

Lake Martha / City of Osseo / WDNR Lake Protection Grant proposal
Shoreland restoration / revegetation project

Prepared by:

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Which are the city sites?

Site 1 > Hallum – shade; 660 sq. ft. (66 ft. X 10 ft.); short, low growing shrubs preferred; geese access protection.

NO TREES – I added them

Site	ITEM / DESCRIPTION	UNITS	QUANTITY	UNIT COST	SUBTOTAL
1-Hallum [shade]					
	Mobilization/delivery	job	1	\$40-\$100	\$40-\$100
	Site preparation	hour	5-10	\$12-\$30	\$60-\$150
	Black plastic	roll [4-7 mm, 12ft. X 50-100 ft.]	1	\$50-\$100	\$50-\$100
	Mulch ¹	3 cubic feet / bag	12-16	\$6.50	\$78-\$104
	Landscape staples	Box of 1000	1 Box	\$25-\$35	\$25-\$35
	Native plant material - deciduous trees ²	each [8-12'; 3" diameter balled and burlapped]	1-2 trees	\$250-\$350	\$250-\$700
	Native plant material - deciduous trees	each / [5 to 15 gallon containers]	4-5 trees	\$80-\$150	\$200-\$750
	Native plant material – short, low growing shrubs > containerized	each / [1 to 3 gallon containers]	4-5 shrubs	\$20-\$35	\$80-\$175
	Native plant material – short, low growing shrubs > bare root stock	each / [1 to 2-year old bare root stock]	1-2 shrubs	\$15-\$25	\$15-\$50
Scenario A-NATIVE PLANT MATERIAL PROCURED FROM A NURSERY	Native plant material - grasses, sedges, & rushes	per plug	64	\$2-\$4.50	\$128-\$288
	Native plant material - wildflowers & ferns	per plug	128	\$2-\$4.50	\$256-\$576
	Compost	1 cu. ft. bag	12	\$3.00	\$36
	Planting labor / installation of plants	hour	\$12-\$30	4-8	\$48-\$240
	Deer spray concentrate	bottle	2 for entire project	\$45	\$90
	Sprayer	job	1 for entire project	\$40	\$40
SITE 1-SCENARIO A SUBTOTAL					\$1,396-\$3,434
Scenario B-NATIVE SEED & PLANTS GROWN BY HIGH SCHOOL STUDENTS					
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- grasses, sedges, & rushes	Assorted native plant seed packets, potting soil, and plastic containers	10-15 species	\$50-\$75	\$50-\$75
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- wildflowers & ferns	Assorted native plant seed packets, potting soil, and plastic containers	15-25 species	\$75-\$150	\$75-\$150
SITE 1-SCENARIO B SUBTOTAL					\$1,137-\$2,795
TAX?					

¹ Mulch for the entire project can be bought cheaper by the yard for ~\$25-\$35 a yard delivered.

² Burlapped trees are obviously more expensive and more difficult to plant properly but they give immediate results; containerized material may be preferred but I included the costs here for burlapped material so you can compare the two sources.

Site 2a > Colby – partial sun; 2,625 sq. ft. (75 ft. X 35 ft.); short, low growing shrubs preferred; geese access protection; fish habitat restored to near-shore area; clear invasive buckthorn trees from site.

NO SHRUBS – I added them

Site	ITEM / DESCRIPTION	UNITS	QUANTITY	UNIT COST	SUBTOTAL
2a-Colby [partial shade]					
	Mobilization/delivery	job	1	\$40-\$100	\$40-\$100
	Site preparation (including buckthorn removal)	hour	10-15	\$12-\$30	\$120-\$450
	Black plastic	roll [4-7 mm, 12ft. X 50-100 ft.]	1	\$50-\$100	\$50-\$100
	Mulch	3 cubic feet / bag	54	\$6.50	\$351
	Landscape staples	Box of 1000	1 Box	\$25-\$35	\$25-\$35
	Native plant material - deciduous trees	each [8-12'; 3" diameter balled and burlapped]	5-7 trees	\$250-\$350	\$1,250-\$2,450
	Native plant material - deciduous trees	each / [5 to 15 gallon containers]	15-25 trees	\$80-\$150	\$1,200-\$3,750
	Native plant material – short, low growing shrubs > containerized	each / [1 to 3 gallon containers]	12 shrubs	\$20-\$35	\$240-\$420
	Native plant material – short, low growing shrubs > bare root stock	each / [1 to 2-year old bare root stock]	15-20 shrubs	\$15-\$25	\$225-\$500
Scenario A-NATIVE PLANT MATERIAL PROCURED FROM A NURSERY	Native plant material - grasses, sedges, & rushes	per plug	224	\$2-\$4.50	\$448-\$1,008
	Native plant material - wildflowers & ferns	per plug	448	\$2-\$4.50	\$896-\$2,016
	Compost	1 cu. ft. bag	27	\$3.00	\$81
	Planting labor / installation of plants	hour	\$12-\$30	16-32	\$192-\$960
SITE 2a-SCENARIO A SUBTOTAL					\$5,118-\$12,221
Scenario B-NATIVE SEED & PLANTS GROWN BY HIGH SCHOOL STUDENTS					
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- grasses, sedges, & rushes	Assorted native plant seed packets, potting soil, and plastic containers	10-15 species	\$200-\$300	\$200-\$300
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- wildflowers & ferns	Assorted native plant seed packets, potting soil, and plastic containers	15-25 species	\$300-\$600	\$300-\$600
SITE 2a-SCENARIO B SUBTOTAL					\$4,274-\$10,097
TAX?					

Site 2b > Colby – partial sun; 750 sq. ft. (75 ft. X 10 ft.); short, low growing shrubs preferred; geese access protection; sea wall removal = 75 feet.

Site	ITEM / DESCRIPTION	UNITS	QUANTITY	UNIT COST	SUBTOTAL
2b-Colby [partial sun]					
	Mobilization/delivery	job	1	\$40-\$100	\$40-\$100
	Site preparation	hour	6-12	\$12-\$30	\$72-\$360
	Black plastic	roll [4-7 mm, 12ft. X 50-100 ft.]	1	\$50-\$100	\$50-\$100
	Mulch	3 cubic feet / bag	16	\$6.50	\$104
	Landscape staples	Box of 1000	1 Box	\$25-\$35	\$25-\$35
	Native plant material - deciduous trees	each [8-12'; 3" diameter balled and burlapped]	1-2 trees	\$250-\$350	\$250-\$700
	Native plant material - deciduous trees	each / [5 to 15 gallon containers]	5-6 trees	\$80-\$150	\$400-\$900
	Native plant material – short, low growing shrubs > containerized	each / [1 to 3 gallon containers]	5-7 shrubs	\$20-\$35	\$100-\$245
	Native plant material – short, low growing shrubs > bare root stock	each / [1 to 2-year old bare root stock]	2-3 shrubs	\$15-\$25	\$30-\$75
Scenario A-NATIVE PLANT MATERIAL PROCURED FROM A NURSERY	Native plant material - grasses, sedges, & rushes	per plug	96	\$2-\$4.50	\$192-\$432
	Native plant material - wildflowers & ferns	per plug	128	\$2-\$4.50	\$256-\$576
	Compost	1 cu. ft. bag	16	\$3.00	\$48
	Planting labor / installation of plants	hour	\$12-\$30	6-12	\$72-\$360
	Sea wall removal ³ -75 ft.	hour	\$12-\$30	4-6	\$60-\$180
SITE 2b-SCENARIO A SUBTOTAL					\$1,699-\$4,215
Scenario B-NATIVE SEED & PLANTS GROWN BY HIGH SCHOOL STUDENTS					
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- grasses, sedges, & rushes	Assorted native plant seed packets, potting soil, and plastic containers	10-15 species	\$60-\$90	\$60-\$90
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- wildflowers & ferns	Assorted native plant seed packets, potting soil, and plastic containers	15-25 species	\$90-\$175	\$90-\$175
SITE 2b-SCENARIO B SUBTOTAL					\$1,401-\$3,472
TAX?					

³ This could be more expensive if machinery is needed to pull out the old wall.

Site 3 > Jensen – sun; 5,040 sq. ft. (84 ft. X 60 ft.); short, low growing shrubs preferred; geese access protection; sea wall removal = 84 feet.

Site	ITEM / DESCRIPTION	UNITS	QUANTITY	UNIT COST	SUBTOTAL
3-Jensen [sun]					
	Mobilization/delivery	job	1	\$40-\$100	\$40-\$100
	Site preparation	hour	20-30	\$12-\$30	\$240-\$900
	Black plastic	roll [4-7 mm, 12ft. X 50-100 ft.]	1	\$50-\$100	\$50-\$100
	Mulch	3 cubic feet / bag	54	\$6.50	\$650
	Landscape staples	Box of 1000	1 Box	\$25-\$35	\$25-\$35
	Native plant material - deciduous trees	each [8-12'; 3" diameter balled and burlapped]	8-10 trees	\$250-\$350	\$2,000-\$3,500
	Native plant material - deciduous trees	each / [5 to 15 gallon containers]	35-40 trees	\$80-\$150	\$2,800-\$6,000
	Native plant material – short, low growing shrubs > containerized	each / [1 to 3 gallon containers]	10-15 shrubs	\$20-\$35	\$200-\$525
	Native plant material – short, low growing shrubs > bare root stock	each / [1 to 2-year old bare root stock]	25-35 shrubs	\$15-\$25	\$375-\$875
Scenario A-NATIVE PLANT MATERIAL PROCURED FROM A NURSERY	Native plant material - grasses, sedges, & rushes	per plug	416	\$2-\$4.50	\$832-\$1,872
	Native plant material - wildflowers & ferns	per plug	832	\$2-\$4.50	\$1,664-\$3,744
	Compost	1 cu. ft. bag	100	\$3.00	\$300
	Planting labor / installation of plants	hour	\$12-\$30	32-64	\$384-\$1,920
	Sea wall removal-84 ft.	hour	\$12-\$30	6-8	\$72-\$240
SITE 3-SCENARIO A SUBTOTAL					\$9,632-\$20,761
Scenario B-NATIVE SEED & PLANTS GROWN BY HIGH SCHOOL STUDENTS					
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- grasses, sedges, & rushes	Assorted native plant seed packets, potting soil, and plastic containers	10-15 species	\$400-\$600	\$400-\$600
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- wildflowers & ferns	Assorted native plant seed packets, potting soil, and plastic containers	20-25 species	\$600-\$1,200	\$600-\$1,200
SITE 3-SCENARIO B SUBTOTAL					\$8,136-\$16,945
TAX?					

Site 4 > Francis – sun; 3,395 sq. ft. (97 ft. X 35 ft.); short, low growing shrubs preferred; geese access protection; fish habitat restored to near-shore area; sea wall removal = 64 feet; shore fishing.

Site	ITEM / DESCRIPTION	UNITS	QUANTITY	UNIT COST	SUBTOTAL
4-Francis [sun]					
	Mobilization/delivery	job	1	\$40-\$100	\$40-\$100
	Site preparation	hour	12-18	\$12-\$30	\$144-\$540
	Black plastic	roll [4-7 mm, 12ft. X 50-100 ft.]	1	\$50-\$100	\$50-\$100
	Mulch	3 cubic feet / bag	68	\$6.50	\$442
	Landscape staples	Box of 1000	1 Box	\$25-\$35	\$25-\$35
	Native plant material - deciduous trees	each [8-12'; 3" diameter balled and burlapped]	10-14 trees	\$250-\$350	\$2,500-\$4,900
	Native plant material - deciduous trees	each / [5 to 15 gallon containers]	15-20 trees	\$80-\$150	\$1,200-\$3,000
	Native plant material – short, low growing shrubs > containerized	each / [1 to 3 gallon containers]	10-14 shrubs	\$20-\$35	\$200-\$490
	Native plant material – short, low growing shrubs > bare root stock	each / [1 to 2-year old bare root stock]	15-20 shrubs	\$15-\$25	\$225-\$500
Scenario A-NATIVE PLANT MATERIAL PROCURED FROM A NURSERY	Native plant material - grasses, sedges, & rushes	per plug	284	\$2-\$4.50	\$568-\$1,278
	Native plant material - wildflowers & ferns	per plug	568	\$2-\$4.50	\$1,136-\$2,556
	Compost	1 cu. ft. bag	68	\$3.00	\$204
	Planting labor / installation of plants	hour	\$12-\$30	20-36	\$240-\$1,080
	Sea wall removal – 64 ft.	hour	\$12-\$30	5-7	\$60-\$210
SITE 4-SCENARIO A SUBTOTAL					\$7,034-\$15,435
Scenario B-NATIVE SEED & PLANTS GROWN BY HIGH SCHOOL STUDENTS					
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- grasses, sedges, & rushes	Assorted native plant seed packets, potting soil, and plastic containers	10-15 species	\$300-\$450	\$300-\$450
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- wildflowers & ferns	Assorted native plant seed packets, potting soil, and plastic containers	15-25 species	\$400-\$750	\$400-\$750
SITE 4-SCENARIO B SUBTOTAL					\$6,030-\$12,801
TAX?					

Site 5 > Stoddard – shade; 5,425 sq. ft. (155 ft. X 35 ft.); short, low growing shrubs preferred; geese access protection; fish habitat restored to near-shore area; shore fishing.

Site	ITEM / DESCRIPTION	UNITS	QUANTITY	UNIT COST	SUBTOTAL
5-Stoddard [shade]					
	Mobilization/delivery	job	1	\$40-\$100	\$40-\$100
	Site preparation	hour	25-35	\$12-\$30	\$240-\$900
	Black plastic	roll [4-7 mm, 12ft. X 50-100 ft.]	1	\$50-\$100	\$50-\$100
	Mulch	3 cubic feet / bag	110	\$6.50	\$650
	Landscape staples	Box of 1000	1 Box	\$25-\$35	\$25-\$35
	Native plant material - deciduous trees	each [8-12'; 3" diameter balled and burlapped]	10-15 trees	\$250-\$350	\$2,000-\$3,500
	Native plant material - deciduous trees	each / [5 to 15 gallon containers]	35-40 trees	\$80-\$150	\$2,800-\$6,000
	Native plant material – short, low growing shrubs > containerized	each / [1 to 3 gallon containers]	10-15 shrubs	\$20-\$35	\$200-\$525
	Native plant material – short, low growing shrubs > bare root stock	each / [1 to 2-year old bare root stock]	30-40 shrubs	\$15-\$25	\$375-\$875
Scenario A-NATIVE PLANT MATERIAL PROCURED FROM A NURSERY	Native plant material - grasses, sedges, & rushes	per plug	480	\$2-\$4.50	\$832-\$1,872
	Native plant material - wildflowers & ferns	per plug	960	\$2-\$4.50	\$1,664-\$3,744
	Compost	1 cu. ft. bag	110	\$3.00	\$300
	Planting labor / installation of plants	hour	\$12-\$30	35-70	\$384-\$1,920
SITE 5-SCENARIO A SUBTOTAL					\$9,560-\$20,521
Scenario B-NATIVE SEED & PLANTS GROWN BY HIGH SCHOOL STUDENTS					
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- grasses, sedges, & rushes	Assorted native plant seed packets, potting soil, and plastic containers	10-15 species	\$400-\$600	\$400-\$600
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- wildflowers & ferns	Assorted native plant seed packets, potting soil, and plastic containers	20-25 species	\$600-\$1,200	\$600-\$1,200
SITE 5-SCENARIO B SUBTOTAL					\$8,064-\$16,705
TAX?					

Site 6 > Pier – sun; 300 sq. ft. (30 ft. X 10 ft.); short, low growing shrubs preferred; geese access protection; fish habitat restored to near-shore area.

Site	ITEM / DESCRIPTION	UNITS	QUANTITY	UNIT COST	SUBTOTAL
6-Pier [sun]					
	Mobilization/delivery	job	1	\$40-\$100	\$40-\$100
	Site preparation	hour	3-6	\$12-\$30	\$36-\$180
	Black plastic	roll [4-7 mm, 12ft. X 50-100 ft.]	1	\$50-\$100	\$50-\$100
	Mulch	3 cubic feet / bag	6	\$6.50	\$39
	Landscape staples	Box of 1000	1 Box	\$25-\$35	\$25-\$35
	Native plant material - deciduous trees	each [8-12'; 3" diameter balled and burlapped]	1-2 trees	\$250-\$350	\$250-\$700
	Native plant material - deciduous trees	each / [5 to 15 gallon containers]	1-2 trees	\$80-\$150	\$80-\$300
	Native plant material – short, low growing shrubs > containerized	each / [1 to 3 gallon containers]	1-3 shrubs	\$20-\$35	\$20-\$105
	Native plant material – short, low growing shrubs > bare root stock	each / [1 to 2-year old bare root stock]	2-3 shrubs	\$15-\$25	\$30-\$75
Scenario A-NATIVE PLANT MATERIAL PROCURED FROM A NURSERY	Native plant material - grasses, sedges, & rushes	per plug	32	\$2-\$4.50	\$64-\$144
	Native plant material - wildflowers & ferns	per plug	64	\$2-\$4.50	\$128-\$288
	Compost	1 cu. ft. bag	6	\$3.00	\$18
	Planting labor / installation of plants	hour	\$12-\$30	2-4	\$24-\$120
SITE 6-SCENARIO A SUBTOTAL					\$804-\$2,074
Scenario B-NATIVE SEED & PLANTS GROWN BY HIGH SCHOOL STUDENTS					
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- grasses, sedges, & rushes	Assorted native plant seed packets, potting soil, and plastic containers	10-15 species	\$25-\$40	\$25-\$40
Student plant propagation and plant tray growing	Native seed option with plastic containers and soil- wildflowers & ferns	Assorted native plant seed packets, potting soil, and plastic containers	15-25 species	\$40-\$75	\$40-\$75
SITE 6-SCENARIO B SUBTOTAL					\$677-\$1,757
TAX?					

Appendices

<i>LAYER</i>	<i>Woodland density</i>	<i>Wetland or barrens / Dry prairie / Wet prairie density</i>
<i>Tree</i>	<i>0.5 – 5 per 100 sq. ft.</i>	<i>0 - 0.2 per 100 sq. ft.</i>
<i>Shrub</i>	<i>1 - 4 per 100 sq. ft.</i>	<i>0.2 - 0.5 per 100 sq. ft.</i>
<i>Herbaceous cover / ground layer</i>	<i>25 –75 plants per 100 sq. ft.</i>	<i>50 – 100 plants per 100 sq. ft.</i>

Source: Wisconsin Biology Technical Note 1: Shoreland Habitat, p. 4.

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