

Plant Requirements and Schedule

Parkway Trees

88th Avenue
 Requirements: 329.93 lf of frontage, 1 shade tree per 100 lf and 1 ornamental tree per 100 lf = 4 Shade Trees and 4 Ornamental Trees (4 Shade Trees and 4 Ornamental Trees Provided)

Scientific Name	Common Name	Quantity	Size	Comments
Shade Trees				
Acer rubrum 'October Glory'	'October Glory' Maple	2	2.5" cal. B+B	
Gymnocladus dioicus 'Espresso-JFS'	'Espresso' Kentucky Coffeetree	3	2.5" cal. B+B	
Quercus bicolor	Swamp White Oak	3	2.5" cal. B+B	

Beverly Lane

Requirements: 313.73 lf of frontage, 1 tree per 40 lf = 8 Trees (8 Provided)

Scientific Name	Common Name	Quantity	Size	Comments
Ginkgo biloba 'Autumn Gold'	'Autumn Gold' Ginkgo	4	2.5" cal. B+B	
Tilia americana 'Redmond'	'Redmond' Linden	4	2.5" cal. B+B	

Adria Court (North/South Portion)

Requirements: 185.00 lf of frontage, 1 tree per 40 lf = 5 Trees (5 Provided)

Scientific Name	Common Name	Quantity	Size	Comments
Gymnocladus dioicus 'Espresso-JFS'	'Espresso' Kentucky Coffeetree	1	2.5" cal. B+B	
Ulmus davidiana var. japonica 'Morton'	'Accolade' Elm	4	2.5" cal. B+B	

Adria Court (East/West Portion)

Requirements: 210.00 lf of frontage, 1 tree per 40 lf = 5 Trees (5 Provided)

Scientific Name	Common Name	Quantity	Size	Comments
Acer rubrum 'October Glory'	'October Glory' Maple	3	2.5" cal. B+B	
Gymnocladus dioicus 'Espresso-JFS'	'Espresso' Kentucky Coffeetree	2	2.5" cal. B+B	

Storm Water Management Area

Requirements: one (1) tree for every one hundred (100) linear feet of retention or detention basin perimeter as measured at the high water line; native understory trees shall be planted at a ratio not less than one (1) tree for every two hundred (200) linear feet; and native shrubs at a ratio not less than three (3) shrubs for every fifty (50) linear feet. 728.6 lf @ high water level = 7 Trees, 4 understory trees, and 43.5 shrubs (7 Trees, 4 understory trees, and 44 shrubs Provided)

Scientific Name	Common Name	Quantity	Size	Comments
Canopy Trees				
Quercus bicolor	Swamp White Oak	3	2.5" cal. B+B	
Taxodium distichum	Bald Cypress	4	2.5" cal. B+B	
Ornamental Trees				
Amelanchier grandiflora	Apple Serviceberry	1	6" cl. B+B	
Betula nigra	River Birch	2	6" cl. B+B	
Ostrya virginiana	American Hombeam	1	6" cl. B+B	
Shrubs				
Aronia melanocarpa 'Morton'	'Iroquois Beauty' Black Chokeberry	6	5 gal. (24")	
Cephalanthus occidentalis	Buttonbush	10	5 gal. (24")	
Comus sericea	Red Osier Dogwood	12	5 gal. (24")	
Rosa palustris	Swamp Rose	5	5 gal. (24")	
Viburnum dentatum	Arrowwood Viburnum	11	5 gal. (24")	

Sign Landscaping

Scientific Name	Common Name	Quantity	Size	Comments
Shrubs				
Hydrangea paniculata 'Jane'	'Little Lime' Hydrangea	5	5 gal.	
Juniperus horizontalis 'Hughes'	'Hughes' Juniper	5	5 gal.	
Myrica pennsylvanica	Northern Bayberry	3	5 gal.	

Perennials and Ornamental Grasses

Baptisia Decadence 'Blueberry Sundae'	Baptisia 'Blueberry Sundae'	2	1 gal.	
Panicum virgatum 'Northwind'	'Northwind' Switchgrass	6	1 gal.	
Rudbeckia fulgida 'Viette's Little Suzy'	Rudbeckia 'Viette's Little Suzy'	11	1 gal.	

Plant Diversity Requirements

Scientific Name	Common Name	Quantity	Size	Comments
Shade Trees				
Acer rubrum 'October Glory'	'October Glory' Maple	5	2.5" cal. B+B	18% (Illinois Native, Native)
Ginkgo biloba 'Autumn Gold'	'Autumn Gold' Ginkgo	4	2.5" cal. B+B	12%
Gymnocladus dioicus 'Espresso-JFS'	'Espresso' Kentucky Coffeetree	6	2.5" cal. B+B	18% (Illinois Native, Native)
Quercus bicolor	Swamp White Oak	6	2.5" cal. B+B	18% (Illinois Native)
Taxodium distichum	Bald Cypress	4	2.5" cal. B+B	12% (Illinois Native)
Tilia americana 'Redmond'	'Redmond' Linden	4	2.5" cal. B+B	12%
Ulmus davidiana var. japonica 'Morton'	'Accolade' Elm	4	2.5" cal. B+B	12%
Ornamental Trees				
Amelanchier grandiflora	Apple Serviceberry	1	6" cl. B+B	25% (Illinois Native)
Betula nigra	River Birch	2	6" cl. B+B	50% (Illinois Native)
Ostrya virginiana	American Hombeam	1	6" cl. B+B	25% (Illinois Native)
Shrubs				
Aronia melanocarpa 'Morton'	'Iroquois Beauty' Black Chokeberry	6	5 gal. (24")	11% (Illinois Native)
Cephalanthus occidentalis	Buttonbush	10	5 gal. (24")	17% (Illinois Native)
Comus sericea	Red Osier Dogwood	12	5 gal. (24")	21% (Illinois Native)
Hydrangea paniculata 'Jane'	'Little Lime' Hydrangea	5	5 gal.	9%
Juniperus horizontalis 'Hughes'	'Hughes' Juniper	5	5 gal.	9%
Myrica pennsylvanica	Northern Bayberry	3	5 gal.	4% (Illinois Native)
Rosa palustris	Swamp Rose	5	5 gal. (24")	9% (Illinois Native)
Viburnum dentatum	Arrowwood Viburnum	11	5 gal. (24")	20% (Illinois Native)
Perennials and Ornamental Grasses				
Baptisia Decadence 'Blueberry Sundae'	Baptisia 'Blueberry Sundae'	2	1 gal.	11% (Illinois Native)
Panicum virgatum 'Northwind'	'Northwind' Switchgrass	6	1 gal.	31% (Illinois Native)
Rudbeckia fulgida 'Viette's Little Suzy'	Rudbeckia 'Viette's Little Suzy'	11	1 gal.	58% (Illinois Native)

Storm Water Management Area Seed Mixes

Mesic-to-Dry TallGrass Prairie Seed Mix .42 Ac (J.F. New)		PLS Ounces/Acre
Botanical Name	Common Name	
Permanent Grasses:		
Andropogon gerardii	Big Bluestem	18.00
Bouteloua curtipendula	Side-Oats Grama	8.00
Carex spp.	Prairie Sedge Species	4.00
Elymus canadensis	Canada Wild Rye	24.00
Panicum virgatum	Switch Grass	4.00
Schizachyrium scoparium	Little Bluestem	28.00
Sorghastrum nutans	Indian Grass	12.00
Total		98.00
Temporary Cover:		
Avena sativa	Common Oat	360.00
Lolium multiflorum	Annual Rye	100.00
Total		460.00
Forbs:		
Asclepias syriaca	Common Milkweed	2.00
Asclepias tuberosa	Butterfly Weed	1.00
Baptisia alba	White Wild Indigo	2.00
Baptisia bracteata	Cream Wild Indigo	0.50
Chamaecrista fasciculata	Partridge Pea	10.00
Coreopsis lanceolata	Sand Coreopsis	4.00
Coreopsis palmata	Prairie Coreopsis	0.75
Desmanthus illinoensis	Illinois Sensitive Plant	2.00
Desmodium illinoense	Illinois Tick Trefoil	0.50
Echinacea purpurea	Broad-Leaved Purple Coneflower	8.00
Eryngium yuccifolium	Rattlesnake Master	2.00
Lespedeza capitata	Round-Headed Bush Clover	2.00
Liatris aspera	Rough Blazing Star	1.00
Liatris pycnostachya	Prairie Blazing Star	2.00
Lupinus perennis v. occidentalis	Wild Lupine	2.00
Monarda fistulosa	Wild Bergamot	1.00
Oligoneuron rigidum	Stiff Goldenrod	2.00
Parthenium integrifolium	Wild Quinine	1.00
Drynallia arguta	Prairie Cinquefoil	0.50
Pycnanthemum virginianum	Common Mountain Mint	0.25
Ratibida pinnata	Yellow Coneflower	4.00
Rudbeckia hirta	Black-Eyed Susan	5.00
Silphium integrifolium	Rosin Weed	3.00
Silphium laciniatum	Compass Plant	2.00
Silphium terebinthinaceum	Prairie Dock	3.00
Solidago nemoralis	Old-Field Goldenrod	0.25
Solidago speciosa	Showy Goldenrod	0.50
Symphotrichum laeve	Smooth Blue Aster	1.00
Symphotrichum novae-angliae	New England Aster	0.50
Symphotrichum oolentangiense	Sky-Blue Aster	1.00
Tradescantia ohioensis	Common Spiderwort	1.00
Veronicastrum virginicum	Culver's Root	0.25
Total		66.00

No Mow Seed Mix -
 Prairie Nursery
 P.O. Box 306
 Westfield, WI 53964
 1-800-476-9453

The 'No Mow Seed Mix' is a proprietary mix of seed containing Festuca brevipila, Festuca ovina, Festuca rubra subs. fallax, Festuca Rubra, Festuca rubra var. Rubra and to be applied at a rate of 5 pounds per 1000 square feet, 220 pounds per acre

Stormwater Seed Mix .18 Ac (J.F. New)		PLS Ounces/Acre
Botanical Name	Common Name	
Permanent Grasses/Sedges/Rushes:		
Bolboschoenus fluviatilis	River Bulrush	1.00
Carex cristatella	Crested Oval Sedge	0.50
Carex lurida	Bottlebrush Sedge	3.00
Carex vulpinoidea	Brown Fox Sedge	2.00
Elymus virginicus	Virginia Wild Rye	24.00
Glyceria striata	Fowl Manna Grass	1.00
Juncus effusus	Common Rush	1.00
Leersia oryzoides	Rice Cut Grass	1.00
Panicum virgatum	Switch Grass	2.00
Schoenoplectus tabernaemontani	Great Bulrush	3.00
Scirpus atrovirens	Dark Green Rush	2.00
Scirpus cyperinus	Wool Grass	1.00
Total		41.50
Temporary Cover:		
Avena sativa	Common Oat	360.00
Lolium multiflorum	Annual Rye	100.00
Total		460.00
Alisma subcordatum	common water plantain	0.5
Asclepias incarnata	swamp milkweed	0.4
Avena sativa	oats	45.7
Bidens cernua	nodding bur marigold	0.4
Bolboschoenus fluviatilis	river bulrush	0.2
Carex cristatella	crested oval sedge	0.1
Carex lurida	bottlebrush sedge	0.6
Carex vulpinoidea	brown fox sedge	0.4
Elymus virginicus	Virginia wild rye	4.6
Eupatorium perfoliatum	common boneset	0.2
Glyceria striata	fowl manna grass	0.2
Helenium autumnale	sneezeweed	4
Iris virginica v. shrevei	blue flag	0.8
Juncus effusus	common rush	0.2
Leersia oryzoides	rice cut grass	0.2
Lolium multiflorum	annual rye grass	12.7
Lycopus americanus	common water horehound	0.1
Mimulus ringens	monkey flower	0.2
Panicum virgatum	switch grass	0.4
Penthorum sedoides	ditch stoncrop	0.1
Rudbeckia subtomentosa	sweet black-eyed susan	0.2
Rudbeckia triloba	brown-eyed susan	0.3
Sagittaria latifolia	common arrowhead	0.2
Schoenoplectus tabernaemontani	softstem bulrush	0.6
Scirpus atrovirens	dark green rush	0.4
Scirpus cyperinus	wool grass	0.2
Senna hebecarpa	wild senna	0.6
Symphotrichum lateriflorum	side-flowering aster	0.1
Symphotrichum novae-angliae	New England aster	0.1
Thalictrum dasycarpum	purple meadow rue	0.4
Total		75.10

Plan Notes:

- The contractor shall provide and install all plant materials in quantities sufficient to complete the planting shown on the drawing, unless noted otherwise. All plants shall comply with the requirements of the current American Standard for Nursery Stock, published by the American Association of Nurserymen. Plants shall meet size, genus, species, and variety. Plants shall be in good health, free of disease, insects and defects. No "Park Grade" material shall be accepted. Plants may be substituted upon the approval of the Landscape Architect or the governing municipality prior to installation.
- All plants shall be watered during the first 24-hour period after installation. Contractor is responsible for watering sod and seed areas until first mowing. A schedule must be agreed upon with the owner, before sod is installed, of whom, when and how sod is to be properly watered. The contractor is responsible for site visits to ensure the proper watering is being done for establishment and health of sod.
- Plants shall be balled and burlapped or container grown as specified. No root bound material shall be accepted and all wrapping material made of synthetics or plastics shall be removed at the time of planting. It is the contractor's option to roll back burlap from the top of the ball.
- All shrub beds and tree rings shall receive 4" depth of shredded hardwood mulch. All new tree rings shall be 5' in diameter. All perennials shall receive 2" depth of hardwood mulch.
- All plants shall be set plumb. It is the contractors option to stake deciduous tree, but it is also the contractor's responsibility to ensure plants remain plumb until the end of the guarantee period. All deciduous trees shall be wrapped to prevent winter damage, which shall be removed after the first winter by the installing contractor. All evergreen trees must be staked.
- Prune, thin out, and shape new plants in accordance with standard horticultural practices to retain their natural character. Do not cut tree leader, but be sure to remove any injured, damaged, dead, or crossed branches from the plant at the time of installation. All plant material shall be planted to finished grade equivalent to the plant's original grade before digging.
- All ground cover and flowerbeds shall receive a 6" depth of organic compost, which shall be rototilled into the existing topsoil utilizing two lifts. Trees and shrubs shall be back filled with good existing topsoil.
- The contractor shall locate the existence of all underground utilities prior to starting. The contractor must also keep the pavement and work area in a neat and orderly condition throughout the construction process.
- Owner shall provide contractor with finish grade from the approved grading plan to a tenth of an inch with sufficient quality topsoil. If imported topsoil is required it shall be done at the owners expense. The general contractor should remove all building construction debris. The landscape contractor should be responsible for landscape debris removal.
- Seeded turf areas shall extend to all areas of disturbance unless otherwise noted and shall consist of an approved Kentucky Bluegrass Blend and finished with erosion control blanket.
- All edging to be a spaded natural edge, no steel or plastic edging shall be used unless otherwise noted.
- Should the Village agree to accept responsibility of the detention area (Lot 10) after the 3-year monitoring and management period is completed by the developer and all performance criteria have been met, then the Village will be responsible for ongoing management.
- Information contained in "Plan Notes" take precedence over other information.

Note: All parkway trees are required to be a minimum 10' from all fire hydrants and manholes.

NOTE: ALL TREES AND SHRUBS SHALL BE PLANTED NO LESS THAN 10' HORIZONTALLY FROM UTILITY STRUCTURES

CLARENCE DAVIDS & COMPANY
 23900 W. 127th Street - Plainfield, IL 60685
 (815) 439 - 2271 fax
 clarence@clardavids.com

Megan Nicole Ridge Subdivision
 132nd and 88th Ave.
 Orland Park, IL

Plant Requirements, Schedule and Details

Scale: N/A

Proj. #: 19.1295.FV-sb	Date: 4/11/19
Sheet: 2 of 5	Revised: in 7/3/19
Drawn By: sb	Revised: in 9/4/19
Account Rep: aw	Revised: in 5/26/20

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NATIVE SEEDING
(J.F. New)

PART 1 GENERAL

1.1 QUALITY ASSURANCE

- A. The seeding contractor shall have at least three years experience with native prairie seeding and shall have successfully performed at least five similar seeding projects.
- B. Seed should be obtained from local sources within 200 miles of the site if possible.

1.2 SEASONAL CONSIDERATIONS: GENERAL GUIDELINES

- A. November 1 Thru February 28. Seeding during this time should be protected from displacement due to water and wind erosion. Seeding on bare, graded surfaces must be protected with appropriate erosion control blankets on slopes steeper than 5:1, and with blown and crimped straw mulch at 1 ½ tons per acre on lesser slopes. Seed drilled into existing vegetation or flat ground not subject to erosion may not need erosion protection.
- B. March 1 Thru June 29 Seeding during this period is appropriate but germination of a portion of the seed may not occur until the following season due to lack of cold stratification to break seed dormancy. Blown and crimped straw mulch is recommended at 1 ½ - 2 tons per acre on bare soils. Mulch may not be required if seed is drilled into existing vegetation or flat ground not subject to erosion.
- C. June 30 Thru August 30. Installation of native seed should be suspended unless irrigation can be provided..
- D. September 1 Thru October 31. Seeding on graded, bare-soil surfaces must be protected with appropriate erosion control blankets on slopes ³ 5:1, and with blown and crimped straw mulch at 1 ½ tons per acre on lesser slopes. Seed drilled on flat ground not subject to erosion or into existing vegetation may not require erosion protection.
- E. These limits are to be considered general guidelines only and may be modified with the approval of the Restoration Consultant according to site conditions, local weather patterns, seed mix type, and other factors.

1.3 SEED MIXTURES

- A. All seed shall be true to genus and species. All seed packaging shall be tagged showing seed species, sources, and weights. The seed weights shall be based on pure live seed (pls) percentage for all species.
- B. Seed shall be shipped, stored and handled in a manner that will insure protection from damage and to maintain dormancy until planted.
- C. The composition and placement of seed mixes will be as shown on the plans. Species substitutions shall be approved by the Restoration Consultant.

1.4 SEED PROTECTION

- A. Areas with potential for high wave action or goose depredation that may dislodge newly planted seed, all seeded areas will be secured with 6" or 8" "U"-shaped wire erosion control blanket staples. Staple length is determined by the density of the planting substrate; softer substrates require longer length to hold seed bed adequately.
- B. In areas where the potential for goose depredation exists, such as retention basins or other areas adjacent to open water, waterfowl barriers shall be installed over seeded areas. Barriers shall consist of plastic enclosures supported with wooden stakes, adequately constructed to inhibit access by waterfowl for one growing season. Enclosures shall extend at least two feet in height above the plant tops. Methodology is to be approved by the restoration consultant. Barriers shall be removed after one growing season.

1.5 SUBMITTALS

- A. Materials: Prior to delivery of any materials to the site, submit to the Owner a complete list of all live herbaceous perennial plants, tubers, bulbs, and dormant rootstocks of herbaceous perennial plants to be used during this portion of the work. Include complete data on source, quantity, and quality. This submittal shall in no way be construed as permitting substitution for specific items described on the plans or in these specifications unless approved in writing by the Restoration Consultant.
- B. Equipment: Prior to commencement of any work, submit to the Owner a written description of all mechanical equipment and its intended use during the execution of the work.
- C. After the work is complete, submit to the Owner "as-built" plans including a listing of all species installed, and quantities installed. Mark in red ink on the original planting plan any field changes or deviations from the original plans.

EROSION CONTROL
(J.F. New)

PART 1 GENERAL

1.1 DESCRIPTION

- A. This section includes installation of North American Green S-75 (Or equivalent) erosion control blanket and blown straw mulch.

1.2 QUALITY ASSURANCE

- A. Qualifications of workers: provide at least one person who shall be present at all times during execution of this portion of the work, who shall be thoroughly familiar with this type of work and the type of materials being used. Said person shall also direct all work performed under this section.
- B. Standards: all materials used during this portion of the work shall meet or exceed applicable federal, state, county and local laws and regulations.

1.3 SUBMITTALS

- A. Materials: Prior to delivery of any materials to the site, submit to the Owner a complete list of all materials to be used during this portion of the work. Include complete data on source, quantity, and quality. This submittal will in no way be construed as permitting substitution for specific items described on the Plan set or in these Specifications unless approved in writing by the Restoration Consultant.
- B. Equipment: Prior to commencement of any work, submit to the Owner a written description of all mechanical equipment and its intended use during the execution of the work.
- C. After the work is complete, submit to the Owner "as-built" plans including a listing of all species installed, and quantities installed. Mark in red ink on the original planting plan any field changes or deviations from the original plans.

1.4 PRODUCTS

- A. All areas exiting as bare soil at the time of seed installation shall receive erosion control material application.
- B. Slopes ³ 5:1 shall receive a machine produced mat of straw fiber covered on both sides with a photo degradable extruded plastic or woven biodegradable netting having maximum openings of 0.5" to 1.0". The blanket shall be packaged in a perforated plastic bag and conform to the following physical specifications: Minimum blanket roll width: 42", Minimum unit weight: 0.8 lbs/yd2. North American Green S-75 shall be utilized for all
- C. Slopes < 5:1 shall receive clean, weed free native or agricultural straw mulch (oat straw will not be allowed).

PART 1 EXECUTION

2.1 METHOD-EROSION CONTROL BLANKETS

- A. Refer to the Plans for location of erosion blanket treatment areas.
- B. Install seed prior to applying erosion control blankets per the native seeding specification.
- C. If installation occurs between July 15th and November 1st, install cover crop with erosion control blanket at the time of construction, and hold native seed mix until the recommended optimum seeding dates. Before seeding native mix, remove blanket and mow off cover crop. Reinstall blanket after native seeding per manufacturer's specifications.
- D. Any day that seeding is performed the seeded area must be covered with appropriate erosion control measures. Anchor erosion control blanket at top of slope as shown on plans or as recommended by manufacturer. Install parallel to channel flow or in a diagonal cross slope pattern in short stretches where practical, and as recommended by manufacturer.
- E. Erosion control blanket shall be in full intimate contact with the topsoil but not stretched to the point where the integrity of its performance is jeopardized.
- F. Secure erosion blanket with staples as recommended by the manufacturer.
- G. Overlap erosion control blanket shingle-style not less than two inches in the direction of the current and install staples over seams every 36".
- H. Bury the erosion control blankets in an approximate 6" trench at the crown and toe of the slope or as recommended by the manufacturer.

2.2 METHOD-CRIMPED STRAW MULCH

- A. Install straw mulch in all seeded areas requiring erosion control that are not to be protected by erosion control blanket per the Plans.
- C. Straw mulch shall be applied by a mechanical means suitable for blowing straw at a rate of 1.5-2 tons per acre.
- D. Immediately proceeding blown straw application, the straw shall be crimped by one of the following means:
 1. A mulch anchoring tool. This is a mechanical tractor drawn implement designed to punch mulch into the soil effectively.
 2. A standard farm disc equipped with a blade that shall not cut the straw but place it firmly into the ground approximately 2.5" - 3" in depth.

SEEDBED PREPARATION AND REGRADING
(J.F. New)

PART 1 GENERAL

1.1 DESCRIPTION

- A. This section includes preparation of soil prior to seeding and/or removal of erosion rills and disturbance in the areas of the site existing as disturbed/unvegetated soil or eroded slopes.

1.2 QUALITY ASSURANCE

- A. Qualifications of workers: provide at least one person who shall be present at all times during execution of this portion of the work, who shall be thoroughly familiar with this type of work and the type of materials being used. Said person shall also direct all work performed under this section.
- B. Standards: all materials used during this portion of the work shall meet or exceed applicable federal, state, county and local laws and regulations.

1.3 SUBMITTALS

- A. Equipment: Prior to commencement of any work, submit to the Owner a written description of all mechanical equipment and its intended use during the execution of the work.

PART 2 EXECUTION

2.1 METHOD-SOIL PREP AND REGRADING

- A. **SHALLOW SLOPE, UNVEGETATED**--In areas existing in an unvegetated state at the inception of installation activities on the site and possessing a slope of < 5:1, soil shall be dragged with a disc, harrow, landscape rake, or box grader so that soil is tilled to a minimum depth of 4". For unvegetated areas with a slope greater than 10:1, ensure that the disc tracks or furrows run parallel to the contour so as not to encourage rilling.
- B. **SEVERE SLOPE, VEGETATED**--In areas existing in a vegetated state at the inception of installation activities, possessing a slope of ³ 5:1, and having significant soil loss due to erosion rill formation, soil shall be returned to original contour using a harrow, landscape rake, or box grader. In areas where soil loss is extreme, friable topsoil (available onsite) shall be imported by the Contractor at the direction of the Restoration Consultant.
- C. Topsoil shall be free of stones, lumps, plants, roots, and other debris over 2" in any dimension. Topsoil must also be free of plants or plant parts of quack grass, reed canary grass, Canada thistle, or others as specified by the restoration consultant.
- D. Any irregularities or undulations resulting from tilling or grading shall be fine graded and level prior to seeding.
- E. Soils shall not be compacted. A 150# person walking on soil should leave a ½" depression. Soils shall have a measured compaction following regrading no greater than 5 psi, based on Lang or Cone penetrometer measurements at the time of seeding or planting unless otherwise stated on the Plans or in the Specifications. If 10% or more of penetrometer readings are greater than 5 psi, disc, rotovate, and/or chisel plow said areas as necessary to reduce compaction.
- F. Re-check soil compaction as described above after tillage. Repeat treatment as necessary until 90% or more of planting area meets the standard.

2.2 CLEAN-UP, REMOVAL, AND REPAIR

- A. Clean up: Contractor shall keep work area free of debris. After the work is complete, clean up any remaining materials, debris, trash, etc. Avoid driving or walking over areas to minimize disturbance.
- B. Removal: after work has been completed remove any tools, equipment, empty containers, and all other debris generated by the Contractor.
- C. Repair: repair any damages caused by the Contractor during completion of the work described in this section.

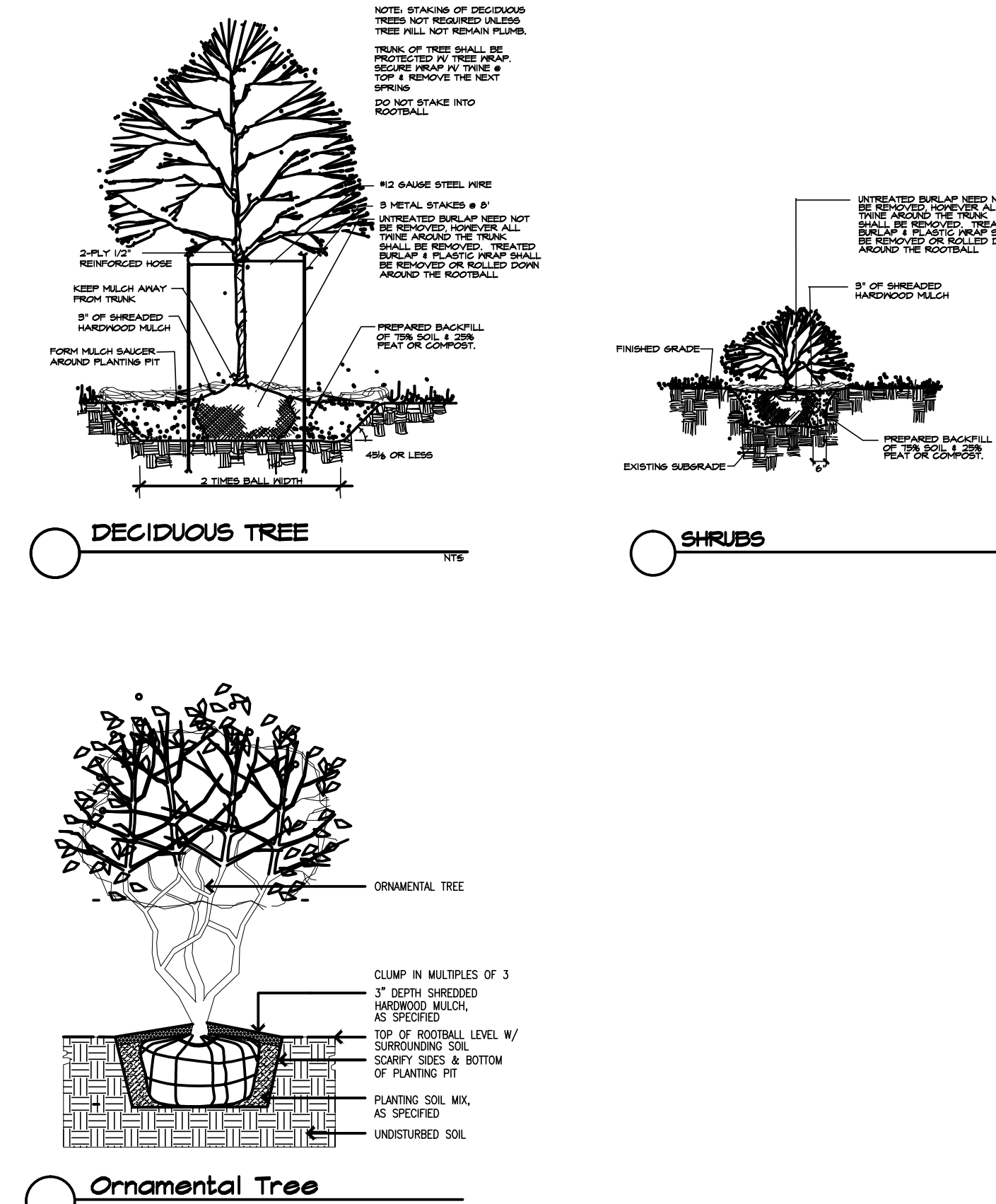
2.3 INSPECTION

- A. It is the responsibility of the Contractor to notify the Restoration Consultant a minimum of 48 hours prior to initiation of seedbed preparation and regrading activities to allow Restoration Consultant to schedule to be on site to direct and approve regrading and seedbed preparation activities.

2.4 ACCEPTANCE AND GUARANTEE

- A. Final acceptance: this portion of the work shall be considered 100% complete after the Contractor has completed soil preparation, and completed all required clean up as described in 2.2 of this section.

Planting Details



Note: In all plantings, mulch is not to cover root flare and should be kept away from the trunk of the tree or shrub. Root flare should remain visible after planting

CLARENCE DAVIDS & COMPANY
23900 W. 127th Street - Plainfield, IL 60585
(815) 439 - 1177 office (815) 439 - 2291 fax
clarencedavids.com

Megan Nicole Ridge Subdivision
132nd and 88th Ave.
Orland Park, IL

Plant Requirements, Schedule and Details



Scale: N/A

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MONITORING AND MANAGEMENT PLAN FOR NATURALIZED LANDSCAPE AREAS LOCATED ON SINGLE-FAMILY RESIDENTIAL PROPERTIES

Introduction

This document is intended to act as a Monitoring and Management Plan template for single-family residential homeowners wishing to install naturalized landscaping on their property. A Monitoring and Management Plan is required for single-family residential homeowners intending to install naturalized landscaping that exceed twelve inches (12") in height, as per **Section 6-305.F.2.c** of the Village of Orland Park Land Development Code. The purpose of the Monitoring and Management Plan is to help homeowners successfully establish naturalized landscaping on their property in lieu of conventional lawns, to provide standards that prevent the spread of nuisance species and measure the progress of the habitat, and guidelines for monitoring and reporting the success of the naturalized landscapes.

In all cases, requirements set forth in the Land Development Code shall supersede any conflict between the information provided in this document and the Land Development Code. A property owner shall apply to the Development Services Department and receive a written approval of a landscape plan and Monitoring and Management Plan prior to the installation of naturalized landscaping. Please see Page 9 of this document for a complete citation of Section 6-305.F.2.c.

For assistance with any aspect of this process, please contact the Development Services Department at **(708) 403-5300**.

Benefits of Naturalized Landscaping

Native plant species play a vital role in protecting water resources, providing wildlife habitat and creating beautiful landscapes. These benefits are sometimes referred to "ecosystem services" and provide benefits to human health, environment and economy. As people's appreciation of the natural beauty and benefits of native plants have grown, so has an interest in creating natural habitats around our own homes. The five main elements for successful naturalized landscape include:

- 1) Planning
- 2) Removal
- 3) Installation
- 4) Management
- 5) Monitoring

1. Planning

The first step in preparing a naturalized landscaping is to evaluate existing conditions and map the area where the landscaping will be installed. The Village allows up to **thirty percent (30%)** of the total existing open space in a resident's **rear and side yard**, setback a minimum of **three (3) feet** of any property line, to consist of naturalized landscaping that exceeds **twelve (12) inches** in height.

As per the Village's Land Development Code, a **Front Yard** means an area extending the full width of a lot between the front lot line and the nearest principal structure; a **Rear Yard** means an area extending the full width of a lot between the rear lot line and the nearest principal structure and a **Side Yard** means an area extending the depth of a lot from the front yard to the rear yard between the side lot line and the nearest principal structure. An example of where a front, side and rear yard are located is provided in **Figure 1. (Omitted)**

A **site plan** is required and should include a drawing of the lot drawn to scale on a sheet of paper not less than **8 1/2" x 11" inches** which contains: the location of property lines; location of structures, fences, existing drainage patterns and paved areas; location of each natural landscaping area; a list by scientific and common name of species intended to be planted and maintained within each area; and the setback distance of each natural area that will be located near any property line.

Any proposed soil amendments and levels of shade and sunlight should also be included on the plan, if possible. Although the actual conditions and layout will likely vary dramatically from property to property, the basic elements of the example can be applied to most projects (i.e. north arrow, scale, property lines, etc.).

Selection of native plant species that are suitable for the type of soil, soil moisture, sunlight, on the property as well as providing the desired aesthetic appearance is critical for success. For instance, a property with full sun and rich soils can be planted as prairie with a combination of grasses and bright colorful forbs. A wooded habitat with dry, well drained soils can be planted with spring woodland or savanna species. An area with poorly drained soils can be planted with wetland species. Understanding the property's environmental conditions will help define the most appropriate planting area and design a successful naturalized landscape that the property owner will enjoy.

Naturalized landscaping provides opportunities to select a diverse variety of plants suitable for the site that will bloom throughout the year. Although they are not as colorful, it is important to include a variety of grass species in your planting as they contribute to the health of the naturalized landscape, provide root structure to help prevent weed growth and provide late fall and winter cover and visual interest. Plant spacing will depend on how much the plant will spread and grow out. A general rule of thumb that is often followed is to plant plugs twelve (12) inches to eighteen (18) inches on center. If establishing vegetation by seed, use a seed mix that includes a diverse combination of native forb and grass species using a minimum of twelve (12) to sixteen (16) pounds per acre. A cover crop of "annual" rye and oats are also typically included in a seed mix to minimize competition from undesirable species during the first year of establishment. Do not use **perennial** rye since this will compete with your native perennial species and is very difficult to eliminate once planted.

2. Removal of Existing Vegetation

The establishment of a naturalized habitat consisting of native plants that exceed twelve inches (12") in height including ferns, grasses, sedges, rushes, forbs, shrubs and trees is allowed under the Land Development Code. This is an intentional process and does not refer to allowing lawns or weeds to "go natural" on their own. Therefore, under most conditions the existing non-native vegetation must be eliminated in order to successfully plant the native vegetation through transplanting live plants or by seed.

Existing vegetation can be eliminated by physical removal, smothering, or chemical treatment. Physical removal is the most labor intensive option and can be accomplished by using tools such as a sod cutter, shovel or mechanical equipment to cut the turf below the root zone. Smothering is less labor intensive but can take a full growing season (5 to 6 months) to kill the turfgrass. Examples of smothering include covering the proposed planting area with materials such as black plastic sheeting, tarps, cardboard and mulch, used construction materials like sheetrock or plywood, used carpeting, or other opaque material. The key is to eliminate all sunlight for an extended period of time. The quickest method of turf elimination is the use of non-specific, short-duration chemical herbicides such as glyphosate. Because glyphosate affects metabolism in plants but not animals, it has very low toxicity to humans. Although it is possible to use these chemicals safely, it is extremely important to carefully follow manufacturer's directions for use, especially when working near wetlands or water resources.

3. Installation

Native landscaping relies on the plant species that have lived in our region for thousands of years and have evolved to local growing conditions including climate, soils, precipitation and wildlife. Therefore, whenever possible it is recommended to utilize native plants and seed that are derived from local genetic sources, typically from within a 150 mile radius. These plants are commonly referred to as a "local genotype". The use of local genotypes helps ensure the plants will perform optimally and require the least amount of supplemental watering or management. There are many nurseries, native plant retailers, and native plant sales that are able to provide native species from local genotypes.

Native herbaceous vegetation can be established using live plugs, potted plants or seed. Using live plugs or potted plants can be more costly than seed but provides the fastest establishment of a native landscape. Plugs are small rooted plants that typically become established in weeks rather than months (as by seed) and can reach a flowering size in the first year. Plants may also be available in quarts or gallon sizes to provide a more immediate aesthetic appearance. This can be particularly useful in high visibility or high traffic areas. Seed can be the least costly installation method and can be particularly useful for planting large areas. However, establishment by seed may require additional soil preparation, specialized equipment and can take two to three years to develop the appearance of a naturalized landscape. Other benefits of plugs are that they are easy to identify and weed around and provide greater control over the placement of species.

4. Management

When properly planted and established, naturalized landscapes are low maintenance compared to conventional landscaping. However, this does not mean "no maintenance", especially during the first few years after planting. Native plants spend the first two to three years developing roots and typically require watering and weeding until their deep roots are established. If it does not rain, water plants weekly over the first year making sure to allow the water to soak deep into the soil. Once the roots are established, additional watering will not be needed. Fertilizing of native plants is not required at all. In fact, adding fertilizer provides an advantage to non-native or invasive plant species and actually encourages the growth of undesirable weeds. Therefore, a homeowner would be paying for fertilizer they don't need and paying even more to correct the problems created by the fertilizer. Although native vegetation also does not require the application of pesticides, a limited amount of herbicide may be necessary to control invasive species as part of the long-term management of a naturalized landscape.

a. Short-Term

Annual weed species often dominate a new planting. The weed species can be controlled by hand-pulling, mowing or spot spraying/hand-wicking with herbicide. The early identification and elimination of undesirable species is the most effective form of control. Therefore, it is important to develop good plant identification skills for the plants you want to keep in the landscape and those you do not. High mowing should be timed and performed to eliminate or prevent the development of seed heads and the production of seed from undesirable species while avoiding damage to desirable species. For instance, native species tend to be shorter than the non-native weeds during the late spring. Therefore, the height of a mower can be set above the native vegetation to cut as low as possible without injuring the native species (typically about 8 inches). Otherwise, a hand held weed-eater or hand scythe can be used to target and cut undesirable species close to the ground or to cut higher when in close proximity to native vegetation. By the second or third year the native plants will be more established and weeding will become minimal as the native landscape matures.

(see appendix on sheet 5)

b. Long-Term

Long-term maintenance will likely require a combination of spring mowing, hand-pulling, spot-herbicide applications and supplemental planting. Prior to European settlement, periodic fires were a natural occurrence in the region so many of our native plants and ecosystems evolved to be dependent on fire. Therefore, controlled burns are a common tool for managing natural areas including prairies, wetlands and forests. Residents interested in utilizing controlled burns will need to comply with all state and local regulations and may wish to hire a professional that specializes in natural resource management. Since controlled burns may not be appropriate management tools for suburban areas, annual fall or spring mowing can be used to replace many the benefits of fire in naturalized landscapes on residential properties. Mowing should be performed in the late fall or early spring, before the start of the growing season, at a height of approximately 6 to 8 inches. This will remove the previous year's growth, allow sunlight to reach the ground, promote healthy vegetation growth, and maintain a neater appearance. To prevent smothering, thatch material will likely need to be collected and removed from the naturalized landscape. Landscape material can be composted on-site or removed through the Villages' Yard Waste program. Waste Management provides Orland Park residents with yard waste collection from April 1 to November 30 using the proper paper collection bags or carts. Contact Waste Management of the South Suburbs at 800-796-9696 for more information.

Invasive species are plants, animal or fungus species that are not native to a specific location, which have the tendency to spread aggressively, and are believed to cause damage to the environment, human health, or human economy. Owners of naturalized landscapes must continuously monitor the habitat for invasive plant species since they spread rapidly in today's landscape and can quickly degrade a naturalized area. Early identification and eradication is the most cost effective form of invasive species management since undesirable plants are not allowed to establish or go to seed. In most cases the invasive plant can simply be pulled out by hand. However, certain species such as common buckthorn (*Rhamnus cathartica*), Amur honeysuckle (*Lonicera maackii*), Tartarian honeysuckle (*Lonicera tartarica*), cut-leaved teasel (*Dipsacus laciniatus*) or common reed (*Phragmites australis*) may require a combination of cutting and herbicide treatment. Property owners may want to refer to organizations such as the Midwest Invasive Plant Network at www.mipn.org for more information including species identification and proper eradication methods.

Over time, residents may wish to increase the species diversity of the naturalized landscape area. This can be accomplished by transplanting live plants or adding native seed. Live plants or seed may also need to be added to areas where planted species have not been successful or the eradication of weeds has left bare patches. The addition of new plants can increase the biodiversity of the habitat, attract new species of wildlife (i.e. species of butterflies, birds, etc.) and help to prevent the development of bare spots by maintaining full coverage.

(see appendix on sheet 5)

5. Monitoring

A properly installed naturalized planting will provide an aesthetically attractive, environmentally beneficial low maintenance landscape. After the naturalized landscape has initially been established, residents should continually monitor the habitat to protect their investment and ensure the naturalized landscape will continue to provide enjoyment. The intent of the Single-Family Residential Naturalized Landscaping ordinance is to promote the use of native plants and natural habitat on residential properties while avoiding the pitfalls that can occur from poor implementation or communication. In order to comply with the Ordinance a property must be inspected by a Village inspector or designee annually, or as determined by the Development Services Department, and the following performance criteria must be met:

- a. By the end of the third growing season at least 90 percent of the planted naturalized landscape area, visually estimated by aerial cover, shall be covered with live vegetation.
- b. By the end of the third growing season at least 70 percent of the vegetation in the planted naturalized landscape areas shall be plant species native to the Chicago Region.
- c. None of the three-most dominant species present may be non-native or weedy, including but not limited to the following:

<u>Woody Plants</u>	
<i>Acer negundo</i>	Box elder
<i>Alnus glutinosa</i>	Black Alder
<i>Elaeagnus umbellata</i>	Autumn olive
<i>Euonymus alatus</i>	Burning bush
<i>Lonicera</i> spp.	Honeysuckle
<i>Rhamnus</i> spp.	Buckthorn
<i>Robinia pseudoacacia</i>	Black locust
<i>Rosa multiflora</i>	Multiflora rose
<i>Ulmus pumila</i>	Siberian elm

<u>Broadleaf Plants</u>	
<i>Alliaria petiolata</i>	Garlic mustard
<i>Ambrosia</i> spp.	Ragweed
<i>Arctium</i> spp.	Burdock
<i>Carduus nutans</i>	Musk thistle
<i>Centaurea maculosa</i>	Spotted knapweed
<i>Cirsium arvense</i>	Canada thistle
<i>Conium maculatum</i>	Spotted hemlock
<i>Coronilla varia</i>	Crown vetch
<i>Daucus carota</i>	Wild carrot
<i>Dipsacus</i> spp.	Teasel
<i>Euphorbia escula</i>	Leafy spurge
<i>Hesperis matronalis</i>	Dame's rocket
<i>Lotus corniculatus</i>	Bird's-foot trefoil
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Medicago</i> spp.	Alfalfa/medick
<i>Mellilotus</i> spp.	Sweetclover
<i>Pastinaca sativa</i>	Wild parsnip
<i>Polygonum cuspidatum</i>	Japanese knotweed
<i>Solidago altissima</i>	Tall goldenrod
<i>Solidago sempervirens</i>	Seaside goldenrod
<i>Trifolium</i> spp.	Clover
<i>Typha</i> spp.	Cattails

<u>Grass-like Plants</u>	
<i>Agropyron repens</i>	Quackgrass
<i>Bromus tectorum</i>	Cheatgrass
<i>Bromus japonicus</i>	Japanese brome
<i>Bromus inermis</i>	Smooth brome
<i>Phalaris arundinacea</i>	Reed canarygrass
<i>Phragmites australis</i>	Common reed
<i>Poa pratensis</i>	Kentucky bluegrass

6. APPROVAL

VILLAGE OF ORLAND PARK	PETITIONER/OWNER
Approved By: _____	Submitted By: _____
Printed Name: _____	Printed Name: _____
Title: _____	Property Address: _____
Date: _____	Contact Phone: _____
	Contact Email: _____
	Date: _____

- d. If any of these criteria are not met, a remedial action plan shall be prepared that specifies a proposed course of action to bring the naturalized landscape area into compliance.
- e. These criteria shall be maintained in perpetuity.

Upon installation of a naturalized landscape area, the site shall be inspected by a Village inspector or designee to verify compliance with the approved landscape plan and proper maintenance of the natural landscape area. After a successful inspection, the property owner will be provided with a letter from the Village certifying that the naturalized landscape has been inspected and meets the criteria of the Village Ordinance. Permission for single-family residential natural landscaping may be revoked with cause, such as failure of the owners to manage the areas or to respond to notices of creation of a nuisance or violation of the weed control ordinance, as determined by the Development Services Department.

CLARENCE DAVIDS & COMPANY
23900 W. 127th Street - Plainfield, IL 60585
(815) 439 - 1177 office (815) 439 - 2291 fax
clarencedavids.com



Megan Nicole Ridge Subdivision
132nd and 88th Ave.
Orland Park, IL

Maintenance and Monitoring Plan

Scale: N/A

Date: 4/11/19	Revised: in 7/3/19	Revised: in 9/4/19	Revised: in 5/26/20
Proj. #: 19-1295.FV-sb	Sheet: 4 of 5	Drawn By: sb	Account Rep: aw

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Appendix 1
Near-term Management & Maintenance Tasks for Naturalized Landscapes.

Activity	Calendar																							
	2x /month	Monthly	Every other month	Quarterly	Semi-annual	Annual	After major storms *	As needed	Year 1	Year 2	Year 3	J	F	M	A	M	J	J	A	S	O	N	D	
Debris/Litter Management Remove trash (e.g., paper, plastic, brush, grass clippings, etc.) from inlet/outlet structures, basin slopes, and bottom and dispose in appropriate off-site location.			X				X		X	X	X													
Stormwater Structure Management Perform inspection of control structure/spillway and clean-out/repair and dispose of debris in an appropriate off-site location. Inspect basin/pond slopes and embankments. Perform corrective maintenance any time the pond takes longer than design time to return to +6 inches of NWL.	X (until stable)				X		X		X	X	X													X
SESC Management Maintain SESC devices in functional condition at all times and correct deficiencies immediately. Conduct inspection within 24 hours of 1" storm event. Repair damage to slopes/embankment, including undercut or eroded areas if 1.0 sq. m. in size or 5 lin. ft. or 4 in x 4 in wide or greater. Repair and revegetate eroded areas.							X		X				X	X	X	X	X	X	X	X	X	X	X	X
Vegetation Management <i>General Weed Management</i> Control invasive/non-invasive weeds as appropriate to each species. This may require different treatment times for different plant species. Treatment mechanisms may include mowing, hand cutting, prescribed burning, herbicide application, or a combination of methods. Species include but are not limited to the following: Buckthorn Bush honeysuckle Cattails Common reed Purple loosestrife Reed canarygrass Sweet Clover <i>General Weed Management CONT.</i> Thistles Teasel <i>Prescribed burning</i> Have a qualified burn contractor conduct prescribed burning as fuel and weather conditions allow. If conditions prevent burning, conduct a high mow the following growing season. <i>Mowing</i> Conduct variable-height mowing to prevent weed seed production. Conduct single-season mow in place of prescribed burning. <i>Clearing/Removal</i> Remove wetland plants killed by sediment build up to prepare bed for replanting. Dispose of material at an appropriate off-site location. <i>Replanting</i> Replace/supplement wetland and upland vegetation to meet performance standards.							X		X				X	X	X	X	X	X	X	X	X	X	X	X
Other Management Actions Manage wildlife and control mosquitos.							X						X	X	X	X	X	X	X	X	X	X	X	X
Vegetation Monitoring <i>Installation and Establishment</i> Conduct routine vegetation monitoring for compliance with performance standards, note progress of vegetation development and presence and extent of invasive plants.					X				X	X	X												X	X
Reporting <i>Installation</i> Submit installation documentation within 10 days of completing landscape work. <i>Establishment</i> Prepare and submit to village an annual monitoring report. Growing Season: 1 March to 31 October * Major Storms >1 inch within a 24-hour period.								X		X	X	X											X	X

Appendix 2
Long-term Management & Maintenance Tasks for Naturalized Landscapes.

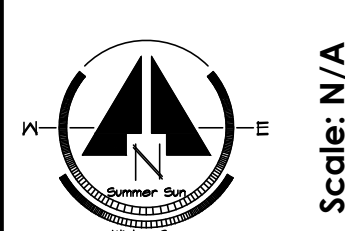
Activity	Schedule																								
	Every other month	Quarterly	Semi-annual	Annual	As needed	After major storms *	Every 2 to 3 years	Every 5 to 10 years	J	F	M	A	M	J	J	A	S	O	N	D					
Debris/Litter Management Remove trash (e.g., paper, plastic, brush, grass clippings, etc.) from inlet/outlet structures, basin slopes, and bottom and dispose in appropriate off-site location.	X					X								X	X	X	X								
Structural Management Perform structural inspection of control structure/spillway and clean-out/repair and dispose of debris in an appropriate off-site location. Inspect basin/pond slopes and embankments. Repair damage to slopes/embankment, including undercut or eroded areas if 1 m2 in size or 5 lin. ft. or 4 in x 4 in wide or greater. Perform corrective maintenance any time a basin takes longer than design time to return to +6 inches of NWL. Remove sediment and return basin to original grades when plants are choked with sediment, pool volume has become significantly reduced (>20 percent), or basin becomes eutrophic.		X												X									X		
Vegetation Management <i>General Weed Management</i> Control invasive/non-invasive weeds as appropriate to each species. This may require different treatment times for different plant species. Treatment mechanisms may include mowing, hand cutting, prescribed burning, herbicide application, or a combination of methods. Species include but are not limited to the following: Buckthorn Bush honeysuckle Cattails Common reed Purple loosestrife <i>General Weed Management CONT.</i> Reed Canarygrass Sweet Clover Teasel Thistles <i>Prescribed burning</i> Have a qualified burn contractor conduct prescribed burning as fuel and weather conditions allow. If conditions prevent burning, conduct a high mow the following growing season. <i>Mowing</i> Conduct a high mow (12 inches) to prevent weed seed production. Conduct single-season mow in place of prescribed burning. <i>Clearing/Removal</i> Remove wetland plants killed by sediment build up to prepare bed for replanting and dispose of at an appropriate off-site location. <i>Replanting</i> Install supplemental plugs and/or seed when a) more than half of the emergent plantings do not persist, b) the slope has an area greater than 1.0 sq. m. devoid of vegetation, c) the shoreline has any area more than 5 ft long devoid of vegetation, or d) any area is actively eroding.																							X	X	X
Other Management Actions Review inspection program and checklists to determine if more detailed inspections or other information are needed, to determine if fees cover maintenance costs, and to update phone numbers and addresses of inspectors, contractors, etc. Maintain and upkeep fencing, refresh planting beds, enforce access restrictions, etc. Manage wildlife and control mosquitos.						X								X									X	X	
Vegetation Monitoring Conduct more formal vegetation assessment (e.g., contract a specialist to evaluate status of vegetation development, determine the presence and extent of invasive plants, make recommendations for management, and prepare a status report). Reporting Prepare and submit to Village a periodic monitoring report. Growing Season: 1 March to 31 October * Major Storms >1 inch within a 24-hour period.									X														X	X	



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Maintenance and Monitoring Appendix 1 + 2



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