



September 26, 2016

Via Electronic Filing

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

Reference: **2016 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.

INTRODUCTION

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 (PSC) 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.

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 a 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 Plot 15 will be made.

MONITORING RESULTS

A site visit to count mitigated trees was conducted September 12 through September 14, 2016 to determine the first 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 Number	Landowner	Trees Survived	% Survival*
1 & 3	Fercho Family Farms	1581	72%
2	Brian & Kelly Duchscherer (Fields 1-5)	895	63%
8	Edward & Joann Jameson (Fields 1-3)	257	71%
8A	Paul & Carolyn Thoen	110	71%
11	Melissa and Doug Trom	43	17%
15	Michael Kasowski	0	0%
15	Mary Dalrymple, at al Trust	163	77%
16	Dorothy Dubord (Mike)	79	30%
16A	Dorothy Dubord (Leo)	98	85%
Total		3,226	65%
	Kasowski trees given away to public	2624	Unknown

Conclusions

At the end of the first year monitoring, the overall survival rate of the total number trees planted was 65% (3,226, Table 3). Although 56 trees short of the 75% survival rate, the trees that were given away instead of planted at plot 15 would exceed the required number. The next monitoring will be held in September 2017. 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: 9/12/16

Location: Fercho Farms

Description:

Rows 1 and 2 looking west. Light weed pressure from between the rows and within the fabric cuts.



Photo 2

Date: 9/12/16

Location: Fercho Farms

Description:

Small Bur Oak topped from animal browsing.



Photo 3

Date: 9/12/16

Location: Fercho Farms

Description:

Flame willow growing well with signs of animal browsing.



Photo 4

Date: 9/12/16

Location:

Description:

Heavy weed pressure on the east end of the rows. Weeds are growing in from between the rows and smothering the planted species (see photo 5)



Photo 5

Date: 9/12/16

Location: Fercho Farms

Description:

Flame willow surviving under the weed growth. Exposed by pulling weeds away from the fabric row.



Photo 6

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 1

Description:

Plot overview looking southeast from row 3.



Photo 7

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 1

Description:

Site overview of rows 1-9 looking northeast. 1-9 had been maintained.



Photo 8

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 1

Description:

Site overview of rows 10-18, which had moderate weed pressure. Multiple species of weeds were growing in the rows with the tress.



Photo 9

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 1

Description:

Small willow growing in weeds.



Photo 10

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 1

Description:

East end of field 1.



Photo 11

Date: 9/13/16

Location: Brian and Kelly Duchscherer Field 2

Description:

Rows were maintained and fabric was in good shape.



Photo 12

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 3

Description:

Field overview photo, site over run with common field pests, mainly beggars tick, giant ragweed and cocklebur.



Photo 13

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 3

Description:

Photo of weed growth between rows.



Photo 14

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 3

Description:

Mowed path perpendicular across the rows.



Photo 15

Date: 9/14/16

Location: Brian and Kelly Duchscherer Field 3

Description:

Partially maintained rows on the west half of the field.



Photo 16

Date: 9/13/16

Location: Brian and Kelly Duchscherer Field 4

Description:

Rows 1-3 located in a deer food plot.



Photo 17

Date: 9/13/16

Location: Brian and Kelly Duchscherer Field 4

Description:

Remaining rows of plot 4 are overrun with weeds.



Photo 18

Date: 9/13/16

Location: Brian and Kelly Duchscherer Field 4

Description:

Oak growing with weeds growing in the row.



Photo 19

Date: 9/13/16

Location: Brian and Kelly Duchscherer Field 5

Description:

Field 5 overview looking east.



Photo 20

Date: 9/13/16

Location: Brian and Kelly Duchscherer Field 5

Description:

Juniper Row



Photo 21

Date: 9/13/16

Location: Brian and Kelly Duchscherer Field 5

Description:

Spruce row.



Photo 22

Date: 9/13/16

Location: Edward & Joann Jameson - 1

Description:

Field 1 looking north, rows well maintained.



Photo 23

Date: 9/13/16

Location: Edward & Joann Jameson - 2

Description:

Field 2 looking east, rows well maintained



Photo 24

Date: 9/13/16

Location: Edward & Joann Jameson - 3

Description:

Field 3 looking west, rows well maintained.



Photo 25

Date: 9/13/16

Location: Paul & Carolyn Thoen

Description:

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



Photo 26

Date: 9/13/16

Location Paul & Carolyn Thoen

Description:

Canada thistle and other weeds were observed in the rows. Little leaf Linden is at the bottom of the photo under the thistle.



Photo 27

Date: 9/13/16

Location: Paul & Carolyn Thoen

Description:

Spruce trees covered by weeds.



Photo 28

Date: 9/14/16

Location: Melissa and Doug Trom

Description:

Site overview looking north.



Photo 29

Date: 9/12/16

Location Melissa and Doug Trom

Description:

Trees planted by hand with fabric squares. Planting in photo had little outside weed pressure, but Canada thistle and brome growing in the fabric. No surviving tree observed.



Photo 30

Date: 9/12/16

Location: Melissa and Doug Trom

Description:

Amur Chokecherry surviving.



Photo 31

Date: 9/14/16

Location: Melissa and Doug Trom

Description:

Locating plantings was difficult as weeds were overgrowing the fabric squares.



Photo 32

Date: 9/12/16

Location Melissa and Doug Trom

Description:

Same view as photo 31 with the weeds pulled off the fabric.



Photo 33

Date: 9/12/16

Location: Melissa and Doug Trom

Description:

Maple struggling to grow with smooth brome growing in and around the fabric.



Photo 34

Date: 9/12/16

Location: Mary Dalrymple, at al Trust - 1

Description:

Site overview looking north. Trees protected from the west by a tree line.



Photo 35

Date: 9/12/16

Location: Mary Dalrymple, at al Trust - 1

Description:

Site over view looking south where trees are not protected by to the west by a tree line.



Photo 36

Date: 9/12/16

Location: Mary Dalrymple, at al Trust - 1

Description:

Browsed green ash tree.



Photo 37

Date: 9/12/16

Location: Mary Dalrymple, at al Trust - 2

Description:

Site overview looking north.



Photo 38

Date: 9/13/16

Location Dorothy Dubord (Mike)

Description:

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



Photo 39

Date: 9/13/16

Location: Dorothy Dubord (Mike)

Description:

Green ash tree growing under the giant ragweed canopy.



Photo 37

Date: 9/13/16

Location: Dorothy Dubord (Mike)

Description:

Sandbar willow growing from the ground. The original stem was dead.



Photo 38

Date: 9/13/16

Location Dorothy Dubord (Mike)

Description:

Willow stem has no growth and was considered dead. Heavy weed pressure growing in the fabric.



Photo 39

Date: 9/13/16

Location: Dorothy Dubord (Mike)

Description:

Giant ragweed filled in over the rows.



Photo 40

Date: 9/13/16

Location: Dorothy Dubord (Leo)

Description:

Well maintained rows.



Photo 41

Date: 9/13/16

Location Dorothy Dubord (Leo)

Description:

Well maintained rows.



Photo 42

Date: 9/13/16


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
1	3440	10	0.79	1	Spruce, Black Hills	10	344	292	84.88
1	3420	14	1.10	2	Spruce, Black Hills	12	285	247	86.67
1	3395	14	1.09	3	Oak, Bur	10	340	233	68.53
1	3340	14	1.07	4	Willow, Flame	8	418	324	77.51
1	3270	24	1.80	5	Dogwood, Red osier	4	818	485	59.29
Total	16865	76	5.86				2205	1581	71.70

*Inc. 10' on each side of planting

Additional Comments
 Heavy weed pressure on the eastern end of rows 3-5. Very few spruce trees were found dead. Oak, willow and dogwood species were browsed by deer throughout the plot. Fabric held up well, weeds were found covering the fabric on the eastern half of the plot.

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
1	215	10	0.05	1	Spruce, Black Hills	12	17	17	100.00
1	215	24	0.12	2	Juniper, Rocky Mtn.	10	21	17	80.95
1	550	10	0.13	3	Maple, Silver	8	68	42	61.76
1	575	14	0.18	4	Spruce, Black Hills	10	57	35	61.40
1	95	14	0.03	5	Crabapple, Siberian	4	23	15	65.22
1	105	14	0.03	6	Cottonwood, Sioux land	8	13	12	92.31
1	135	14	0.04	7	Oak, Bur	10	13	10	76.92
1	125	14	0.04	8	Juniper, Rocky Mtn.	12	10	10	100.00
1	180	14	0.06	9	Spruce, Black Hills	10	18	16	88.89
1	180	14	0.06	10	Juniper, Rocky Mtn.	12	15	15	100.00
1	180	14	0.06	11	Spruce, Black Hills	10	18	15	83.33
1	220	14	0.07	12	Oak, Bur	8	27	22	81.48
1	327	14	0.11	13	Ash, Green	10	32	20	62.50
1	425	14	0.14	14	Crabapple, Siberian	4	106	64	60.38
1	660	14	0.21	15	Cottonwood, Sioux land	8	82	61	74.39
1	660	24	0.36	16	Willow, Sandbar	4	165	90	54.55
Total	4847	236	1.688				685	461	67.30

*Inc. 10' on each side of planting

Additional Comments Rows 1-4 were maintained along the edges of the fabric, however rows 10-16 had varying weed pressure from moderate to high with some areas were over run with cocklebur.

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
2	0	10	0.00	1	Oak, Bur	10	0	0	NA
2	70	14	0.02	2	Ash, Green	8	9	5	55.56
2	70	14	0.02	3	Maple, Silver	10	7	4	57.14
2	70	24	0.04	4	Crabapple, Siberian	4	17	13	76.47
2	140	10	0.03	5	Cottonwood, Sioux land	8	17	12	70.59
2	140	24	0.08	6	Maple, Silver	10	14	3	21.43
Total	490	96	0.193				64	37	57.81

*Inc. 10' on each side of planting

Additional Comments

Rows were maintained for weeds and the area between rows was mowed lawn.

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
3	80	10	0.02	1	Willow, Sandbar	4	61	12	19.67
3	120	24	0.07	2	Ash, Green	8	30	21	70.00
3	400	10	0.09	3	Willow, Sandbar	4	125	75	60.00
3	400	14	0.13	4	Cottonwood, Sioux land	8	21	14	66.67
3	475	14	0.15	5	Oak, Bur	10	26	9	34.62
3	245	14	0.08	6	Crabapple, Siberian	6	20	11	55.00
3	250	14	0.08	7	Spruce, Black Hills	10	13	12	92.31
3	235	14	0.08	8	Juniper, Rocky Mtn.	8	20	19	95.00
3	235	14	0.08	9	Spruce, Black Hills	10	25	22	88.00
3	235	14	0.08	10	Crabapple, Siberian	6	33	13	39.39
3	100	14	0.03	11	Maple, Silver	8	15	2	13.33
3	70	14	0.02	12	Oak, Bur	10	10	10	100.00
3		24	0.00	13	Ash, Green	8	23	19	82.61
Total	2845	194	0.898				422	239	56.64

*Inc. 10' on each side of planting

Additional Comments

Heavy weed pressure from between rows, common burdock, giant ragweed and beggars tick.

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
4	60	10	0.01	1	Oak, Bur	12	6	4	66.67
4	75	10	0.02	2	Crabapple, Siberian	10	12	8	66.67
4	120	10	0.03	3	Ash, Green	8	15	7	46.67
4	125	14	0.04	4	Juniper, Rocky Mtn.	10	12	9	75.00
4	10	14	0.00	5	Spruce, Black Hills	4	2	5	250.00
4	90	14	0.03	6	Ash, Green	8	11	4	36.36
4	160	14	0.05	7	Crabapple, Siberian	10	26	10	38.46
4	175	14	0.06	8	Oak, Bur	12	17	3	17.65
4	75	10	0.02	9	Maple, Silver	10	10	0	0.00
Total	890	110	0.256				111	50	45.05

*Inc. 10' on each side of planting

Additional Comments

Located at a food plot for deer and heavily overgrown with weeds, mainly beggars tick and burdock.

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
5	620	10	0.14	1	Juniper, Rocky Mtn	8	77	66	85.71
5	620	24	0.34	2	Ash, Green	10	62	42	67.74
Total	1240	34	0.484				139	108	77.70

*Inc. 10' on each side of planting

Additional Comments
 Tree rows were overrun by crop pests, mainly burdock.

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
1	350	10	0.08	1	Spruce, Black Hills	12	29	24	82.76
1	350	12	0.10	2	Cottonwood, Sioux land	8	44	33	75.00
1	350	12	0.10	3	Oak, Bur	10	35	20	57.14
1	350	12	0.10	4	Crabapple, Siberian	6	58	41	70.69
1	350	22	0.18	5	Dogwood, Red osier	4	88	57	64.77
2	100	10	0.02	1	Ash, Green	8	12	9	75.00
2	100	22	0.05	2	Crabapple, Siberian	6	24	14	58.33
3	95	10	0.02	3	Dogwood, Red osier	4	24	14	58.33
3	95	12	0.03	4	Oak, Bur	10	9	9	100.00
3	95	22	0.05	5	Cottonwood, Sioux land	8	12	7	58.33
1	175	12	0.05	6	Crabapple, Siberian	6	29	29	100.00
Total	2410	156	0.764				364	257	70.60

*Inc. 10' on each side of planting

Additional Comments
Fields have been maintained, with some minor weed pressure around the trees.

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
1	360	10	0.08	1	Common/Villosa Lilac	4	90	54	60.00
1	360	14	0.12	2	Linden, Littleleaf	10	36	29	80.56
1	360	24	0.20	3	CBS-BHS	12	30	27	90.00
Total	1080	48	0.397				156	110	70.51

*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
1					Maple, Silver		236	35	14.83
1					Chokecherry, Amur		20	8	40.00
Total	0	0	0				256	43	16.80

*Inc. 10' on each side of planting

<p>Additional Comments</p> <p>Extremely high pressure from plant competition. Brome had overgrown most of the fabric squares.</p>

2016 North Dakota Tree and Shrub Mitigation Monitoring Report


Map		Landowner Info		
	Name	Mary K Dalrymple, et al Trust (Jack)		
	Address	3598 157th Ave SE Casselton, ND 58012		
	Contact Info			
	Cell	701-371-5596		
	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	No. Surviving	Survival Percentage
1	600	10	0.14	1	Ash, Green	8	75	59	78.67
1	600	24	0.33	2	Maple, Silver	10	60	49	81.67
2	355	10	0.08	1	Ash, Green	8	44	35	79.55
2	340	24	0.19	2	Maple, Silver	10	34	20	58.82
Total	1895	68	0.74				213	163	76.53

*Inc. 10' on each side of planting

Additional Comments

Ash trees in fields 1 and 2 showed signs of deer damage. Deer tracks were observed along Row 1 of Field 1 with a freshly broken tree for possible deer rub. Field 1 Row 2 was healthy where the trees were protected to the west. Trees exposed to west winds 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
1	72	10	0.02	1	Maple, Silver	10	8	7	87.50
1	68	24	0.04	2	Ash, Green	8	9	8	88.89
2	125	10	0.03	1	Ash, Green	8	53	38	71.70
2	448	24	0.25	2	Maple, Silver	10	45	45	100.00
Total	713.00	68.00	0.33				115	98	85.22

*Inc. 10' on each side of planting

Additional Comments
<p>Landowner has kept weeds from growing along the rows and weeded the trees. Found 1 dead maple in field 2</p>

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
1	800	10	0.18	1	Willow, Sandbar	4	176	3	1.70
1	800	24	0.44	2	Ash, Green	8	88	76	86.36
Total	1600	34	0.62				264	79	29.92

*Inc. 10' on each side of planting

Additional Comments

Sandbar Willow row was almost entirely dead, 3 plants had some growth, approximately 25 plants were leafless and still flexible and may come up in spring. The rest were brittle and snapped off at the base clearing weeds growing around them.

Green ash were over run with Giant Ragweed leaning over from the sides of the fabric or growing in the fabric cut with the ash trees. Very good number of surviving trees with no sign of wildlife damage.