

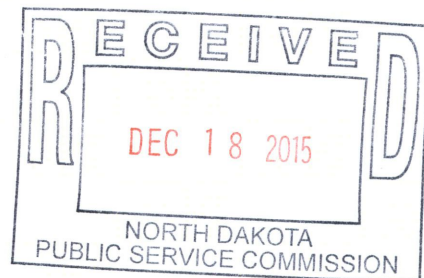
Enbridge Energy, Limited Partnership
1100 Louisiana Street
Suite 3300
Houston, Texas 77002
USA

Sally Joyce
Regulatory Project Supervisor
Telephone: (713) 353-6328
Cell: (713) 213-6894
Fax: (832) 214-5734
Email Address: Sally.Joyce@enbridge.com



December 15, 2015

VIA FEDERAL EXPRESS



Mr. Darrell Nitschke
Executive Director
North Dakota Public Service Commission
600 E. Boulevard Avenue, Dept. 408
Bismarck, ND 58505-0480

In Re: Enbridge Energy, Limited Partnership
Alberta Clipper Pipeline
Docket No. PU-07-108

Dear Mr. Nitschke:

On behalf of Enbridge Energy, Limited Partnership, we hereby submit the original and eleven (11) copies of Enbridge Energy and North Dakota Parks & Recreation - Revegetation Project Grahams Island State Park and Grahams Island Tree and Shrub Planting Project: Final Report (November 10, 2015), regarding the Alberta Clipper pipeline. The 2015 report completes the tree & shrub mitigation requirements for inspection and reporting for the three years with a survival rate of at least 75%.

Please contact the undersigned should you have any questions. Thank you,

Very truly yours,

A handwritten signature in cursive script that reads 'Sally Joyce'.

SALLY JOYCE

SJ:ca
Enclosures

cc: Mr. Pat Fahn
North Dakota Public Service Commission
600 E. Boulevard Avenue, Dept. 408
Bismarck, ND 58505-0480

106 PU-07-108 Filed: 12/18/2015 Pages: 25
Revegetation tree and shrub planting project final report

Two By Forestry

Janet K. S. Bernu, SAF Certified Forester
Brookston Road
Cloquet, MN 55720



Telephone 218/879-4433 4202

Date: November 13, 2015

To: Curt Proud – Enbridge Project Leader/Representative
for Enbridge & State of North Dakota (ND) Public Service Commission (PSC)

Re: Final Report, 1:2 Tree & Shrub Replacement Obligation following the installation project of the LSr 2008 (LSr) and Alberta Clipper 2009 (AClipper) pipelines by Enbridge Energy, Limited Partnership & Enbridge Pipelines (Southern Lights) L.L.C. (Enbridge)

The Permit from the North Dakota (ND) Public Service Commission (PSC) for the LSr and AClipper pipelines required a preconstruction survey of the trees and shrubs in the permanent and temporary easements. Following construction, the Permit required Enbridge to submit a revegetation plan (Plan) that results in two (2) trees or shrubs to be replanted for every one (1) destroyed during the construction. This Plan was submitted to and approved by the PSC. It stated that the status of the plants must be periodically monitored and an annual report must be submitted for three (3) years. It also stated that if an overall minimum 75% plant survival rate was not achieved after three years; Enbridge may have an additional planting obligation. Based on my site inspection on September 21, 2015, I concur with the attached final report from the ND Parks and Recreation – Natural Resources Division stating that the overall plant survival after three (3) years is 97.55%.

A previous memo to Enbridge dated June 5, 2013 stated that Grahams Island State Park in Ramsey County, ND (Park) was recommended and selected as the suitable and desirable planting site for the required minimum number of plants, which totaled 12,868. The Park's Plan included planting a variety of plants totaling 12,873 trees and shrubs. All plant species that were substituted during this planting project were consistent with the Plan. These substitutions were made to assure better survivability and to deal with the availability of nursery stock. The Plan also included several measures to protect the newly planted trees and shrubs including chemical and mechanical weed control to minimize competition, fencing and spraying repellants to minimize animal browse damage, and mulching to minimize drought damage. I have attached the Park's final project report pertaining to the implementation of the Plan and the inventory of the trees and shrubs for this project. This report, dated November 10, 2015, was prepared and submitted by Kathy Duttonhefner, Coordinator/ Biologist for the North Dakota Parks and Recreation - Natural Resources Division.

In May 2015, the Park staff replanted a total of 380 plants. These replacement trees and shrubs were planted in various locations and where stocking levels were low. Throughout 2015, the Park staff continued to apply various measures to increase the overall plant survival rate. The Park staff conducted a plant survival survey in September 2015. In November 2015, Ms. Duttonhefner compiled and submitted the final project status report "Enbridge Energy & North Dakota Parks & Recreation – Revegetation Project Grahams Island State *Grahams Island Tree and Shrub Planting Project: Final Report (November 10, 2015)*". The report stated the following site results for the fourteen (14) planted sites:

Site	# Dead	% Dead	% Survival/Site
1a	10	4.90	95.10
1b	12	1.35	98.65
1c	10	2.33	97.67
2a	10	8.54	91.46
2b	5	3.54	96.46
2c	6	3.08	96.92
2d	4	1.81	98.19
2e	5	2.81	97.19
3	0	0.00	100.00
4a	10	0.71	99.29
4b	9	4.03	95.97
5	1	0.20	99.80
6	0	0.00	100.00
7	8	0.99	99.01

At the end of the 2015 growing season, the Park's report states that tree and shrub survival rate ranged from 91.46 to 100% and the overall average plant survival rate for all sites is 97.55%, which is well above the required overall 75% survival rate. There is also a variety of desirable volunteers/natural tree and shrub regeneration present in the majority of the sites. Therefore, due to excellent plant survival rates and stocking levels, no trees or shrubs will be ordered or planted in 2016. Throughout next summer (2016) and the following years, the Park staff will continue to implement any necessary planting and protective measures at their own expense. Please refer to the 2015 status report for specific information regarding the number of surviving and replaced trees and shrubs as well as specific measures that were used to ensure plant survival. The Park staff also continues to maintain the three (3) signs within the planting area which increases general public awareness of the Enbridge mitigation partnership planting project.

Please note in the Park report that the Park has incurred \$198.00 for needed chemicals and has also expended 133 hours of labor valued at approximately \$2,660; neither of these costs were noted on the Park's reimbursement requests. Administratively, the Park is not able to generate an invoice for these very reasonable and necessary costs. Therefore, I highly recommend that Enbridge finds a way to issue a reimbursement payment check in the amount of \$2,858 to the ND Parks & Recreation – Natural Resources Division. The entire Park staff was extremely diligent in all of the work on this project, which I believe has ensured the success of this mitigation planting project

Please contact me with any question or concerns. If there are no further questions or a need for additional work, my assignment on this planting mitigation project is now complete. Thank you for the opportunity to be a part of this very important and successful project!

Respectfully Submitted,

Janet K S Bernu /s/

Janet K.S. Bernu, Society of American Foresters Certified Forester Two By Forestry

Attachment: November 10, 2015 final project report from
the ND Parks & Recreation – Natural Resources Division

ENBRIDGE ENERGY & ND PARKS & RECREATION

REVEGETATION PROJECT – GRAHAMS ISLAND STATE PARK

Grahams Island Tree and Shrub Planting Project: Final Report (November 10, 2015)

2015 Re-Plants

Re-plants for 2015 planting season were ordered in October of 2014. A total of 380 deciduous and coniferous tree and shrubs were ordered through Lincoln-Oakes Nurseries, Bismarck, North Dakota. These trees and shrubs were planted May 8 and May 11, 2015, randomly, in sites where replacements were necessary. A portable gas powered auger was used in the planting process. A total of 27 man hours were spent by Grahams Island State Park staff planting the trees and shrubs. Total cost of trees and shrubs nursery stock was \$588.25.

QUANTITY	PRODUCT DESCRIPTION	SIZE	UNIT PRICE	AMOUNT
<i>Deciduous - Bareroot</i>				
25	Boxelder		0.750	18.75
25	Cherry, Pin		0.800	20.00
30	Hackberry, Northern	3+	1.350	40.50
25	Hawthorn, 'Homestead' Arnold		0.750	18.75
25	Juneberry		0.750	18.75
25	Maple, Amur	2-3'	0.950	23.75
25	Nannyberry, Viburnum	Transplants	0.850	21.25
25	Oak, Bur		0.750	18.75
25	Oak, Bur	Transplants	0.850	21.25
50	Plum, American	2-3'	0.950	47.50
30	Poplar, Prairie Sky	3+	1.500	45.00
20	Sumac, Aromatic	3+	1.350	27.00
20	Sumac, Skunkbush	3+	1.350	27.00
<i>Deciduous - Container</i>				
10	Chokecherry, Common	1 gallon	7.000	70.00
10	Maple, Silver	1 gallon	7.000	70.00
<i>Conifers - Container</i>				
10	Juniper, Rocky Mountain	1 gallon	7.000	70.00

INVOICE

INVOICE NO 013103

DATE 05/01/2015

SOLD TO ND Parks & Rec

380

SubTotal: \$558.25

Figure 1 2015 Tree and Shrub Order



Figure 2 Tree and Shrub Planting May 2015



Figure 3 Tree and Shrub Planting May 2015

Vegetation Control

Vegetation control within the sites continues to be a challenge. Weed control management includes the use of mulch, weed control fabric, chemical and mechanical methods. During the months of June-August, spot treatment of hard-to-kill perennial weeds has been required. Park staff have utilized hand sprayers with GlyStar[®] Plus, Round up and Makaze, non-selective herbicides with glyphosate as the active ingredient. Herbicide applicators added dye to the herbicide solution to substantially increase application accuracy. Approximately 67 man-hours have been dedicated to vegetation control with all 7 sites being spot sprayed at least once this year. Several times this year staff utilized weed eaters and hand pulled weeds from tree and shrub complexes. Mechanical control efforts resulted in over 39 man hours. Total cost of chemical and dye was approximately \$194.00.



Figure 4 Site 5 with weed control fabric.



Tree Grow Tubes

100 additional tree tubes and stakes were installed this year. SunFlex™ Grow Tubes were purchased to help trees survive the first couple years of growth. SunFlex™ grow tube system have been designed to help trees grow taller, straighter, and bigger. The tree shelters also help protect the trees from animal damage

Figure 5 Site 7 Tree Tubes and Weed Control Fabric



Figure 6 Site 3 with Tree Tubes and Mulch.

Tree and Shrub Monitoring Survival

Monitoring survival of tree and shrubs in ongoing. It is estimated that average survival rate within all sites is over 97% with significant volunteer tree and shrubs colonizing the sites. At this point in time it is felt that re-plants will not be necessary in 2016 as the sites have maintained well over 75% survivability in the first three growing seasons. As the following pictures show this has been a very successful tree and shrub planting project.

Overall comments on tree and shrub monitoring for the first three growing seasons.

- A. Only limited signs of insect damage, disease or stress was noted, including web worms on a few chokecherry and some browning of needles on ponderosa pines.
- B. Sites has been sprayed several times each year to control weeds. Weedy species have also been mechanically removed with weed eater and by hand pulling methods.
- C. Several sites without deer fence were treated with deer repellent to protect planting from deer browse damage.
- D. Tree tubes have also been place on many trees to increase survivability during the first three growing season.
- E. Several sites are seeing natural regeneration of green ash, silverberry, rose, sumac and buffaloberry species.
- F. All sites are mulched which helps insulate the soil helping to provide a buffer from heat and cold temperatures. The mulch also retains water helping to keep the roots moist and keeps weeds out to help prevent root competition



Figure 7 Site 1

Tree and Shrub Monitoring Survival

Monitoring survival of tree and shrubs was completed in September of 2015. Results of monitoring recorded in this report. Percent survival ranged from 91.46 (Site 2a) to 100% (Site 3 & 6). Average survival rate for the 14 sites is 97.55%.

Deer Damage Management

Deer browsing on the newly planted trees and shrubs continues to be a problem. Methods for deterrents utilized include enclosing the sites with heavy duty deer fence, and spraying sites with deer repellent. In response to deer being observed eating the new growth on the trees and shrubs, staff applied Deerbusters® repellent to the some sites twice per growing season. Existing deer fence required approximately three hours of maintenance this year. An additional 100' of additional deer fencing was purchased to complete fencing. Cost of the fence material was \$109.95



Figure 8 Deer around Site Complexes



Figure 9 Spraying Deer Repellent

Outreach

Three signs were posted near planting sites to help the general public become aware of the Enbridge Mitigation partnership project.



Figure10 Enbridge Sign

Tree and Shrub Species List

Common Name	Scientific Name
Ash, Green	<i>Fraxinus pennsylvanica</i>
Boxelder	<i>Acer negundo</i>
Buffaloberry	<i>Shepherdia argentea</i>
Cherry, Pin	<i>Prunus pennsylvanica</i>
Chokecherry, Common	<i>Prunus virginiana</i>
Chokecherry, Shubert	<i>Prunus virginiana "schubert"</i>
Hackberry	<i>Celtis occidentalis</i>
Hawthorne, Downy	<i>Crataegus mollis</i>
Indigo, False	<i>Amorpha fruticosa</i>
Maple, Amur	<i>Acer ginnala</i>
Maple, Silver	<i>Acer saccharinum</i>
Nannyberry	<i>Viburnum lentago</i>
Oak, Bur	<i>Quercus macrocarpa</i>
Pine, Ponderosa	<i>Pinus ponderosa</i>
Plum, American	<i>Prunus americana</i>
Rocky Mt Juniper	<i>Juniperus scopulorum</i>
Rose, Woods	<i>Rosa woodsii</i>
Spruce, Blackhills	<i>Picea glauca</i>
Sumac	<i>Rhus sp.</i>
Wolfberry (Silverberry)	<i>Elaeagnus commutata</i>

Park: Grahams Island State Park

Date: September 2015

Surveyor: Kathy Duttonhefner



SITE 1a

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

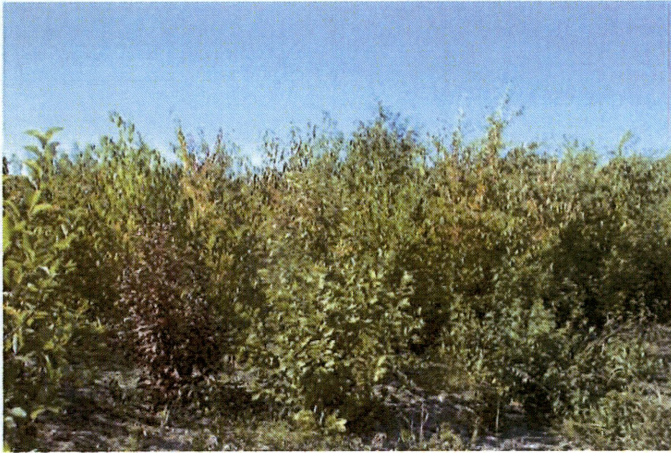
Management Comments:

Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site was treated with deer repellent to protect planting from deer damage. Tubes were placed on trees in this site. Site is seeing natural regeneration of green ash, rose, silverberry and Buffaloberry volunteers.

Hundreds of tree and shrub volunteers estimated.

Survival Rate (2015)

Site 1a	Tree/Shrub	
	Field Count Dead 2015	10
	Dead Trees	8
	Dead Shrubs	2
	% Dead Trees	4.57
	% Dead Shrubs	0.33
	Total % Dead	4.90
	Total % Survival	95.10



SITE 1b

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site was treated with deer repellent to protect planting from deer damage. Tubes were placed on trees in this site. Site is seeing natural regeneration of green ash, rose, silverberry and buffaloberry, chokecherry volunteers.

Hundreds of tree and shrub volunteers estimated.

Survival Rate (2015)

Site 1b	Tree/Shrub	
	Field Count Dead 2015	12
	Dead Trees	1
	Dead Shrubs	11
	% Dead Trees	0.25
	% Dead Shrubs	1.10
	Total % Dead	1.35
	Total % Survival	98.65



SITE 1c

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site was treated with deer repellent to protect planting from deer damage. Tubes were placed on trees in this site. Site is seeing natural regeneration of green ash, rose, silverberry and chokecherry volunteers.



Survival Rate (2015)

Site	Tree/Shrub	
1c	Field Count Dead 2015	10
	Dead Trees	3
	Dead Shrubs	7
	% Dead Trees	1.94
	% Dead Shrubs	0.40
	Total % Dead	2.33
	Total % Survival	97.67



SITE 2a

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site is fenced. Site is seeing natural regeneration of green ash, buffaloberry and silverberry and volunteers. Shrubs very dense.



Survival Rate (2015)

Site	Tree/Shrub	
2a	Field Count Dead 2015	10
	Dead Trees	8
	Dead Shrubs	2
	% Dead Trees	8.00
	% Dead Shrubs	0.54
	Total % Dead	8.54
	Total % Survival	91.46





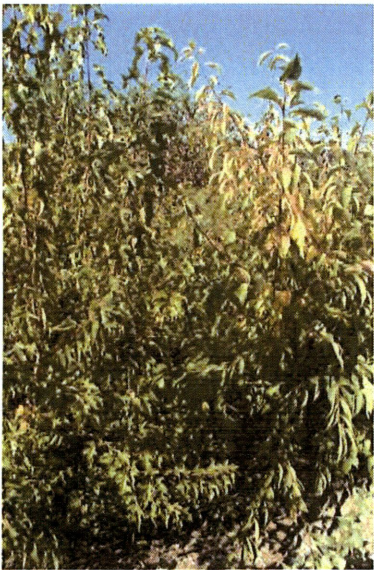
SITE 2b

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

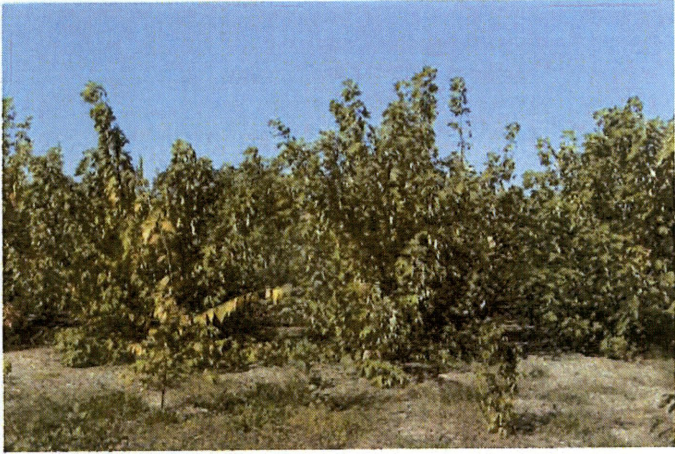
Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site is fenced to protect from deer damage. Site is seeing natural regeneration of green ash, buffaloberry and silverberry and volunteers. Shrubs very dense.



Survival Rate (2015)

Site 2b	Tree/Shrub	
	Field Count Dead 2015	5
	Dead Trees	3
	Dead Shrubs	2
	% Dead Trees	3.00
	% Dead Shrubs	0.54
	Total % Dead	3.54
	Total % Survival	96.46





SITE 2c

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site is fenced to protect from deer damage. Site is seeing natural regeneration of green ash, rose, buffaloberry and silverberry and volunteers. Shrubs very dense.



Survival Rate (2015)

Site 2c	Tree/Shrub	
	Field Count Dead 2015	6
	Dead Trees	2
	Dead Shrubs	4
	% Dead Trees	2.00
	% Dead Shrubs	1.08
	Total % Dead	3.08
	Total % Survival	96.92





SITE 2d

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site is fenced to protect from deer damage. Site is seeing natural regeneration of green ash, rose, buffaloberry and silverberry and volunteers. Shrubs very dense.



Survival Rate (2015)

Site 2d	Tree/Shrub	
	Field Count Dead 2015	4
	Dead Trees	1
	Dead Shrubs	3
	% Dead Trees	1.00
	% Dead Shrubs	0.81
	Total % Dead	1.81
	Total % Survival	98.19





SITE 2e

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Weedy species were also hand pulled. Site is fenced to protect from deer damage. Site is seeing natural regeneration of sumac and rose.



Survival Rate (2015)

Site 2e	Tree/Shrub	
	Field Count Dead 2015	5
	Dead Trees	2
	Dead Shrubs	3
	% Dead Trees	2.00
	% Dead Shrubs	0.81
	Total % Dead	2.81
	Total % Survival	97.19





SITE 3

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site is planted with trees species only. All trees mulched and most have tree tubes.



Survival Rate (2015)

Site	Tree/Shrub	
3	Field Count Dead 2015	0
	Dead Trees	0
	Dead Shrubs	0
	% Dead Trees	0.00
	% Dead Shrubs	0.00
	Total % Dead	0.00
	Total % Survival	100.00



SITE 4a

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Site is fenced to protect from deer damage. Site is seeing natural regeneration of green ash, sumac, buffaloberry, snowberry and silverberry.



Survival Rate (2015)

Site 4a	Tree/Shrub	
	Field Count Dead 2015	10
	Dead Trees	2
	Dead Shrubs	8
	% Dead Trees	0.33
	% Dead Shrubs	0.38
	Total % Dead	0.71
	Total % Survival	99.29





SITE 4b

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Site has been sprayed several times to control weeds. Site is fenced to protect from deer damage. Site is seeing natural regeneration of green ash, rose, buffaloberry, sumac, and silverberry and volunteers. Some maples are over 8' tall.



Survival Rate (2015)

Site 4b	Tree/Shrub	
	Field Count Dead 2015	9
	Dead Trees	3
	Dead Shrubs	6
	% Dead Trees	3.00
	% Dead Shrubs	1.03
	Total % Dead	4.03
	Total % Survival	95.97





SITE 5

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Fabric installed on this tree row. Site treated with deer repellent.

Survival Rate (2015)

Site	Tree/Shrub	
5	Field Count Dead 2015	1
	Dead Trees	0
	Dead Shrubs	1
	% Dead Trees	0.00
	% Dead Shrubs	0.20
	Total % Dead	0.20
	Total % Survival	99.80





SITE 6

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Fabric installed on this tree row. Site treated with deer repellent.

Survival Rate (2015)

Site	Tree/Shrub	
6	Field Count Dead 2015	0
	Dead Trees	0
	Dead Shrubs	0
	% Dead Trees	0.00
	% Dead Shrubs	0.00
	Total % Dead	0.00
	Total % Survival	100.00





SITE 7

Insect, Disease, Signs of Stress:

No signs of insect damage or disease.

Management Comments:

Fabric installed on this tree row. Site treated with deer repellent. Tree tubes installed.

Survival Rate (2015)

Site7	Tree/Shrub	
	Field Count Dead 2015	0
	Dead Trees	2
	Dead Shrubs	6
	% Dead Trees	0.62
	% Dead Shrubs	0.38
	Total % Dead	0.99
	Total % Survival	99.01

Post Planting – 4th Year Action Plan and Beyond

1. Continue to monitor trees health and vigor. Inspect for disease and insect problems.
2. Inspect evergreen trees for winter injury and fruit trees for rodent damage.
3. Remove tree tube if necessary.
4. Add more mulch if needed.
5. Water as needed.

Budget Summary May 2013 – November 2015

ENBRIDGE GRAHAMS ISLAND TREE PLANTING				
	OR15082			
Date	VENDOR	REIMBURSEMENTS	EXPENDITURES	BALANCE
5/13/2013	Bellemare Design Associates		8,430.00	(8,430.00)
6/10/2013	Z's Trees		12,800.00	(21,230.00)
6/10/2013	Lincoln Oakes Nursery		16,244.00	(37,474.00)
6/10/2013	Bellemare Design Associates		29,505.00	(66,979.00)
6/28/2013	Ramsey County SCD		2,424.93	(69,403.93)
6/28/2013	Menards		822.98	(70,226.91)
6/30/2013	JV Mendards		(822.98)	(69,403.93)
8/6/2013	Bellemare Design Associates		4,215.00	(73,618.93)
9/20/2013	REVENUE RECEIVED	43,724.47		(29,894.46)
10/16/2013	REVENUE RECEIVED	25,679.46		(4,215.00)
10/16/2013	Plantra Inc		957.29	(5,172.29)
10/16/2013	Tractor Supply		655.80	(5,828.09)
10/16/2013	Deer Busters.com		2,284.70	(8,112.79)
10/16/2013	Tree World Inc.		349.95	(8,462.74)
10/16/2013	Tree World Inc.		25.42	(8,488.16)
10/16/2013	TSC		822.69	(9,310.85)
1/25/2013	Z's Trees		3,200.00	(12,510.85)
12/17/2013	REVENUE RECEIVED	9,310.85		(3,200.00)
1/14/2014	Ramsey County SCD		450.00	(3,650.00)
3/10/2014	REVENUE RECEIVED	3,200.00		(450.00)
6/30/2014	Lincoln Oakes Nursery		757.00	(1,207.00)
6/30/2014	Plantra Inc		805.60	(2,012.60)
8/8/2014	Roughrider Industries		58.50	(2,071.10)
8/8/2014	Ramsey County SCD		551.25	(2,622.35)
10/15/2014	REVENUE RECEIVED	2,622.35		0.00
10/29/2014	Deer Busters.com		1,111.80	(1,111.80)
4/28/2015	REVENUE RECEIVED	1,111.80		0.00
5/14/2015	Lincoln Oakes Nursery		588.25	(588.25)
6/30/2015	Trident Enterprises (Deer Fence)		109.95	(698.20)

Note: A request for reimbursement for \$698.20 was sent in September 2015.