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Jerry Lein, Public Utility Analyst
North Dakota Public Service Commission
600 East Boulevard Avenue
Bismarck, ND 58505-0480

Reference: **2017 Tree and Shrub Mitigation Monitoring Report
CapX2020 Fargo-St. Cloud 345 kV Transmission Line
Case No. PU-07-759, Cass County, North Dakota**

Dear Mr. Lein,

This is the second of three annual Tree and Shrub Mitigation Monitoring Reports for the 33 mile section of CapX2020 Fargo-St. Cloud 345 kV Transmission Line (CapX) located in Cass County, North Dakota.

Project Location

The project mitigation areas identified along the CapX right of way (ROW) were mitigated throughout Cass County, North Dakota as the location of the tree plantings were chosen by participating CapX landowners (Table 1).

Table 1. Mitigation Site Locations

| Plot Number ¹ | Landowner | Location ² | Township |
|--------------------------|--|--------------------------|-----------|
| 1 & 3 | Fercho Family Farms | Sec. 14, T141, R49 | Harwood |
| 2 | Brian & Kelly Duchscherer (Fields 1-5) | Sec. 18, T137, R48 | Pleasant |
| 8 | Edward & Joann Jameson (Fields 1-3) | NE ¼, Sec 11, T137, R50 | Normanna |
| 8A | Paul & Carolyn Thoen | SE ¼, Sec. 2, T137, R50 | Normanna |
| 11 | Melissa and Doug Trom | Sec. 28, T139, R51 | Durbin |
| 15 | Michael Kasowski | Sec. 12, T139, R51 | Durbin |
| 15 | Mary Dalrymple, at al Trust | SE ¼, Sec. 36, T140, R52 | Casselton |
| 16 | Dorothy Dubord (Mike) | Sec. 15, T137, R49 | Pleasant |
| 16A | Dorothy Dubord (Leo) | Sec. 4, T137, R49 | Pleasant |

¹Plots identified in the July 2014 North Dakota Tree and Shrub Mitigation Report as participating landowners.

²Provided by the Cass County Soil Conservation District

Mitigation Design Objectives

Trees cleared from the CapX ROW in Cass County were inventoried by Barr engineering in the July 2014 *North Dakota Tree and Shrub Mitigation Report*, which indicated the total number of trees to be mitigated, mitigation methods and landowners who accepted, or waived, mitigation plantings on their property. Trees from waived properties were distributed and plated for landowners who accepted mitigation (Table 1). To mitigate for the 2,188 eligible trees cleared from the CapX ROW, a minimum of 4,376 trees would need to be planted with 3,282 trees surviving at the end of the third monitoring year to meet the 75% survival rate required by the North Dakota Public Service Commission (NDPSC) case number PU-07-759.

Removed Tree Count is 50% Invasive Buckthorn

NDPSC rules do not exclude invasive species from mitigation requirements therefore 1,094 European Buckthorn were counted and included in the mitigation requirements. Buckthorn is identified as an invasive weed in Priority Issue 2.1 of the North Dakota Forest Action Plan. Xcel notes that half of the trees planted as part of this plan are to mitigate for removing Buckthorn.



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Mitigation Plan Implementation

Xcel contracted with the Cass County Soil Conservation District (SCD) to implement the mitigation plan. The Cass County SCD has been assisting project area landowners for over 60 years with conservation tree services. SCD staff worked with each landowner on tree placement, species and planting planning.

Mitigation Site Description

Trees planted on the participating properties listed in Table 1 can be found in appendix B. A total of 4,994 trees were planted across eight of the nine plots in Cass County, ND.

Table 2. Mitigation Tree Plantings

| Plot Number | Landowner | Date Planted | Trees Planted |
|--------------|--|--------------|---------------|
| 1 & 3 | Fercho Family Farms | 6/2/2015 | 2205 |
| 2 | Brian & Kelly Duchscherer (Fields 1-5) | 5/5/2015 | 1421 |
| 8 | Edward & Joann Jameson (Fields 1-3) | 5/4/2015 | 364 |
| 8A | Paul & Carolyn Thoen | 5/4/2015 | 156 |
| 11 | Melissa and Doug Trom | 7/8/2015 | 256 |
| 15 | Michael Kasowski | See Results | 0 |
| 15 | Mary Dalrymple, at al Trust | 5/27/2015 | 213 |
| 16 | Dorothy Dubord (Mike) | 5/16/2015 | 264 |
| 16A | Dorothy Dubord (Leo) | 5/5/2015 | 115 |
| Total | | | 4994 |

Specific Issues

At the Trom property, the landowner required tree planting adjacent to the Maple River despite SCD staff advising that trees would not likely survive at this location.

The Kasowski parcel, Plot 15, was not planted. Trees were acquired by the SCD in 2015 and again in 2016. Both times planting crews attempted to plant the Kasowski parcel. At each attempt there were issues with property boundary uncertainty and neighbor concerns. As trees had already been purchased for each growing season, the trees were given to the public by the SCD in 2015 and 2016 to prevent the trees being wasted. Although these trees cannot be tracked, the SWCD provided 1,312 trees both years to local landowners to plant in Cass County or surrounding area. No additional attempts to plant trees on the Kasowski property will be made.

MONITORING RESULTS

A site visit to count mitigated trees was conducted September 15 through September 16, 2017 to determine the second year survival rates for the eight plots (Appendix B). Each plot was visited and counted using a mechanical hand tally counter. Plot conditions and notes can be found on the field data sheets in appendix B. Photos of the mitigation sites can be found in appendix A.

Table 3. Mitigation Site Tree Survival Rates

| Plot | Landowner | Location | Township | Date Planted | Trees Planted | 2016 Surviving Trees | 2017 Surviving Trees | % Survival |
|--------------|---|--------------------------|-----------|-------------------------|----------------|-------------------------------------|----------------------|-----------------|
| 1 & 3 | Fercho Family Farms | Sec. 14, T141, R49 | Harwood | 6/2/2015 | 2205 | 1581 | 1487 | 67% |
| 2 | Brian & Kelly Duchescherer (Fields 1-5) | Sec. 18, T137, R48 | Pleasant | 5/5/2015 | 1421 | 895 | 717 | 50% |
| 8 | Edward & Joann Jameson (Fields 1-3) | NE ¼, Sec 11, T137, R50 | Normanna | 5/4/2015 | 364 | 257 | 231 | 63% |
| 8A | Paul & Carolyn Thoen | SE ¼, Sec. 2, T137, R50 | Normanna | 5/4/2015 | 156 | 110 | 104 | 67% |
| 11 | Melissa and Doug Trom | Sec. 28, T139, R51 | Durbin | 7/8/2015 | 256 | 43 | 14 | 5% |
| 15 | Michael Kasowski | Sec. 12, T139, R51 | Durbin | Not Planted See Results | 0 ¹ | - | - | NA ² |
| 15 | Mary Dalrymple, at al Trust | SE ¼, Sec. 36, T140, R52 | Casselton | 5/27/2015 | 213 | 163 | 143 | 67% |
| 16 | Dorothy Dubord (Mike) | Sec. 15, T137, R49 | Pleasant | 5/16/2015 | 264 | 79 | 74 | 28% |
| 16A | Dorothy Dubord (Leo) | Sec. 4, T137, R49 | Pleasant | 5/5/2015 | 115 | 98 | 94 | 82% |
| Total | | | | | 4994 | 3226 | 2864 | 57% |
| | | | | | | % Survival from 2016 to 2017 | | 89% |

¹ The 2,624 trees purchased for the Kasowski property were given away to the public.

²Trees given away cannot surveyed for survival.



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Conclusions

At the end of the second year monitoring, the overall survival rate of the total number trees planted was 57% (2,864 trees, Table 3). Although 418 trees short of the 75% survival rate, the trees that were given away instead of planted on the Kasowski property would exceed the survival requirement. The next monitoring will be held in September 2018. No additional planting is planned at this time.

Additional factors that should be considered when assessing the overall effectiveness of this mitigation plan is that half of the mitigation requirements are for removal of invasive buckthorn and the fact that the applicant and its contractors made extra effort to meet landowner desires even at the expense of assuring tree survival.

If you have any questions, or require any additional information, please contact me at (612) 330-5835 or Andrew Welch (who performed the monitoring).

Sincerely,

| | |
|--|---|
|  Tom Hillstrom Permit Project Lead 612- 330-5835 |  Andrew Welch Environmental Scientist 319-327-1803 |
|--|---|

APPENDIX A: Photo Log

Photo Log



Photo 1

Date: 9/16/2017

Location: Fercho Family Farms Field 1

Description:

Site overview looking north from the southwest corner of the field. Although competing vegetation has been mowed between the rows, vegetation was growing along the edge of the fabric and in the row with the trees.



Photo 2

Date: 9/16/2017

Location: Fercho Family Farms Field 1

Description:

Site overview looking east from the southwest corner of the field.



Photo 3

Date: 9/16/2017

Location: Fercho Family Farms Field 1

Description:

Spruce trees in rows 1 and 2 had the highest survival rate of the field.



September 16, 2017
 N 47° 1' 54", W 96° 51' 26"
 172nd Ave SE

| | |
|---|------------------------|
| Photo 4 | Date: 9/16/2017 |
| Location: Fercho Family Farms Field 1 | |
| Description: Bur oak with new growth at the base of the tree. | |



September 16, 2017
 N 47° 1' 54", W 96° 51' 22"
 58005

| | |
|---|------------------------|
| Photo 5 | Date: 9/16/2017 |
| Location: Fercho Family Farms Field 1 | |
| Description: Flame willow growing well in the west half of the field. | |



September 16, 2017
 N 47° 1' 54", W 96° 50' 57"
 58005

| | |
|---|------------------------|
| Photo 6 | Date: 9/16/2017 |
| Location: Fercho Family Farms Field 1 | |
| Description: Flame willow and other species were not growing as well in the east half of the field. | |



Photo 7

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 1

Description:

Site overview of looking northeast. Rows were overgrown with completing vegetation between and in the fabric.



Photo 8

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 1

Description:

Rocky mountain junipers survived well from 2016.



Photo 9

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 1

Description:

Sandbar willows were struggling to compete with other vegetation and showed little growth.



Photo 10

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 1

Description:

Trees in Field 1 showed little to no growth from the previous year.



Photo 11

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 1

Description:

Rows were not maintained and fabric was in good shape.



Photo 12

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 2

Description:

Field overview photo of rows 1-4, trees remain small even with low weed pressure.



Photo 13

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 2

Description:

Field overview photo of rows 5-6, trees remain small.



Photo 14

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 3

Description:

Field overview from the east side looking west.



Photo 15

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 3

Description:

Field overview from the west side looking east. Trees had high competition in the fabric (see photo 16)



Photo 16

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 3

Description:

Bur oak trees were less than a foot tall with a few leaves and completely enclosed by competing vegetation (Canada thistle, dandelion, sow thistle and other crop pests).

September 16, 2017
 N 46° 41' 15" W 96° 47' 20"
 50th St SE



Photo 17

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 4

Description:

Although the fabric row was in good condition, competing vegetation from between the rows would suppress the trees.

September 16, 2017
 N 46° 41' 14" W 96° 47' 17"
 50th St SE



Photo 18

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 4

Description:

Deer food plot planted between the rows of trees on the south half of the field.

September 16, 2017
 N 46° 41' 42" W 96° 57' 47"
 58051



Photo 19

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 4

Description:

Fabric rows covered by competing vegetation.

September 16, 2017
 N 46° 41' 43" W 96° 58' 7"
 167th Ave SE



Photo 20

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 5

Description:

Rows had less completion under the field edge tree canopy.

September 16, 2017
 N 46° 40' 59" W 96° 47' 25"
 50th St SE



Photo 21

Date: 9/16/2017

Location: Brian and Kelly Duchscherer Field 5

Description:

Open areas had grass growth over the fabric and green ash.

September 16, 2017
 N 46° 41' 1" W 96° 47' 29"
 50th St SE



September 15, 2017
 N 46° 42' 6", W 96° 57' 28"
 49th St SE

Photo 22

Date: 9/15/2017

Location: Edward & Joann Jameson - 1

Description:

Field 1 looking north, rows well maintained, but had some areas of high weed pressure in with the trees in the fabric.



September 15, 2017
 N 46° 42' 6", W 96° 57' 27"
 49th St SE

Photo 23

Date: 9/15/2017

Location: Edward & Joann Jameson - 2

Description:

Field 2 looking east, rows well maintained



September 15, 2017
 N 46° 42' 4", W 96° 57' 26"
 49th St SE

Photo 24

Date: 9/15/2017

Location: Edward & Joann Jameson - 3

Description:

Field 3 looking west, rows well maintained.



September 15, 2017
 N 46° 42' 11", W 96° 57' 12"
 49th St SE

Photo 25

Date: 9/15/2017

Location: Paul & Carolyn Thoen

Description:

Site overview looking north. Rows are mowed between, but no maintenance has been done around the planted trees.



September 15, 2017
 N 46° 42' 13", W 96° 57' 13"
 49th St SE

Photo 26

Date: 9/15/2017

Location: Paul & Carolyn Thoen

Description:

View south between rows one and two.



September 16, 2017
 N 46° 49' 55", W 97° 7' 14"
 58059

Photo 27

Date: 9/16/2017

Location: Melissa and Doug Trom

Description:

Site overview looking southwest along the river (trees in photo are boxelder growing naturally along the river).



Photo 28

Date: 9/16/2017

Location: Melissa and Doug Trom

Description:

Two surviving amour chokecherry.



Photo 29

Date: 9/16/2017

Location: Melissa and Doug Trom

Description:

All silver maple observed growing in 2017 were new sprouts from the roots with the original stem missing.



Photo 30

Date: 9/16/2017

Location: Melissa and Doug Trom

Description:

Site overview looking northeast from the site midpoint (trees in photo are boxelder growing naturally along the river).



Photo 31

Date: 9/16/2017

Location: Melissa and Doug Trom

Description:

Fabric square covered with grass.



Photo 32

Date: 9/16/2017

Location: Melissa and Doug Trom

Description:

Extremely small silver maple observed.



Photo 33

Date: 9/16/2017

Location: Melissa and Doug Trom

Description:

Site overview looking northeast from the south end of the planting.



Photo 34

Date: 9/16/2017

Location: Mary Dalrymple, at al Trust

Description:

Field 1 overview looking south. Trees protected from the east and west by a tree lines.



Photo 35

Date: 9/16/2017

Location: Mary Dalrymple, at al Trust

Description:

Field 1 over view looking north where trees are not protected by to the west by a tree line.



Photo 36

Date: 9/16/2017

Location: Mary Dalrymple, at al Trust

Description:

Silver maples growing well between the two existing tree lines in field 1.



September 16, 2017
 N 46° 53' 22", W 97° 10' 58"
 58012

Photo 37

Date: 9/16/2017

Location: Mary Dalrymple, at al Trust

Description:

Field 2 overview looking north.



September 15, 2017
 N 46° 41' 17", W 96° 50' 49"
 50th St SE

Photo 38

Date: 9/15/2017

Location: Dorothy Dubord (Mike)

Description:

Site over view looking southwest. Heavy weed pressure in and between the rows.



September 15, 2017
 N 46° 41' 17", W 96° 50' 50"
 50th St SE

Photo 39

Date: 9/15/2017

Location: Dorothy Dubord (Mike)

Description:

Green ash tree growing under the giant ragweed canopy with giant ragweed surrounding it in the fabric.



Photo 37

Date: 9/15/2017

Location: Dorothy Dubord (Mike)

Description:

Typical giant ragweed growth in the rows.

September 15, 2017
 N 46° 41' 12" W 96° 50' 54"
 58047



Photo 38

Date: 9/15/2017

Location: Dorothy Dubord (Mike)

Description:

Dead sandbar willow stem, very few surviving willows observed.

September 15, 2017
 N 46° 41' 12" W 96° 50' 54"
 58047



Photo 39

Date: 9/15/2017

Location: Dorothy Dubord (Leo)

Description:

Well maintained rows.

September 15, 2017
 N 46° 43' 1" W 96° 52' 27"
 124th Ave S



September 15, 2017
 N 46° 42' 58", W 96° 52' 27"
 124th Ave S

Photo 40

Date: 9/15/2017

Location: Dorothy Dubord (Leo)

Description:

Well maintained rows.



September 15, 2017
 N 46° 43' 1", W 96° 52' 27"
 124th Ave S

Photo 41

Date: 9/15/2017

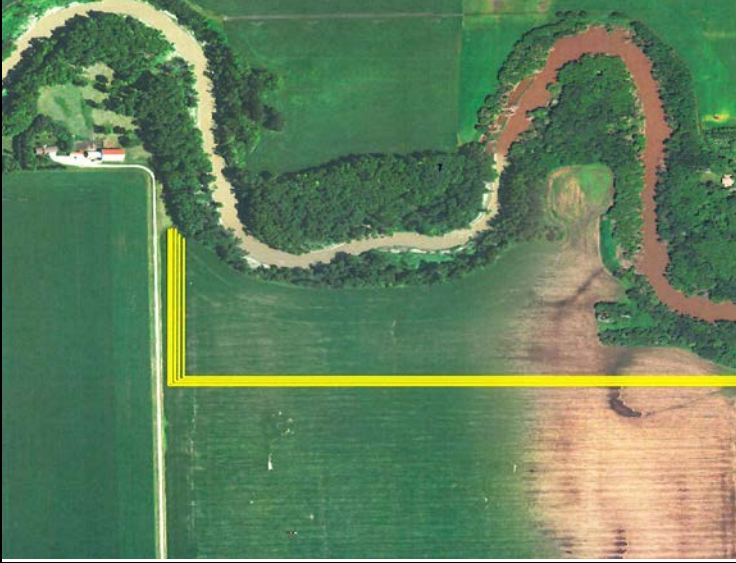
Location: Dorothy Dubord (Leo)

Description:

Well maintained rows.

APPENDIX B: PLOT DATA SHEETS

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|---|--------------|----------------|--|--|
|  | Name | John Fercho | | |
| | Address | NA | | |
| | Contact Info | | | |
| | Cell | NA | | |
| | Phone | 701-282-5989 | | |
| | Location | | | |
| | Township | Harwood | | |
| | Twp/Range | 141-49 | | |
| | Section | 14 | | |
| | Quarter | | | |
| Planting | | | | |
| Date Planted | 6/2/2015 | | | |
| Condition of site at time of planting: | | | | |
| Fair | | | | |
| Protected from Grazing | Yes | | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|------|---------|---------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | 3440 | 10 | 0.79 | 1 | Spruce, Black Hills | 10 | 344 | 292 | 287 | 83.43 |
| 1 | 3420 | 14 | 1.10 | 2 | Spruce, Black Hills | 12 | 285 | 247 | 247 | 86.67 |
| 1 | 3395 | 14 | 1.09 | 3 | Oak, Bur | 10 | 340 | 233 | 182 | 53.53 |
| 1 | 3340 | 14 | 1.07 | 4 | Willow, Flame | 8 | 418 | 324 | 305 | 72.97 |
| 1 | 3270 | 24 | 1.80 | 5 | Dogwood, Red osier | 4 | 818 | 485 | 466 | 56.97 |
| Total | 16865 | 76 | 5.86 | | | | 2205 | 1581 | 1487 | 67.44 |

*Inc. 10' on each side of planting

Additional Comments
 Heavy weed pressure on the eastern end of the rows rows. Very few spruce trees were found dead. Fabric held up well, weeds were found covering the fabric on the eastern half of the plot similar to 2016. Landowner tilled between the rows, but did not remove weeds from around the trees in the fabric. Tree growth on the eastern portion of the plot (the brown area on the map above) was stunted.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|--|--------------|--|--|--|
| | Name | Brian Duchsherer | | |
| | Address | 17538 50th St. SE Hickson, ND 58047 | | |
| | Contact Info | | | |
| | Cell | 701-353-9774 | | |
| | Phone | NA | | |
| | Location | | | |
| | Township | NA | | |
| | Twp/Range | 137-48 | | |
| | Section | 18 | | |
| | Quarter | | | |
| | Planting | | | |
| | Date Planted | 5/5/2015 | | |
| Condition of site at time of planting: | | | | |
| Good | | | | |
| Protected from Grazing | | Yes | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-------|---------|------------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | 215 | 10 | 0.05 | 1 | Spruce, Black Hills | 12 | 17 | 17 | 17 | 100.00 |
| 1 | 215 | 24 | 0.12 | 2 | Juniper, Rocky Mtn. | 10 | 21 | 17 | 17 | 80.95 |
| 1 | 550 | 10 | 0.13 | 3 | Maple, Silver | 8 | 68 | 42 | 25 | 36.76 |
| 1 | 575 | 14 | 0.18 | 4 | Spruce, Black Hills | 10 | 57 | 35 | 35 | 61.40 |
| 1 | 95 | 14 | 0.03 | 5 | Crabapple, Siberian | 4 | 23 | 15 | 13 | 56.52 |
| 1 | 105 | 14 | 0.03 | 6 | Cottonwood, Sioux land | 8 | 13 | 12 | 12 | 92.31 |
| 1 | 135 | 14 | 0.04 | 7 | Oak, Bur | 10 | 13 | 10 | 11 | 84.62 |
| 1 | 125 | 14 | 0.04 | 8 | Juniper, Rocky Mtn. | 12 | 10 | 10 | 10 | 100.00 |
| 1 | 180 | 14 | 0.06 | 9 | Spruce, Black Hills | 10 | 18 | 16 | 16 | 88.89 |
| 1 | 180 | 14 | 0.06 | 10 | Juniper, Rocky Mtn. | 12 | 15 | 15 | 15 | 100.00 |
| 1 | 180 | 14 | 0.06 | 11 | Spruce, Black Hills | 10 | 18 | 15 | 12 | 66.67 |
| 1 | 220 | 14 | 0.07 | 12 | Oak, Bur | 8 | 27 | 22 | 17 | 62.96 |
| 1 | 327 | 14 | 0.11 | 13 | Ash, Green | 10 | 32 | 20 | 18 | 56.25 |
| 1 | 425 | 14 | 0.14 | 14 | Crabapple, Siberian | 4 | 106 | 64 | 56 | 52.83 |
| 1 | 660 | 14 | 0.21 | 15 | Cottonwood, Sioux land | 8 | 82 | 61 | 43 | 52.44 |
| 1 | 660 | 24 | 0.36 | 16 | Willow, Sandbar | 4 | 165 | 90 | 56 | 33.94 |
| Total | 4847 | 236 | 1.688 | | | | 685 | 461 | 373 | 54.45 |

*Inc. 10' on each side of planting

Additional Comments

Rows 3 and 4 were maintained along the edges of the fabric, the rest of the rows were not maintained. No weeding was done around the trees in the fabric. There was high weed pressure in all of the rows and weeds were present around the trees in the fabric.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|--|--------------|--|--|--|
| | Name | Brian Duchsherer | | |
| | Address | 17538 50th St. SE Hickson, ND 58047 | | |
| | Contact Info | | | |
| | Cell | 701-353-9774 | | |
| | Phone | NA | | |
| | Location | | | |
| | Township | NA | | |
| | Twp/Range | 137-48 | | |
| | Section | 18 | | |
| | Quarter | | | |
| | Planting | | | |
| | Date Planted | 5/5/2015 | | |
| Condition of site at time of planting: | | | | |
| Good | | | | |
| Protected from Grazing | | Yes | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-------|---------|------------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 2 | 0 | 10 | 0.00 | 1 | Oak, Bur | 10 | 0 | 0 | 0 | NA |
| 2 | 70 | 14 | 0.02 | 2 | Ash, Green | 8 | 9 | 5 | 5 | 55.56 |
| 2 | 70 | 14 | 0.02 | 3 | Maple, Silver | 10 | 7 | 4 | 2 | 28.57 |
| 2 | 70 | 24 | 0.04 | 4 | Crabapple, Siberian | 4 | 17 | 13 | 11 | 64.71 |
| 2 | 140 | 10 | 0.03 | 5 | Cottonwood, Sioux land | 8 | 17 | 12 | 9 | 52.94 |
| 2 | 140 | 24 | 0.08 | 6 | Maple, Silver | 10 | 14 | 3 | 1 | 7.14 |
| Total | 490 | 96 | 0.193 | | | | 64 | 37 | 28 | 43.75 |

*Inc. 10' on each side of planting

Additional Comments

Vegetation between the rows was maintained yard and weed pressure within the fabric was moderate.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | Landowner Info | |
|------------------------|--|--|
| | Name | Brian Duchsherer |
| | Address | 17538 50th St. SE Hickson, ND 58047 |
| | Contact Info | |
| | Cell | 701-353-9774 |
| | Phone | NA |
| | Location | |
| | Township | NA |
| | Twp/Range | 137-48 |
| | Section | 18 |
| | Quarter | |
| | Planting | |
| | Date Planted | 5/5/2015 |
| | Condition of site at time of planting: | |
| Good | | |
| Protected from Grazing | Yes | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-------|---------|------------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 3 | 80 | 10 | 0.02 | 1 | Willow, Sandbar | 4 | 61 | 12 | 6 | 9.84 |
| 3 | 120 | 24 | 0.07 | 2 | Ash, Green | 8 | 30 | 21 | 8 | 26.67 |
| 3 | 400 | 10 | 0.09 | 3 | Willow, Sandbar | 4 | 125 | 75 | 44 | 35.20 |
| 3 | 400 | 14 | 0.13 | 4 | Cottonwood, Sioux land | 8 | 21 | 14 | 7 | 33.33 |
| 3 | 475 | 14 | 0.15 | 5 | Oak, Bur | 10 | 26 | 9 | 5 | 19.23 |
| 3 | 245 | 14 | 0.08 | 6 | Crabapple, Siberian | 6 | 20 | 11 | 7 | 35.00 |
| 3 | 250 | 14 | 0.08 | 7 | Spruce, Black Hills | 10 | 13 | 12 | 11 | 84.62 |
| 3 | 235 | 14 | 0.08 | 8 | Juniper, Rocky Mtn. | 8 | 20 | 19 | 18 | 90.00 |
| 3 | 235 | 14 | 0.08 | 9 | Spruce, Black Hills | 10 | 25 | 22 | 22 | 88.00 |
| 3 | 235 | 14 | 0.08 | 10 | Crabapple, Siberian | 6 | 33 | 13 | 14 | 42.42 |
| 3 | 100 | 14 | 0.03 | 11 | Maple, Silver | 8 | 15 | 2 | 1 | 6.67 |
| 3 | 70 | 14 | 0.02 | 12 | Oak, Bur | 10 | 10 | 10 | 6 | 60.00 |
| 3 | | 24 | 0.00 | 13 | Ash, Green | 8 | 23 | 19 | 18 | 78.26 |
| Total | 2845 | 194 | 0.898 | | | | 422 | 239 | 167 | 39.57 |

*Inc. 10' on each side of planting

Additional Comments

Heavy weed pressure from between rows and within the fabric. Rows 3-5 were mowed between.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report


| Map | | Landowner Info | | |
|--|--------------|--|--|--|
| | Name | Brian Duchsherer | | |
| | Address | 17538 50th St. SE Hickson, ND 58047 | | |
| | Contact Info | | | |
| | Cell | 701-353-9774 | | |
| | Phone | NA | | |
| | Location | | | |
| | Township | NA | | |
| | Twp/Range | 137-48 | | |
| | Section | 18 | | |
| | Quarter | | | |
| Planting | | | | |
| Date Planted | 5/5/2015 | | | |
| Condition of site at time of planting: | | | | |
| Good | | | | |
| Protected from Grazing | Yes | | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-------|---------|---------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 4 | 60 | 10 | 0.01 | 1 | Oak, Bur | 12 | 6 | 4 | 3 | 50.00 |
| 4 | 75 | 10 | 0.02 | 2 | Crabapple, Siberian | 10 | 12 | 8 | 9 | 75.00 |
| 4 | 120 | 10 | 0.03 | 3 | Ash, Green | 8 | 15 | 7 | 7 | 46.67 |
| 4 | 125 | 14 | 0.04 | 4 | Juniper, Rocky Mtn. | 10 | 12 | 9 | 7 | 58.33 |
| 4 | 10 | 14 | 0.00 | 5 | Spruce, Black Hills | 4 | 2 | 5 | 4 | 200.00 |
| 4 | 90 | 14 | 0.03 | 6 | Ash, Green | 8 | 11 | 4 | 2 | 18.18 |
| 4 | 160 | 14 | 0.05 | 7 | Crabapple, Siberian | 10 | 26 | 10 | 9 | 34.62 |
| 4 | 175 | 14 | 0.06 | 8 | Oak, Bur | 12 | 17 | 3 | 5 | 29.41 |
| 4 | 75 | 10 | 0.02 | 9 | Maple, Silver | 10 | 10 | 0 | 0 | 0.00 |
| Total | 890 | 110 | 0.256 | | | | 111 | 50 | 46 | 41.44 |

*Inc. 10' on each side of planting

| Additional Comments |
|---|
| Located at a food plot for deer and heavily overgrown with weeds. |

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|---|--------------|--|--|--|
|  | Name | Brian Duchsherer | | |
| | Address | 17538 50th St. SE Hickson, ND 58047 | | |
| | Contact Info | | | |
| | Cell | 701-353-9774 | | |
| | Phone | NA | | |
| | Location | | | |
| | Township | NA | | |
| | Twp/Range | 137-48 | | |
| | Section | 18 | | |
| | Quarter | | | |
| | Planting | | | |
| | Date Planted | 5/5/2015 | | |
| Condition of site at time of planting: | | | | |
| Good | | | | |
| Protected from Grazing | Yes | | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-------|---------|--------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 5 | 620 | 10 | 0.14 | 1 | Juniper, Rocky Mtn | 8 | 77 | 66 | 66 | 85.71 |
| 5 | 620 | 24 | 0.34 | 2 | Ash, Green | 10 | 62 | 42 | 37 | 59.68 |
| Total | 1240 | 34 | 0.484 | | | | 139 | 108 | 103 | 74.10 |

*Inc. 10' on each side of planting

Additional Comments

Tree rows were overrun by crop pests with some areas of fabric completely covered by grass.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|--|--------------|--|--|--|
| | Name | Edward and JoAnne Jameson | | |
| | Address | 16750 49th St. SE Kindred, ND 58051 | | |
| | Contact Info | | | |
| | Cell | 701-866-4220 | | |
| | Phone | 701-361-5572 | | |
| | Location | | | |
| | Township | Normanna | | |
| | Twp/Range | 137-50 | | |
| | Section | 11 | | |
| | Quarter | NE | | |
| Planting | | | | |
| Date Planted | 5/4/2015 | | | |
| Condition of site at time of planting: | | | | |
| Good | | | | |
| Protected from Grazing | | Yes | | |


| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-------|---------|------------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | 350 | 10 | 0.08 | 1 | Spruce, Black Hills | 12 | 29 | 24 | 24 | 82.76 |
| 1 | 350 | 12 | 0.10 | 2 | Cottonwood, Sioux land | 8 | 44 | 33 | 30 | 68.18 |
| 1 | 350 | 12 | 0.10 | 3 | Oak, Bur | 10 | 35 | 20 | 14 | 40.00 |
| 1 | 350 | 12 | 0.10 | 4 | Crabapple, Siberian | 6 | 58 | 41 | 32 | 55.17 |
| 1 | 350 | 22 | 0.18 | 5 | Dogwood, Red osier | 4 | 88 | 57 | 54 | 61.36 |
| 2 | 100 | 10 | 0.02 | 1 | Ash, Green | 8 | 12 | 9 | 8 | 66.67 |
| 2 | 100 | 22 | 0.05 | 2 | Crabapple, Siberian | 6 | 24 | 14 | 13 | 54.17 |
| 3 | 95 | 10 | 0.02 | 1 | Dogwood, Red osier | 4 | 24 | 14 | 14 | 58.33 |
| 3 | 95 | 12 | 0.03 | 2 | Oak, Bur | 10 | 9 | 9 | 7 | 77.78 |
| 3 | 95 | 22 | 0.05 | 3 | Cottonwood, Sioux land | 8 | 12 | 7 | 7 | 58.33 |
| 1 | 175 | 12 | 0.05 | 6 | Crabapple, Siberian | 6 | 29 | 29 | 28 | 96.55 |
| Total | 2410 | 156 | 0.764 | | | | 364 | 257 | 231 | 63.46 |

*Inc. 10' on each side of planting

Additional Comments

The vegetation between th rows was maintained by mowing with moderate to heavy pressure around the trees within the fabric.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|---|--------------|--|--|--|
|  | Name | Paul and Carolyn Thoen | | |
| | Address | 16767 49th St. SE Kindred, ND 58051 | | |
| | Contact Info | | | |
| | Cell | | | |
| | Phone | 701-428-3225 | | |
| | Location | | | |
| | Township | Normanna | | |
| | Twp/Range | 137-50 | | |
| | Section | 2 | | |
| | Quarter | SE | | |
| Planting | | | | |
| Date Planted | 5/4/2015 | | | |
| Condition of site at time of planting: | | | | |
| Fair | | | | |
| Protected from Grazing | | Yes | | |


| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-------|---------|----------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | 360 | 10 | 0.08 | 1 | Common/Villosa Lilac | 4 | 90 | 54 | 50 | 55.56 |
| 1 | 360 | 14 | 0.12 | 2 | Linden, Littleleaf | 10 | 36 | 29 | 28 | 77.78 |
| 1 | 360 | 24 | 0.20 | 3 | CBS-BHS | 12 | 30 | 27 | 26 | 86.67 |
| Total | 1080 | 48 | 0.397 | | | | 156 | 110 | 104 | 66.67 |

*Inc. 10' on each side of planting

Additional Comments

Landowners mowed between the rows, but no weeding has been done around the trees. All plants have been competing with Canada Thistle, Brome, Sunflower, Nightshade sp., Nettles, Pigweed.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|---|--------------|----------------|--|--|
|  | Name | Doug Trom | | |
| | Address | | | |
| | Contact Info | | | |
| | Cell | 701-238-1885 | | |
| | Phone | | | |
| | Location | | | |
| | Township | Durbin | | |
| | Twp/Range | 139-51 | | |
| | Section | 28 | | |
| | Quarter | | | |
| | Planting | | | |
| | Date Planted | 7/8/2015 | | |
| Condition of site at time of planting: | | | | |
| | | | | |
| Protected from Grazing | | Yes | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-----|---------|-------------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | | | | | Maple, Silver | | 236 | 35 | 5 | 2.12 |
| 1 | | | | | Chokecherry, Amur | | 20 | 8 | 9 | 45.00 |
| Total | 0 | 0 | 0 | | | | 256 | 43 | 14 | 5.47 |

*Inc. 10' on each side of planting

Additional Comments

Extremely high pressure from plant competition with the tree stem missing the vast majority of fabric squares.
 One choke cherry that was counted as dead in 2016 year had leaves this year.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report


| Map | | Landowner Info | | |
|--|--------------|------------------|--|--|
| | Name | Michael Kasowski | | |
| | Address | | | |
| | Contact Info | | | |
| | Cell | 701-412-1598 | | |
| | Phone | | | |
| | Location | | | |
| | Township | Durbin | | |
| | Twp/Range | 139-51 | | |
| | Section | 12 | | |
| | Quarter | | | |
| Planting | | | | |
| Date Planted | 7/8/1905 | | | |
| Condition of site at time of planting: | | | | |
| Good | | | | |
| Protected from Grazing | Yes | | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|-----|---------|---------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total | 0 | 0 | 0 | | | | 0 | #REF! | | #REF! |

*Inc. 10' on each side of planting

Additional Comments

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|---|--------------|---|--|--|
|  | Name | Mary K Dalrymple, et al Trust (Debbie) | | |
| | Address | 3598 157th Ave SE Casselton, ND 58012 | | |
| | Contact Info | | | |
| | Cell | (701) 347-4291 | | |
| | Location | | | |
| | Township | Casselton | | |
| | Twp/Range | 140-52 | | |
| | Section | 36 | | |
| | Quarter | SE | | |
| | Planting | | | |
| Date Planted | 5/27/2015 | | | |
| Condition of site at time of planting: Good | | | | |
| Protected from Grazing | | Yes | | |

| Field No. | Planted length | Planted Width* | Ac. | No. of Rows | Species | Spacing in Row | No. Planted | # Surviving | | Survival Percentage |
|--------------|----------------|----------------|-------------|-------------|---------------|----------------|-------------|-------------|------------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | 600 | 10 | 0.14 | 1 | Ash, Green | 8 | 75 | 59 | 57 | 76.00 |
| 1 | 600 | 24 | 0.33 | 2 | Maple, Silver | 10 | 60 | 49 | 46 | 76.67 |
| 2 | 355 | 10 | 0.08 | 1 | Ash, Green | 8 | 44 | 35 | 30 | 68.18 |
| 2 | 340 | 24 | 0.19 | 2 | Maple, Silver | 10 | 34 | 20 | 10 | 29.41 |
| Total | 1895 | 68 | 0.74 | | | | 213 | 163 | 143 | 67.14 |

*Inc. 10' on each side of planting

Additional Comments

Field 1 Row 2 was healthy where the trees were protected to the west and east by tree lines. Trees not protected by the tree lines were much more stunted and yellowing in both fields. Many of the live maples in field 2 had few leaves, but were still alive.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|---|--------------|-------------------|--|--|
|  | Name | Mike Dubord (Leo) | | |
| | Address | NA | | |
| | Contact Info | | | |
| | Cell | 701-281-2427 | | |
| | Phone | 701-793-6573 | | |
| | Location | | | |
| | Township | Pleasant | | |
| | Twp/Range | 137-49 | | |
| | Section | 4 | | |
| | Quarter | | | |
| | Planting | | | |
| | Date Planted | 5/5/2015 | | |
| Condition of site at time of planting: | | | | |
| Good | | | | |
| Protected from Grazing | | Yes | | |


| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|------|---------|---------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | 72 | 10 | 0.02 | 1 | Maple, Silver | 10 | 8 | 7 | 7 | 87.50 |
| 1 | 68 | 24 | 0.04 | 2 | Ash, Green | 8 | 9 | 8 | 6 | 66.67 |
| 2 | 125 | 10 | 0.03 | 1 | Ash, Green | 8 | 53 | 38 | 36 | 67.92 |
| 2 | 448 | 24 | 0.25 | 2 | Maple, Silver | 10 | 45 | 45 | 45 | 100.00 |
| Total | 713.00 | 68.00 | 0.33 | | | | 115 | 98 | 94 | 81.74 |

*Inc. 10' on each side of planting

Additional Comments

Landowner has kept weeds from growing along the rows and weeded the trees. Some of the trees showed signs of wind damage, but were healthy overall.

2016 North Dakota Tree and Shrub Mitigation Monitoring Report

| Map | | Landowner Info | | |
|---|--------------|----------------|--|--|
|  | Name | Leo Dubord | | |
| | Address | NA | | |
| | Contact Info | | | |
| | Cell | 701-281-2427 | | |
| | Phone | 701-793-6573 | | |
| | Location | | | |
| | Township | Pleasant | | |
| | Twp/Range | 137-49 | | |
| | Section | 15 | | |
| | Quarter | | | |
| Planting | | | | |
| Date Planted | 5/6/2015 | | | |
| Condition of site at time of planting: | | | | |
| Fair | | | | |
| Protected from Grazing | Yes | | | |

| Field No. | Planted length | Planted Width* | Ac. | Row No. | Species | Spacing in Row | # Planted | # Surviving | | Survival Percentage |
|-----------|----------------|----------------|------|---------|-----------------|----------------|-----------|-------------|------|---------------------|
| | | | | | | | | 2016 | 2017 | |
| 1 | 800 | 10 | 0.18 | 1 | Willow, Sandbar | 4 | 176 | 3 | 2 | 1.14 |
| 1 | 800 | 24 | 0.44 | 2 | Ash, Green | 8 | 88 | 76 | 72 | 81.82 |
| Total | 1600 | 34 | 0.62 | | | | 264 | 79 | 74 | 28.03 |

*Inc. 10' on each side of planting

Additional Comments

Both rows were overrun by giant ragweed, which was growing within and along the fabric. Live willows were extremely small.