 - ✓ The location of all erosion control measures.
 - ✓ Location of stockpiled soil.
 - ✓ Vehicle and equipment access sites.
 - ✓ Areas of disturbance.
 - ✓ The drainage area configuration.
 - ✓ Surface water diversion measures.
 - ✓ Topography.
 - ✓ Existing floodplains and wetlands.
 - ✓ Location of trees and unique vegetation.

- **Sequence of Erosion Control Measures**

List and give a detailed description of the sequence of erosion control measures that will occur (i.e., placed, relocated, and replaced) during all phases of construction including:

- ✓ Clearing and grubbing.
- ✓ Material installation.
- ✓ Channel construction.
- ✓ Revegetation processes.
- ✓ Seeding and mulching/matting.

- **Off-site Diversion Methods**

- ✓ Identify off-site contributions of water affecting project construction sites.
- ✓ Methods of controlling off-site water contributions.
- ✓ Site plan indicating where the off-site water is originating from and locations of diversion measures on-site.

- **Provisions for Inspection and Maintenance**

Document the provisions for:

- ✓ The regular inspection of all erosion control efforts including the identity of who will perform the inspections, when the inspections would occur, and any special circumstances initiating an inspection.
- ✓ The regular maintenance of all erosion control efforts including the identity of who will be responsible for the maintenance and a list of potential corrective actions if the site is not maintained according the provisions.

DNR Guidance for Materials Management Plans

Describe materials management methodology. Applicants may opt to refer to the company's standard Materials Management Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required. The following checklist serves as guidance in the completion of a Materials Management Plan. The Materials Management Plan should contain information on all of the following components, where applicable.

- **Access Point Locations**
 - ✓ List the locations that will be used to gain access to the work site.
 - ✓ Include a plan view of all access points.
- **Haul Routes**
 - ✓ Indicate how and where hauled materials will be routed, including inbound and outbound materials, clean fill materials, contaminated materials, and any other materials.
 - ✓ Alternate locations, if necessary.
 - ✓ Include a haul route diagram indicating haul route locations.
- **Stockpile Areas**
 - ✓ List and describe material to be stockpiled, the location where material will be stockpiled on-site, and the measures to be taken to protect stockpiled areas.
 - ✓ Provide a plan view diagram of stockpile area locations.
- **Equipment Staging Areas**
 - ✓ Identify where equipment will be stored on-site.
 - ✓ Include a plan view of equipment storage areas on-site.
 - ✓ Identify where spill control and kits will be stored on-site.
- **Field Screening Protocol for Contaminant Testing**

If contaminated materials (i.e., soil) are encountered on-site, specify:

 - ✓ The procedure for screening materials.
 - ✓ The location where materials be tested.
 - ✓ The protocols that will be followed.
 - ✓ Whether construction work will be impacted.
- **Contaminated Materials**

If contaminated materials are known to exist on-site, list and describe:

 - ✓ The type of contaminant(s) known to exist on-site.
 - ✓ The location of the contaminant(s).
 - ✓ The media in which the contaminant is located within (i.e., soil, water, etc.).
 - ✓ The estimated concentration of the contaminant(s).
 - ✓ The estimated volumes of the contaminant(s).
- **Excavation Methods**

List and describe:

 - ✓ The materials that will be excavated.
 - ✓ The location of the excavated materials.
 - ✓ The way in which the materials will be excavated and removed.
 - ✓ How the excavated materials will be exported from site.
 - ✓ The location where excavated materials will be exported to.

- **Dewatering of Excavated Materials**
If free water is found present in excavated materials, list and describe:
 - ✓ The methods that would be used to correct the situation (i.e., how will water be removed).
 - ✓ Identify where these methods will take place on-site.
- **In-channel and Upland Excavated Materials**
 - ✓ Estimate the total volume of dredged materials (cubic yards) that will be excavated from beds and banks of waterways and wetlands.
 - ✓ Estimate the volume of upland materials (cubic yards) to be excavated from areas outside of waterway(s) and wetland(s).
- **Re-used In-Channel and Upland Excavated Materials**
 - ✓ Estimate the total volume.
 - ✓ Identify the location where dredged materials will be used on either project plans or provide off-site address, property owner, and site map (drawn to scale).
 - ✓ Describe the purpose of dredged materials (i.e., grading, trench backfill, etc.).
- **Reuse of Upland Materials**
 - ✓ Estimate the total volume.
 - ✓ Identify the location where dredged materials will be used on either project plans or provide off-site address, property owner, and site map (drawn to scale).
 - ✓ Describe the purpose of dredged materials (i.e., grading, trench backfill, etc.).
- **Off-site Disposal Plans for Contaminated Materials and Non-contaminated Materials**
 - ✓ Estimate the cubic yards of dredged materials and the cubic yards of upland material that will be disposed.
 - ✓ Detail disposal site information for both dredged materials and upland materials including material to be disposed, type of disposal site (such as disposal facility, landfill, etc.), disposal site name, disposal site location.

DNR Guidance for Dewatering Plans

Provide details for dewatering work areas, including excavation for structure foundations or poles. Applicants may opt to refer to the company's standard Dewatering Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required. The following checklist serves as guidance in the completion of the Dewatering Plan. Consider the following items in the Dewatering Plan.

- **Dewatering/Diversion of Flow**
Provide detailed plans for the dewatering/diversion of flow/standing water removal. Include typical dewatering/diversion measure plans.
 - ✓ Provide specifications for the dewatering/diversion of flow/ standing water removal.
 - ✓ Specify the methods to be employed to dewater/divert flow/treat water, if applicable.
 - ✓ Detail the methods that will be employed
 - ✓ Specify where the methods will be employed.
 - ✓ Detail the proposed methods, capacities, and capabilities.
- **Downstream Impact Minimization**
List and describe methods of minimizing downstream impacts during high flow conditions.
- **Analysis of Possible System Overload Scenarios**
Provide the following information if the stream is overloaded.
 - ✓ Estimate the volume of system overload (i.e., what rainfall overloads the system).
 - ✓ Estimate frequency of system overload (i.e., how often will the system be overloaded)
 - ✓ Specify actions that would be taken if stream is overloaded.
- **Impacts of System Overload on Construction Activities and Water Quality**
If the system overloads, list and describe:
 - ✓ The anticipated number of lost work days.
 - ✓ The possible water quality impacts.
 - ✓ The methods that would be used to deter adverse changes in water quality.
- **Water Discharge Locations**
Provide the following:
 - ✓ Where water will be discharged.
 - ✓ How water will be discharged.
 - ✓ A site map indicating discharge locations.
- **Details of a Back-up System**
If a back-up system becomes necessary, indicate:
 - ✓ The type of back-up system that will be used (include backup and standby equipment/power supply)
 - ✓ The conditions when the system will be needed.
 - ✓ How the back-up system will operate.
 - ✓ Where the back-up system will be located.

- **High Flow Plan**

When flooding is likely to occur, list and describe the following:

- ✓ How the water will be removed from the site.
- ✓ Methods of water removal (e.g. pumping).
- ✓ Methods of minimizing water contamination (e.g. treatment methods).
- ✓ Protocols for evacuating materials from the flood conveyance channel including:
 - A list of materials that would require evacuation during high flow periods.
 - How the materials will be evacuated from the flood conveyance channel.
 - The location where the materials will be temporarily placed on-site.
 - How materials will be transported.
 - The methods for protecting the materials.
 - A site map indicating the location of temporary placement.
- ✓ Protocols for evacuating machinery from the flood conveyance channel including:
 - The type of machinery that would require evacuation during high flow periods.
 - How the machinery will be evacuated from the flood conveyance channel.
 - Where the machinery will be temporarily placed on-site.
 - A site map indicating possible locations of temporary machinery placement.

- **Contaminated Water**

List and describe what measures will be taken if contaminated water is found on site including:

- ✓ Methods of isolating the contaminated water.
- ✓ Methods of analyzing the contaminated water.
- ✓ Where the water will be tested.
- ✓ Methods of removing contaminated water from site.
- ✓ How the water will be treated and disposed.