

# Tree and Shrub Replacement Plan

Big Stone South to Ellendale Project

Case No. PU-13-840

*Otter Tail Power Company and Montana-Dakota Utilities  
Co.*

May 2016

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## Introduction

On July 10, 2014 and supplemented on December 16, 2015, the North Dakota Public Service Commission (Commission) issued its Order granting Certificate of Corridor Compatibility No. 154 and Route Permit No. 166 (together with the Findings of Fact, Conclusion of Law, and Order, hereinafter referred to as the Order) to Otter Tail Power Company and Montana-Dakota Utilities Co. (jointly, the Applicants) for its Big Stone South to Ellendale 345-kV Transmission Line Project for the North Dakota portion (Project) (Case No. PU-13-840). The North Dakota portion of the Project (North Dakota Facility) consists of the proposed Ellendale 345-kV Substation located near the city of Ellendale, North Dakota and an approximately 9-mile-long 345-kV transmission line between the Ellendale 345-kV Substation and the North Dakota-South Dakota border near the intersection of 100<sup>th</sup> Street and 388<sup>th</sup> Avenue in Section 32 Township 129 North, Range 62 West.

Construction preparation required tree and shrub clearing within the 150-foot-wide right-of-way (ROW) in accordance with the Commission's Order. Project construction is anticipated to begin in June 2016 in the South Dakota Portion and mid-to-late 2017 for the North Dakota Portion and will continue into 2019 with final clean-up and restoration of the Project.

The Applicants conducted a tree and shrub inventory in accordance with the Commission's Tree and Shrub Mitigation Specifications that was filed with the Order. The tree and shrub inventory documented the number and variety of trees and shrubs located within the Project ROW prior to clearing.

As part of the issuance of the Order, the Commission requires the replacement of trees and shrubs that are removed. The purpose of this document is to establish a plan of action, in accordance with Commission requirements, for the replacement of trees and shrubs removed as part of the Project.

## Pre-Construction Tree and Shrub Inventory

Prior to clearing, the Applicants conducted a tree and shrub inventory of the ROW in August 2015 and filed it with the Commission on September 29, 2015. This inventory documented 25 trees and 0 shrubs within the ROW.

## Tree and Shrub Replacement Criteria

In accordance with the Order, on January 6, 2016 the Applicants held a pre-tree clearing conference call and subsequently filed a Notice of Intent to tree clear with the Commission. Clearing started on January 7, 2016 and all trees were cleared by January 8, 2016. In addition, there were instances where trees outside of the right-of-way were cleared based on landowner request and/or North American Electric Reliability Corporation (NERC) standards.

The tree clearing contractor inventoried the trees that were removed during the clearing process and the replacement ratio was developed from this inventory (Table 1). The Applicants used the following criteria to identify which trees will be replaced:

- Not replace dead trees
- In windbreaks, shelterbelts and other planted areas, trees or shrubs anticipated to be cleared, regardless of size, were inventoried for replacement
- In native growth areas, trees anticipated to be cleared that are one-inch diameter at breast height (dbh) or greater were inventoried for replacement
- No shrubs were removed therefore no shrub mitigation will occur
- The Applicants will plant more than the required number of replacement trees to provide for a contingency in case some trees do not survive (Table 1)

Replacement will meet the Commission's replacement criteria, as follows:

- Two 2- year-old saplings shall be planted for every one tree removed
- Except in the case of invasive or noxious species, trees and shrubs must be replaced by the same species or similar species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service. Invasive or noxious species must be replaced by similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.

The Applicants will consult with the Natural Resources Conservation Service (NRCS) and James River Soil Conservation District (JRSCD) staff in Ellendale, North Dakota for suitable replacement options of the invasive trees.

## Landowner Consultation

During the land rights discussions, the ROW agents discussed tree removal and replacement with landowners. In accordance with mitigation Specification 13, landowners will be given the option of having replacement trees planted off of the right-of-way on the landowner's property or waiving that requirement in writing and allowing those replacement trees to be placed at alternative locations. Table 2 lists the landowners with trees removed and who requested to have trees replaced or waived this replacement requirement. Executed landowner forms are Attachment 1 to this Plan. The Applicants will work with the NRCS/JRSCD to assist with conducting the planting activities, and conducting the annual monitoring. If the required replacement cannot be met with Project landowners, the Applicants will coordinate with the NRCS/JRSCD for interested landowners in identifying suitable planting locations.

# Replacement Schedule, Documentation, and Monitoring

Tree and shrub removal for the North Dakota portion of the Project was conducted from January 7, 2016 through January 8, 2016. Replacement trees and shrubs are planned for planting in 2016, schedule and weather dependent, following the consideration and approval of this proposal by the Commission. The Applicants plan to have the NRCS/JRSCD conduct the plantings.

In accordance with mitigation Specification 15 and as agreed to with the NRCS/JRSCD, the tree replacement will be monitored once a year for three years. A report of each annual inspection will be submitted to the Commission by October 1 of each year, documenting the condition of plantings and any woodlands work completed as of September of each year. After three years, a final report will be filed with the Commission outlining the survival rates of the replacement trees and shrubs. If after the third annual report the survival rate is less than 75%, the Commission may order additional planting(s).

At the conclusion of the project, documentation identifying the actual number, variety, type, location and date of the replacement plantings must be filed with the Commission.

Table 1: Summary of Trees and Shrubs Removed and Proposed Replacement

|                                |   |   |             | Trees Removed       |     |                        |     |                          |     |                               |     |                    |       |                               |     |
|--------------------------------|---|---|-------------|---------------------|-----|------------------------|-----|--------------------------|-----|-------------------------------|-----|--------------------|-------|-------------------------------|-----|
| Species                        |   |   |             | Siberian Elm        |     | American Elm           |     | Cottonwood               |     | Green Ash                     |     | Black Willow       |       | Russian Olive                 |     |
| Scientific Name                |   |   |             | <i>Ulmus pumila</i> |     | <i>Ulmus americana</i> |     | <i>Populus deltoides</i> |     | <i>Fraxinus pennsylvanica</i> |     | <i>Salix nigra</i> |       | <i>Elaeagnus angustifolia</i> |     |
| Replacement**                  |   |   |             | I                   |     | R                      |     | R                        |     | R                             |     | R                  |       | I                             |     |
| Number and Size (DBH)          |   |   |             | <1"                 | >1" | <1"                    | >1" | <1"                      | >1" | <1"                           | >1" | <1"                | >1"   | <1"                           | >1" |
| Parcel Information***          | N | Y | 129-62-32-B | 1                   |     |                        |     |                          |     |                               | 1*  |                    |       |                               |     |
|                                | P | Y | 129-62-32-C |                     |     |                        | 7*  |                          |     |                               | 8   |                    | 2*, 3 |                               | 1   |
|                                | P | U | 129-62-29-A |                     |     | 1*                     |     |                          |     |                               | 9   |                    |       |                               |     |
|                                | N | U | 129-62-19-B |                     |     |                        |     |                          | 1   |                               |     |                    |       |                               |     |
|                                | N | Y | 129-62-19-A |                     |     |                        |     |                          | 3   |                               |     |                    | 1     |                               |     |
|                                | P | Y | 129-63-24-C |                     |     |                        |     |                          | 3   |                               |     |                    |       |                               |     |
| Removed Subtotals              |   |   |             | 1                   | 0   | 1                      | 7   | 0                        | 7   | 9                             | 9   | 0                  | 6     | 0                             | 1   |
| Required Replacement Subtotals |   |   |             | 0                   | 0   | 0                      | 0   | 0                        | 7   | 9                             | 8   | 0                  | 4     | 0                             | 1   |
| Replacement Subtotals          |   |   |             | 0                   | 0   | 0                      | 0   | 0                        | 14  | 18                            | 16  | 0                  | 8     | 0                             | 2   |
| INVENTORY TOTAL                |   |   |             | 41                  |     |                        |     |                          |     |                               |     |                    |       |                               |     |
| REQUIRED REPLACEMENT TOTAL     |   |   |             | 29                  |     |                        |     |                          |     |                               |     |                    |       |                               |     |
| REPLACEMENT REQUIRED           |   |   |             | 58                  |     |                        |     |                          |     |                               |     |                    |       |                               |     |
| REPLACEMENT CONTINGENCY        |   |   |             | 42                  |     |                        |     |                          |     |                               |     |                    |       |                               |     |
| REPLACEMENT TOTAL              |   |   |             | 100                 |     |                        |     |                          |     |                               |     |                    |       |                               |     |

\* Dead

\*\* R = Replacement required

I = Invasive species. Will be replaced by similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service

\*\*\* P = Planted, N = Native, Y = Landowner wants trees, U = Undecided see Table 2

Table 2: Landowner Tree Replacement

| First Name             | Last Name                                  | Parcel ID   | Wants Trees Replaced | Number of Trees Removed | Number of Trees to be Replaced | Planned Replacement Total                      | Replacement Landowner Authorization |                                           |                                                                |
|------------------------|--------------------------------------------|-------------|----------------------|-------------------------|--------------------------------|------------------------------------------------|-------------------------------------|-------------------------------------------|----------------------------------------------------------------|
|                        |                                            |             |                      |                         |                                |                                                | On Landowner Property               | Off-site Location, Applicant's Discretion | Off-site Location, Landowner Specified                         |
| Leland J & Lucille M   | Gayman                                     | 129-62-32-B | No                   | 2                       | 0                              | 0                                              | No                                  | Yes                                       | No                                                             |
| Leland J & Lucille M   | Gayman                                     | 129-62-32-C | No                   | 21                      | 12                             | 24                                             | No                                  | Yes                                       | No                                                             |
| Marina                 | Onken                                      | 129-62-29-A | No                   | 10                      | 9                              | 18                                             | No                                  | Yes                                       | No                                                             |
| Marina                 | Onken                                      | 129-62-19-B | No                   | 1                       | 1                              | 2                                              | No                                  | Yes                                       | No                                                             |
| Lorraine (Life Estate) | Jenkins                                    | 129-62-19-A | Yes                  | 4                       | 4                              | 8                                              | No                                  | No                                        | Yes – all 100 trees will be planted on the Jenkins' properties |
| Jon (co-trustee)       | Lynde (Llewellyn Lynde Testamentary Trust) | 129-63-24-C | Yes                  | 3                       | 3                              | 6                                              | No                                  | Yes                                       | No                                                             |
| Totals                 |                                            | -           | -                    | 41                      | 29                             | 100 (including a 42 tree contingency planting) | -                                   | -                                         | 100 trees will be planted on the Jenkins' properties           |

## References

- Montana-Dakota Utilities Co. and Otter Tail Power Company Tree and Shrub Inventory Plan. Big Stone South to Ellendale Project. Case No. PU-13-840. August 18, 2015. Filed with the Commission on September 29, 2015.
- North Dakota Public Service Commission. Findings of Fact, Conclusion of Law and Order. July 10, 2014 Case No PU-13-840.
- North Dakota Tree Handbook. North Dakota Tree Information Center. North Dakota State University. ND Forest Service. <http://www.ag.ndsu.edu/trees/handbook/ndhand-1.htm> Accessed January 2016.
- United States Department of Agriculture. Natural Resources Conservation Service. Plants Database. <http://plants.usda.gov/java/> Accessed January 2016.

Attachment 1: Executed Landowner Tree Replacement Forms

**Form 11a Tree and Shrub Replacement Options**

In the box below, please check either Option A or Option B. Sign, date, and mail this page in the self-addressed stamped envelope by March 15, 2016

Name Leland & Lucille Gayman

Address 9103 102<sup>nd</sup> St. SE

City, State Zip Ellendale, ND 58436

For the planting of 24 replacement trees that are being used to meet PSC mitigation requirements for up to 12 trees removed by the Applicants as part of the Big Stone South to Ellendale 345 kV Transmission Line Project.

A.) I would like all replacement trees and shrubs to be planted on my property at a location outside of the utility right-of way.

I will work directly with the Applicants and the NRCS and JRSCD staff to identify suitable replacement tree and shrub species to be planted at a suitable location on my property by the NRCS. Trees and shrubs will be planted by the NRCS in 2016. These trees and shrubs will be installed at no cost to me.

I will contact the Ellendale NRCS and the JRSCD Field Office by \_\_\_\_\_ to arrange for the planting of the replacement trees and shrubs. If I do not contact the NRCS and the JRSCD by March 15, I understand that the Applicants may choose to plant all replacement trees and shrubs at a location outside of my property that will be selected at the Applicant's discretion.

**The Ellendale NRCS and James River Soil Conservation District Office may be reached at:**

51 N. 1st Street, Box 190  
Ellendale, ND 58436-0190  
Telephone: 701-349-3534  
Fax: 855-561-7866

B.) I authorize the Applicants to plant all replacement trees and shrubs on my behalf at a location outside of my property and I waive my option to have replacement trees and shrubs planted on my property. I understand that replacement trees and shrubs will be planted at a location outside of my property that will be selected at the Applicant's discretion.

**Sign and date here:**

Leland Gayman + Lucille Gayman \_\_\_\_\_  
Signature: Date: 03/07/16

**Form 11a Tree and Shrub Replacement Options**

In the box below, please **check either Option A or Option B**. Sign, date, and mail this page in the self-addressed stamped envelope by March 15, 2016

Name Marina Onken  
 Address 324 Wedgewood Circle  
 City, State Zip Hudson, WI 54016

For the planting of \_\_\_\_\_ replacement trees that are being used to meet PSC mitigation requirements for up to \_\_\_\_\_ trees removed by the Applicants as part of the Big Stone South to Ellendale 345 kV Transmission Line Project.

**A.) I would like all replacement trees and shrubs to be planted on my property at a location outside of the utility right-of way.**

**I will work directly with the Applicants and the NRCS and JRSCD staff to identify suitable replacement tree and shrub species to be planted at a suitable location on my property by the NRCS. Trees and shrubs will be planted by the NRCS in 2016.** These trees and shrubs will be installed at no cost to me.

I will contact the Ellendale NRCS and the JRSCD Field Office by \_\_\_\_\_ to arrange for the planting of the replacement trees and shrubs. If I do not contact the NRCS and the JRSCD by March 15, I understand that the Applicants may choose to plant all replacement trees and shrubs at a location outside of my property that will be selected at the Applicant's discretion.

**The Ellendale NRCS and James River Soil Conservation District Office may be reached at:**

51 N. 1st Street, Box 190  
 Ellendale, ND 58436-0190  
 Telephone: 701-349-3534  
 Fax: 855-561-7866

**B.) I authorize the Applicants to plant all replacement trees and shrubs on my behalf at a location outside of my property and I waive my option to have replacement trees and shrubs planted on my property. I understand that replacement trees and shrubs will be planted at a location outside of my property that will be selected at the Applicant's discretion.**

**Sign and date here:**

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

*Marina Onken*

*May 8 2016*

**Form 11a Tree and Shrub Replacement Options**

In the box below, please **check either Option A or Option B**. Sign, date, and mail this page in the self-addressed stamped envelope by March 15, 2016

Name Lorraine Jenkins (Life Estate)

Address David Jenkins  
9857 91st Ave SE

City, State Zip Ellendale, ND 58436

For the planting of \_\_\_\_\_ replacement trees that are being used to meet PSC mitigation requirements for up to \_\_\_\_\_ trees removed by the Applicants as part of the Big Stone South to Ellendale 345 kV Transmission Line Project.

**A.) I would like all replacement trees and shrubs to be planted on my property at a location outside of the utility right-of way.**

**I will work directly with the Applicants and the NRCS and JRSCD staff** to identify suitable replacement tree and shrub species to be planted at a suitable location on my property by the NRCS. **Trees and shrubs will be planted by the NRCS in 2016.** These trees and shrubs will be installed at no cost to me.

I will contact the Ellendale NRCS and the JRSCD Field Office by \_\_\_\_\_ to arrange for the planting of the replacement trees and shrubs. If I do not contact the NRCS and the JRSCD by March 15, I understand that the Applicants may choose to plant all replacement trees and shrubs at a location outside of my property that will be selected at the Applicant's discretion.

**The Ellendale NRCS and James River Soil Conservation District Office may be reached at:**

51 N. 1st Street, Box 190  
Ellendale, ND 58436-0190  
Telephone: 701-349-3534  
Fax: 855-561-7866

**B.) I authorize the Applicants to plant all replacement trees and shrubs on my behalf at a location outside of my property** and I waive my option to have replacement trees and shrubs planted on my property. I understand that replacement trees and shrubs will be planted at a location outside of my property that will be selected at the Applicant's discretion.

**Sign and date here:**

David Jenkins  
**Signature:**

3-2-16  
**Date:**

**Form 11a Tree and Shrub Replacement Options**

In the box below, please **check either Option A or Option B**. Sign, date, and mail this page in the self-addressed stamped envelope by March 15, 2016

Name James Jenkins  
 Address 9855 91 AVE SE  
 City, State Zip Ellendale ND 58436

For the planting of \_\_\_\_ replacement trees that are being used to meet PSC mitigation requirements for up to \_\_\_\_ trees removed by the Applicants as part of the Big Stone South to Ellendale 345 kV Transmission Line Project.



**A.) I would like all replacement trees and shrubs to be planted on my property at a location outside of the utility right-of way.**

**I will work directly with the Applicants and the NRCS and JRSCD staff to identify suitable replacement tree and shrub species to be planted at a suitable location on my property by the NRCS. Trees and shrubs will be planted by the NRCS in 2016.** These trees and shrubs will be installed at no cost to me.

I will contact the Ellendale NRCS and the JRSCD Field Office by \_\_\_\_\_ to arrange for the planting of the replacement trees and shrubs. If I do not contact the NRCS and the JRSCD by March 15, I understand that the Applicants may choose to plant all replacement trees and shrubs at a location outside of my property that will be selected at the Applicant's discretion.

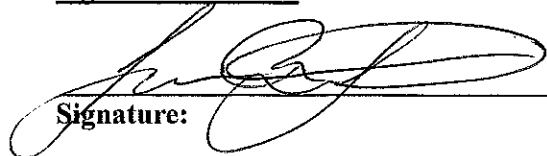
**The Ellendale NRCS and James River Soil Conservation District Office may be reached at:**

51 N. 1st Street, Box 190  
 Ellendale, ND 58436-0190  
 Telephone: 701-349-3534  
 Fax: 855-561-7866



**B.) I authorize the Applicants to plant all replacement trees and shrubs on my behalf at a location outside of my property and I waive my option to have replacement trees and shrubs planted on my property. I understand that replacement trees and shrubs will be planted at a location outside of my property that will be selected at the Applicant's discretion.**

**Sign and date here:**

Signature: 

Date: 19 MAR 16

**Form 11a Tree and Shrub Replacement Options**

In the box below, please **check either Option A or Option B**. Sign, date, and mail this page in the self-addressed stamped envelope by March 15, 2016

Name Llewellyn Lynde Testamentary Trust  
*c/o Connie Van Garren - Jon Lynde*  
 Address 400 4th Street South  
 City, State Zip Ellendale, ND 58436

For the planting of 8 replacement trees that are being used to meet PSC mitigation requirements for up to 4 trees removed by the Applicants as part of the Big Stone South to Ellendale 345 kV Transmission Line Project.

**A.) I would like all replacement trees and shrubs to be planted on my property at a location outside of the utility right-of way.**

**I will work directly with the Applicants and the NRCS and JRSCD staff to identify suitable replacement tree and shrub species to be planted at a suitable location on my property by the NRCS. Trees and shrubs will be planted by the NRCS in 2016.** These trees and shrubs will be installed at no cost to me.

I will contact the Ellendale NRCS and the JRSCD Field Office by \_\_\_\_\_ to arrange for the planting of the replacement trees and shrubs. If I do not contact the NRCS and the JRSCD by March 15, I understand that the Applicants may choose to plant all replacement trees and shrubs at a location outside of my property that will be selected at the Applicant's discretion.

**The Ellendale NRCS and James River Soil Conservation District Office may be reached at:**  
 51 N. 1st Street, Box 190  
 Ellendale, ND 58436-0190  
 Telephone: 701-349-3534  
 Fax: 855-561-7866

**B.) I authorize the Applicants to plant all replacement trees and shrubs on my behalf at a location outside of my property and I waive my option to have replacement trees and shrubs planted on my property. I understand that replacement trees and shrubs will be planted at a location outside of my property that will be selected at the Applicant's discretion.**

**Sign and date here:**

Connie Van Garren  
**Signature:**

4-12-14  
**Date:**