

MAYOR
Keith Pekau

VILLAGE CLERK
John C. Mehalek

14700 S. Ravinia Avenue
Orland Park, IL 60462
708.403.6100
OrlandPark.org



TRUSTEES
Kathleen M. Fenton
James V. Dodge
Patricia A. Gira
Carole Griffin Ruzich
Daniel T. Calandriello
Michael F. Carroll

02/27/2019

File Number: 2018-0021

Mr. Jim Marth
Marth Construction Company
14800 S. 80th Avenue
Orland Park, IL 60462

Re: Final Landscape Plan Approval – Villas of Tallgrass

Dear Mr. Marth:

The final landscape plan for Villas of Tallgrass has been reviewed for compliance with Section 6-305 Landscape and Tree Preservation of the Village's Land Development Code (LDC). The landscape plan, titled "Villas of Tallgrass - Final Landscape Plan" prepared by Beary Landscaping, dated 12/17/2017, with a final revision date of 02/13/2019, Sheets L1 and L2, AND "The Village of Tallgrass – BMP Planting Plan", prepared by Gary R. Weber Associates, Inc., dated 12/20/2017, with a final revision date of 12/17/18, Sheets 1 and 2, was **approved** by the Development Services Department on 02/27/2019. The approved landscape plan and other related documents are attached to this letter for your reference.

Landscaping for this project shall be installed by June 1, 2019. As per Section 5-112.E.9.e.3 of the LDC, the landscaping for this project will be inspected on at least four (4) separate occasions for compliance with the aforementioned landscape plan. The developer or property owner shall contact the Development Services Department to schedule all landscape inspections. No letter of credit release or Village acceptance of stormwater management areas shall be confirmed until a final landscape inspection approval has been granted by the Development Services Department.

The plantings in any landscaped area must be properly maintained in order for the landscaped area to fulfill the purposes for which it was established. The obligation for continuous landscape maintenance is binding on the petitioner who received landscape plan approval, to any subsequent property owner(s) or any other parties having a controlling interest in the property.

The following landscape inspections are required for this project*:

- **Landscape Installation Inspection**
- **Year 1 Inspection (Site Landscaping and Basins)**
- **Year 2 Inspection (Basins)**
- **Year 3 Inspection (Basins)**

* Additional inspections may be required if inspections reveal landscape deficiencies.

Thank you and please contact me directly to schedule all landscape inspections or with any questions.

Sincerely,

Mike Mazza, ASLA

Planner | Development Services | 14700 Ravinia Avenue | Orland Park, IL 60462 | 708-403-6119 | mmazza@orlandpark.org

Cc:

Michael Coleman, Ed Lelo, Jane Turley, Janice Bodinet, Sean Marquez, Loy Lee – Village of Orland Park
Tim Pollowy, Liz Vogel – Hey and Associates, Inc.

File.



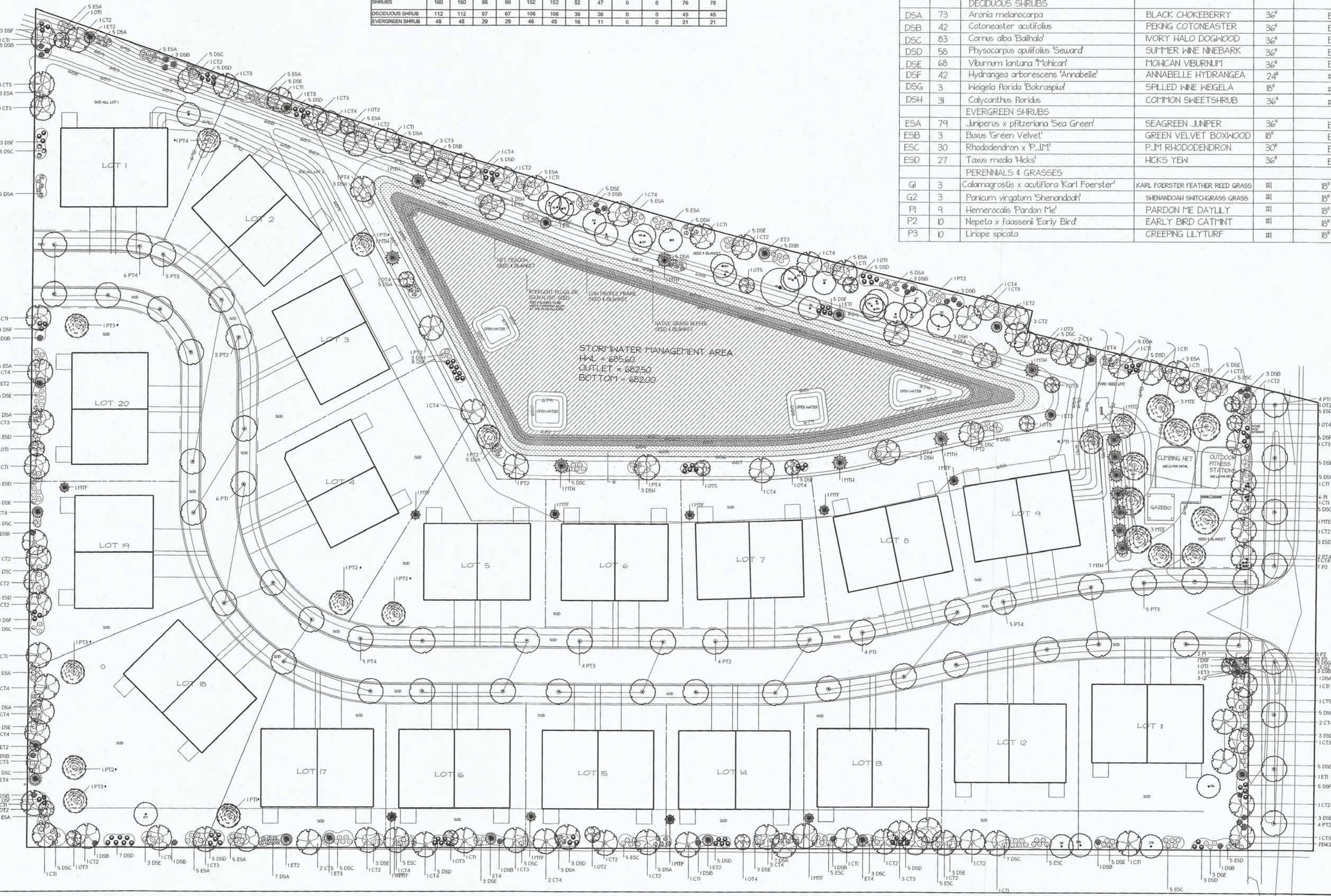
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
MITIGATION TREES					
MTD	1	<i>Quercus x warei 'Long'</i>	REGAL PRINCE OAK	25"	SINGLE-STEMMED
MTE	7	<i>Quercus x warei 'Long'</i>	REGAL PRINCE OAK	4"	SINGLE-STEMMED
MTF	10	<i>Pinus strobus</i>	EASTERN WHITE PINE	8'	NATURAL FORM
MTH	14	<i>Picea pungens</i>	COLORADO SPRUCE	8'	NATURAL FORM
MTI	57	SEE PAGE 12	SEE PAGE 12	6'	NATURAL FORM

GROSS AREA: 11.13 ACRES
NET AREA (BUILDABLE): 6.53 ACRES
IMPERVIOUS AREA 3.69 ACRES
SITE COVERAGE 34%
EXISTING WETLANDS 0.78 ACRES
PARKWAY TYPE: C
BUFFERYARD TYPE: 1

	WEST	SOUTH	EAST	NORTH	NORTH LS CORRIDOR	POND
REQ	REQ	REQ	REQ	REQ	REQ	REQ
PROP	PROP	PROP	PROP	PROP	PROP	PROP
CANOPY TREE	30	30	18	17	28	28
ORNAMENTAL/ EVERGREEN TREE	10	10	6	6	9	4
SHRUBS	160	160	96	96	152	153
DECIDUOUS SHRUB	112	112	67	67	106	108
EVERGREEN SHRUB	48	48	29	29	46	45

	WEST	SOUTH	EAST	NORTH	NORTH LS CORRIDOR	POND
REQ	REQ	REQ	REQ	REQ	REQ	REQ
PROP	PROP	PROP	PROP	PROP	PROP	PROP
CANOPY TREE	30	30	18	17	28	28
ORNAMENTAL/ EVERGREEN TREE	10	10	6	6	9	4
SHRUBS	160	160	96	96	152	153
DECIDUOUS SHRUB	112	112	67	67	106	108
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	WEST	SOUTH	EAST	NORTH	NORTH LS CORRIDOR	POND
REQ	REQ	REQ	REQ	REQ	REQ	REQ
PROP	PROP	PROP	PROP	PROP	PROP	PROP
CANOPY TREE	30	30	18	17	28	28
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DECIDUOUS SHRUB	112	112	67	67	106	108
EVERGREEN SHRUB	48	48	29	29	46	45



KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
SHADE TREES					
PT1	17	<i>Acer freemanii 'Sienna'</i>	SIENNA GLEN MAPLE	25"	SINGLE-STEMMED
PT2	20	<i>Celtis occidentalis</i>	COMMON HACKBERRY	25"	SINGLE-STEMMED
PT3	15	<i>Gleditsia triacanthos v. inermis 'Skycole'</i>	SKYLINE LOCUST	25"	SINGLE-STEMMED
PT4	22	<i>Quercus macrocarpa</i>	BUR OAK	25"	SINGLE-STEMMED
CT1	23	<i>Liriodendron tulipifera</i>	TULIP TREE	25"	SINGLE-STEMMED
CT2	22	<i>Platanus x acerifolia</i>	LONDON PLANETREE	25"	SINGLE-STEMMED
CT3	20	<i>Pyrus calleryana</i>	CLEVELAND SELECT PEAR	25"	SINGLE-STEMMED
CT4	24	<i>Ulmus spp.</i>	HYBRID ELM	25"	SINGLE-STEMMED
CT5	1	<i>Quercus x warei 'Long'</i>	REGAL PRINCE OAK	25"	SINGLE-STEMMED
EVERGREEN TREES					
ET1	3	<i>Pinus strobus</i>	EASTERN WHITE PINE	6'	NATURAL FORM
ET2	6	<i>Picea glauca</i>	BLACK HILLS SPRUCE	6'	NATURAL FORM
ET3	5	<i>Juniperus virginiana</i>	EASTERN RED CEDAR	6'	NATURAL FORM
ET4	5	<i>Pseudotsuga menziesii</i>	DOUGLAS FIR	6'	NATURAL FORM
ORNAMENTAL TREES					
OT1	4	<i>Crataegus phoenopyrum</i>	WASHINGTON HAWTHORN	6'	MULTI-STEMMED
OT2	4	<i>Malus spp.</i>	CRABAPPLE spp.	6'	MULTI-STEMMED
OT3	5	<i>Syringa pekinensis 'Zhong Zhiming'</i>	PEKING LILAC	6'	MULTI-STEMMED
OT4	4	<i>Cercis canadensis</i>	Eastern Redbud	6'	MULTI-STEMMED
OT5	3	<i>Cornus caroliniana</i>	AMERICAN HORNBEAM	6'	MULTI-STEMMED
DECIDUOUS SHRUBS					
DSA	73	<i>Aronia melanocarpa</i>	BLACK CHokeBERRY	36"	B&B
DSB	42	<i>Crataegus austrolichen</i>	PEKING COTONEASTER	36"	B&B
DSC	83	<i>Cornus alba 'Bailey'</i>	IVORY HALO DOGWOOD	36"	B&B
DSD	58	<i>Physocarpus opulifolius 'Seward'</i>	SUMMER WINE NINEBARK	36"	B&B
DSE	68	<i>Viburnum lantana 'Mohican'</i>	MOHICAN VIBURNUM	36"	B&B
DSF	42	<i>Hydrangea arborescens 'Annabelle'</i>	ANNABELLE HYDRANGEA	24"	#5
DSG	3	<i>Wigelia florida 'Bokaspur'</i>	SPILLED WINE WIGELIA	8"	#3
DSH	31	<i>Calycanthus floridus</i>	COMMON SWEETSHRUB	36"	#7
EVERGREEN SHRUBS					
ESA	79	<i>Juniperus x pfitzeriana 'Sea Green'</i>	SEAGREEN JUNIPER	36"	B&B
ESB	3	<i>Buxus 'Green Velvet'</i>	GREEN VELVET BOXWOOD	18"	B&B
ESC	30	<i>Rhododendron x 'PJM'</i>	PJM RHODODENDRON	30"	B&B
ESD	27	<i>Taxus media 'Hicks'</i>	HICKS YEW	36"	B&B
PERENNIALS & GRASSES					
Gl	3	<i>Calamagrostis x acutiflora 'Karl Foerster'</i>	KARL FOERSTER FEATHER REED GRASS	#1	18" O.C.
G2	3	<i>Polygonatum virginianum 'Shenandoah'</i>	SHENANDOAH SWITCHGRASS GRASS	#1	18" O.C.
Pl	9	<i>Hemerocallis 'Pardon Me'</i>	PARDON ME DAYLILY	#1	18" O.C.
P2	10	<i>Nepeta x faassenii 'Early Bird'</i>	EARLY BIRD CATMINT	#1	18" O.C.
P3	10	<i>Liriope spicata</i>	CREEPING LILYTURF	#1	18" O.C.

NOTES
EAST BUFFER MEASUREMENT DOES NOT INCLUDE PROPERTY ID ROW EASEMENT

SEE PAGE L 2 FOR TYPICAL UNIT LANDSCAPE



1/12 (L2)
1/12 (W3B2)
Sunk

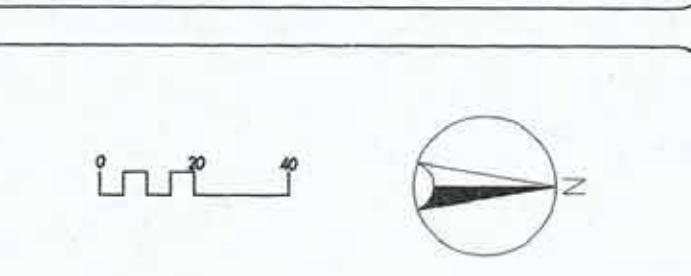
LANDSCAPE INSPECTIONS REQUIRED
THIS PROJECT WILL BE INSPECTED FOR COMPLIANCE WITH THE APPROVED LANDSCAPE PLAN ON FILE WITH THE VILLAGE OF ORLAND PARK.
THE FOLLOWING INSPECTIONS ARE REQUIRED:
INSTALLATION INSPECTION - 2019
YEAR 1 - 2020
YEAR 2 - 2021
YEAR 3 - 2022
Additional Inspections May Be Required

FILE # 2018-0021

INSTALLATION Inspection - 2019
YEAR 1 - 2020
YEAR 2 - 2021
YEAR 3 - 2022

1	2/28/18	REVIEW 1 REVISIONS
2	4/18/18	REVIEW 2 REVISIONS
3	4/8/18	REVIEW 3 REVISIONS
4	4/3/19	REVISED PER 1/2/19 COMMENTS

MARTH CONSTRUCTION
VILLAS OF TALLGRASS
167TH & SCARLETT
ORLAND PARK, ILLINOIS



SCALE	1" = 40'
DRAWN BY	KLT
CHECKED BY	
DATE	12/17/2017
DATE OF PRINT	

PROJECT NO.
SHEET NO.
L 1

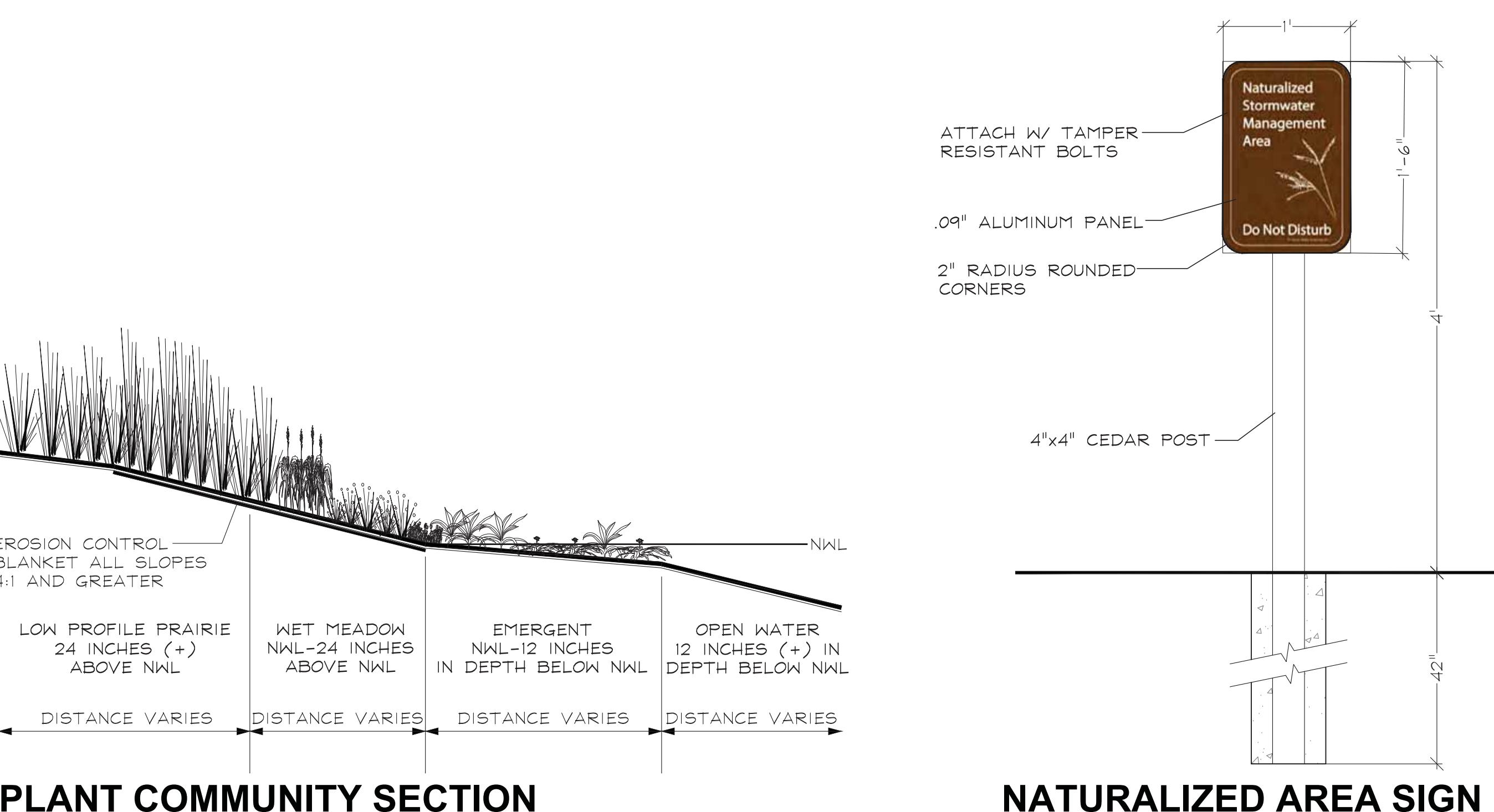
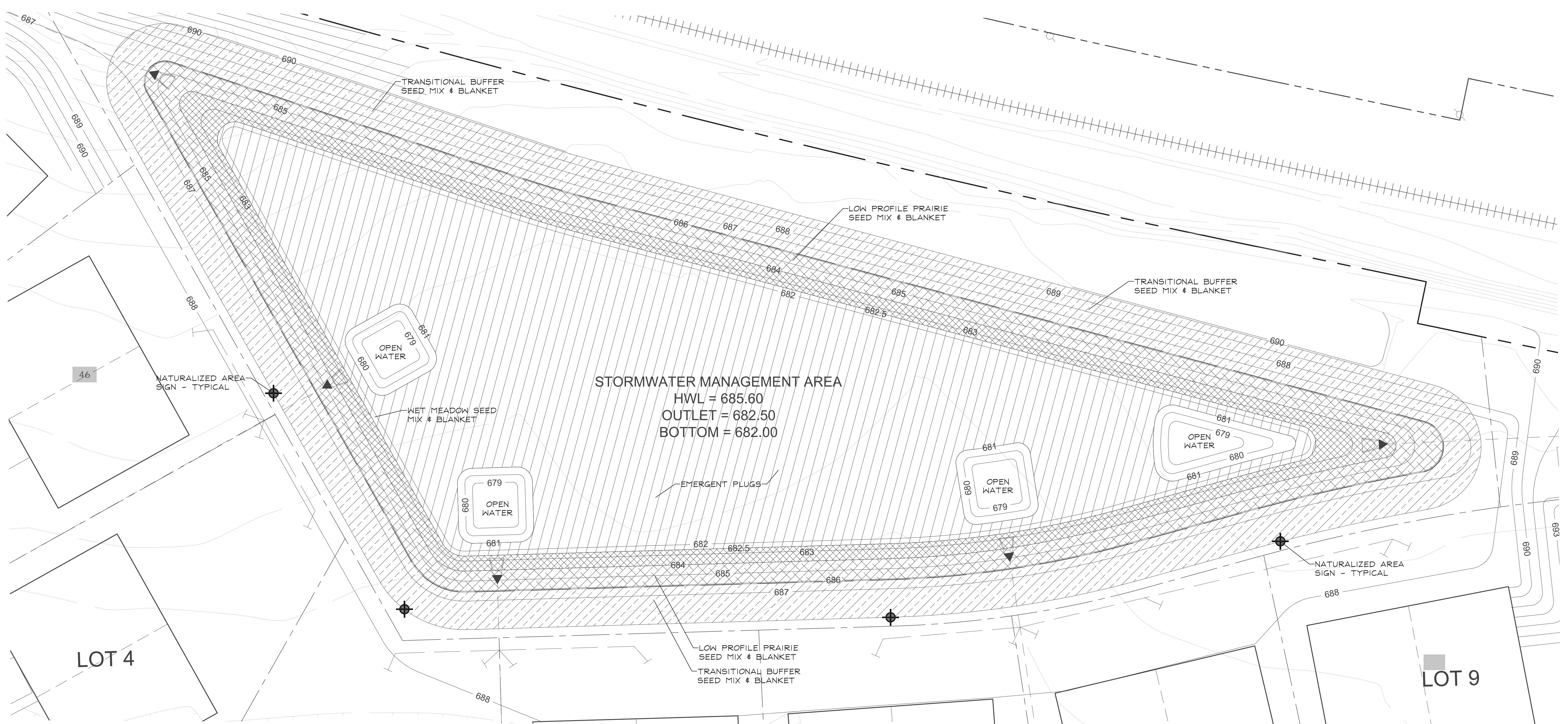
Powered by DynaSCAPE®

THE VILLAGE OF ORLAND PARK, ILLINOIS

ORLAND PARK, ILLINOIS

BMP PLANTING PLAN

F 2



GENERAL NOTES

1. CONTRACTOR SHALL VERIFY UNDERGROUND UTILITY LINES AND IS RESPONSIBLE FOR ANY DAMAGE.
2. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY VARIANCE.
3. MATERIAL QUANTITIES SHOWN ARE FOR CONTRACTOR'S CONVENIENCE ONLY. THE CONTRACTOR MUST VERIFY ALL MATERIAL AND SUPPLY SUFFICIENT MATERIALS TO COMPLETE THE JOB PER PLAN.
4. WORK SHALL CONFORM TO AMERICAN STANDARD FOR NURSERY STOCK, STATE OF ILLINOIS HORTICULTURAL STANDARDS, AND LOCAL MUNICIPAL REQUIREMENTS.
5. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION OF THIS WORK AND COMPLY WITH ALL CODES APPLICABLE TO THIS WORK.
6. SEE GENERAL CONDITIONS AND SPECIFICATIONS FOR LANDSCAPE WORK FOR ADDITIONAL REQUIREMENTS.

PLANT COMMUNITY SECTION

NOT TO SCALE

NATURALIZED AREA SIGN DETAIL

NOT TO SCALE

NATIVE AREA LEGEND

Key	QTY(AC.)	Description
	0.77	EMERGENT PLUGS
	0.16	WET MEADOW SEED MIX
	0.23	LOW PROFILE PRAIRIE SEED MIX
	0.43	TRANSITIONAL BUFFER SEED MIX
	4	NATURALIZED AREA SIGN

2 4.25.18
1 3.08.18
REVISIONS

DATE	12.20.17
PROJECT NO.	MC1702
DRAWN	GFB
CHECKED	ELR
SHEET NO.	

LANDSCAPE WORK PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

This project is the construction of a single family residential subdivision within the Village of Orland Park. This project preserves and protects natural areas where possible while enhancing remaining resources. The work shall consist of furnishing, transporting and installing all seeds, plants and other materials required for:

- 1. The establishment of native planting areas as shown on the BMP Plan
- 2. The provision of post-planting management as specified herein;
- 3. Permits which may be required.

1.2 QUALITY ASSURANCE

A. Work shall conform to State of Illinois Horticultural Standards and U.S. Army Corps of Engineers (USACE) requirements.

B. Quality Control Procedures:

- 1. Ship landscape materials with certificates of inspection as required by governmental authorities. Comply with governing regulations applicable to landscape materials.
- 2. Do not make substitutions. If specified landscape material is not obtainable, submit to Landscape Architect proof of non-availability and proposal for use of equivalent material.
- 3. Analysis and Standards: Package standard products with manufacturers certified analysis.

1.3 SUBMITTALS

A. Planting Schedule

Submit three (3) copies of the proposed planting schedule showing dates for each type of planting.

B. Maintenance Instruction - Landscape Work

Submit two (2) copies of typewritten instructions recommending procedures to be established by the Owner for the maintenance of landscape work for one full year. Submit prior to expiration of required maintenance periods.

Instructions shall include: watering, fertilizing, spraying, mulching and pruning for plant material and trimming groundcover. Instructions for watering, fertilizing and mowing grass areas shall be provided ten (10) days prior to request for inspection for final acceptance. Landscape Architect shall receive copies of all instructions when issued.

C. Submit two (2) copies of soil test of existing topsoil with recommendations for soil additive requirement to Landscape Architect for review and written approval.

D. Submit two (2) samples of shredded hardwood bark mulch, erosion control blankets, and all other products and materials as specified on plans to Landscape Architect for review and written approval.

E. Nursery packing lists indicating the species and quantities of material installed must be provided to the Owner and/or City upon request.

1.4 JOB CONDITIONS

A. Examine and evaluate grades, soils and water levels. Observe the conditions under which work is to be performed and notify Landscape Architect of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

B. Utilities: Review underground utility location maps and plans; notify local utility location service; demonstrate an awareness of utility locations; and certify acceptance of liability for the protection of utilities during course of work. Contractor shall be responsible for any damage to utilities or property.

C. Excavation: When conditions detrimental to plant growth are encountered such as rubble fill, adverse drainage conditions or obstructions, notify Landscape Architect before planting.

1.5 GUARANTEES

A. Guarantee seeded areas through the specified maintenance period and until final acceptance.

B. Guarantee trees and shrubs for a period of one year after date of acceptance against defects including death and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others or unusual phenomena or incidents which are beyond Landscape Installer's control.

C. Native Planting Area Performance Criteria

1st Full Growing Season: Within three months of seed installation (or three months after the start of the growing season following dormant seeding), at least 90 percent of the seeded area, as measured by aerial cover, will be vegetated or otherwise stabilized against erosion. The cover crop may be included in this measurement.

2nd Full Growing Season: By the end of the second growing season, the planted areas shall have a minimum of 50 percent ground cover by species in the approved plant list and/or native species with native coefficient of conservation (C-) values of 2 or greater (per Swink and Wilhelm 1994 or more current version). Naturalized landscapes shall not have more than one square-meter devoid of vegetation, as measured by aerial coverage.

3rd Full Growing Season: By the end of the third growing season, the planted areas (e.g. wetland, prairie) shall have a minimum of 75 percent ground cover and emergent areas shall have minimum of 35 percent ground cover (by species in the approved plant list and/or native species with native coefficient of conservation (C-) values of 2 or greater). The cumulative plant list, across all vegetative communities shall have a minimum native floristic quality index (FQ) of 20 and a (C-) value of 3.5 or greater. Naturalized landscapes shall not have more than one square-meter devoid of vegetation, as measured by aerial coverage.

Additional Yearly Standards: Seeded/planted areas (Excluding emergent zone) shall have no rills or gullies greater than four inches wide by four inches deep. Areas seeded to turfgrass or low-maintenance turf shall have 95 percent ground cover. Installed woody materials within the naturalized landscape area shall be alive, in healthy condition, and representative of the species.

No more than 25 percent of any specific plant community shall be individually or collectively dominated by non-native or weedy species. None of the three-most dominant species may be non-native or weedy, including but not limited to the following:

Woody Plants

Acer negundo
Ailanthus altissima
Elaeagnus umbellata
Euonymus alatus
Lonicera spp.
Rhus spp.
Robinia pseudoacacia
Rosa multiflora
Ulmus pumila

Box elder
Black Alder
Autumn olive
Burning bush
Honeysuckle
Buckthorn
Black locust
Multiflora rose
Siberian elm

Broadleaf Plants

Alliaria petiolata
Ambrosia spp.
Arctium spp.
Carduus nutans
Centaurea maculosa
Cirsium arvense
Cirsium maculatum
Cornu luteum
Daucus carota
Dipsacus spp.
Euphorbia esula
Hesperis matronalis
Lotus corniculatus
Lythrum salicaria
Medicago spp.
Mellotus spp.
Pastinaca sativa
Polygonum cuspidatum
Solidago altissima
Solidago sempervirens
Trifolium spp.
Typha spp.

Grasses

Garlic mustard
Ragweed
Burdock
Musk thistle
Spotted knapweed
Canada thistle
Spotted henbane
Cleavers
Wild carrot
Teasel
Leafy spurge
Dame's rocket
Bird's-foot trefoil
Purple loosestrife
Alfalfa/medick
Sweetclover
Wild parsnip

Grass-like Plants

Agropyron repens

Bromus tectorum

Bromus japonicus

Bromus inermis

Phalaris arundinacea

Phragmites australis

Poa pratensis

- Common Reed (*Phragmites australis*) is an aggressive invasive species that is especially problematic in the Orland Park region and is extremely difficult to control once established. Therefore, particular attention should be made for the early detection and eradication of Common Reed across the entire project property.
- Cattails (*Typha spp.*) do not count towards the 25 percent weed criterion provided they represent no more than 20 percent cover.

LANDSCAPE WORK PART 2 - PLANT MATERIALS

2.1 NATIVE PLANTING MIXTURES

Provide fresh, clean, new crop of the species and proportions as specified. Native seed and live plant material shall be obtained from a reputable supplier (approved by Landscape Architect) that has collected from sources east of the Mississippi River within the same EPA Level III Ecoregion as the project site (Central Corn Belt Plains). Any material sourced from outside this ecoregion must be approved by the Landscape Architect prior to installation.

For each species, the amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre. Seed tags and PLS testing information shall be provided to the Landscape Architect prior to seeding.

It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry-standard PLS requirements.

A. Temporary Cover Crop

Cover crops shall be installed in all planting areas containing dry mesic, mesic, and wet mesic soils to, stabilize soils, and combat weed pressure during the germination and establishment of the native seedling area.

For spring plantings use Seed Oats at the specified rate below:

Botanical Name Common Name lbs. /AC
Avena sativa Seed Oats 40.00 lbs.

For fall or dormant plantings, use Regreen® at the specified rates below:

Botanical Name Common Name lbs. /AC
Triticum aestivum Regreen® 50.0 lbs.

B. Emergent Plantings - Basin bottom

Botanical Name Common Name Plugs/AC

Acorus calamus Sweet Flag 494
Alisma subcordatum Water Plantain 494
Carex comosa Bristly Sedge 494
Sagittaria latifolia Common Arrowhead 494
Scirpus acutus Hardstem Bulrush 988
Scirpus fluviatilis Great Bulrush 988
Scirpus pungens Chairmakers Rush 988
Sparganium eurycarpum Bur Reed 988

Total: 5,028

Plugs are specified at a standard 38 cell flat and shall measure 2.25" x 5" with a volume of 11.30 inches. Substitution of plug size must be approved by the Landscape Architect prior to installation.

C. Wet Meadow Seed Mixture - Lower slopes of basin

Botanical Name Common Name lbs. /AC

Grasses and Sedges

Carex bebbii Bebb's Oval Sedge 0.250
Carex bicknellii Bicknell's Sedge 0.250
Carex brevior Plains Oval Sedge 0.250
Carex cristatella Crested Oval Sedge 0.150
Carex hololeuca Flat Oval Sedge 0.250
Carex mertensii Spreading Oval Sedge 0.250
Carex scorpioides Pointed Brown Sedge 0.190
Carex stipata Common Fox Sedge 0.250
Carex vulpinoidea Brown Fox Sedge 0.250
Elymus virginicus Virginia Wild Rye 3,000
Glyceria striata Foxtail Manna grass 0.130
Juncus dudleyi Dudley's Rush 0.003
Juncus torreyi Torrey's Rush 0.005
Panicum virgatum Switch Grass 1,000
Scirpus atrocavans Dark Green Rush 0.060
Scirpus cyperinus Wool Grass 0.015

Total: 6,303

Wildflowers/Broadleaves

Asclepias incarnata Swallow Milkweed 0.500
Bidens cernua Nodding Bur Marigold 0.190
Boltonia asteroides False Aster 0.031
Chamoeucrista fasciculata Partridge pea 1,000
Euthamia graminifolia Grassleaved Goldenrod 0.025
Eupatorium perfoliatum Common Boneset 0.015
Helenium autumnale Sneezeweed 0.063
Iris virginica Shrevei Blue Flag 1,500
Loeselia siphilitica Great Blue Lobelia 0.031
Minuartia ringens Monkey Flower 0.003
Symphytum novae-angliae New England Aster 0.250
Pycnanthemum virginianum Common Mountain Mint 0.063
Rudbeckia fulgida var. sullivantii Showy Black-Eyed Susan 0.250
Zizia aurea Golden Alexanders 0.050

Total Wildflowers/Broadleaves: 3.97
Total Wet Meadow Seed Mixture: 10.27

D. Low Profile Prairie With Flowers Seed Mixture - Upper Basin Slopes

Botanical Name Common Name lbs. /AC

Grasses

Bouteloua curtipendula Side Oats Gramma 8.000
Panicum virgatum Prairie Switch Grass 0.125
Elymus canadensis Prairie Wild Rye 1,000
Schizachyrium scoparium Little Blue Stem 6.000

Total Grasses: 15.125

Wildflowers/Broadleaves

Allium cernuum Nodding Wild Onion 0.190
Amorpha canescens Lead Plant 0.125
Asclepias tuberosa Butterflyweed 0.500
Asclepias verticillata Whorled Milkweed 0.063
Astragalus canadensis Canada Milk Vetch 0.063
Prunella vulgaris Blue Pimpernel 0.025
Echinacea purpurea Purple Coneflower 1,000
Eryngium yuccifolium Rattlesnake Master 0.125
Lespedeza capitata Round-Headed Bush Clover 0.125
Liatris spicata Rough Blazing Star 0.250
Monarda fistulosa Prairie Blazing Star 0.188
Prairie Bergamot 0.063
Parthenium integrifolium Wild Quinine 0.016
Penstemon digitalis Foxglove Beardtongue 0.125
Petalostemum candidum White Prairie Clover 0.125
Petalostemum purpureum Purple Prairie Clover 0.156
Potentilla arguta Prairie Cinquefoil 0.031
Pyrrhopyxis tenuifolium Slender Mt Mint 0.031
Ratibida pinnata Showy Black-Eyed Susan 0.500
Rudbeckia hirta Black-Eyed Susan 0.500
Rudbeckia subtomentosa Sweet Black-Eyed Susan 0.063
Symphytum laeve Smooth Blue Aster 0.063
Tradescantia virginiana Spiderwort 0.063
Verbena stricta Hoary Vervain 0.125
Zizia aurea Golden Alexanders 0.050

Total Wildflowers/Broadleaves: 5.190
Total Lo Pro Prairie Seed Mixture: 20.315

E. Transitional Buffer Seed Mix

Bouteloua curtipendula Side Oats Gramma 60.000

2.4 TREES AND SHRUBS

A. Name and Variety: Provide nursery grown plant material true to name and variety.

B. Quality: Provide trees, shrubs and other plants complying with the recommendations and requirements of ANSI Z60.1 "Standard for Nursery Stock" and as further specified.

C. Deciduous Trees: Provide trees of height and caliper listed or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are shown or listed. Provide balled and burlapped (B&B) deciduous trees.

D. Deciduous Shrubs: Provide shrubs of the height shown or listed and with not less than the minimum number of canes required by ANSI Z60.1 for the type and height of shrub required. Provide balled and burlapped (B&B) deciduous shrubs.

E. Coniferous Evergreen: Provide evergreens of the sizes shown or listed. Dimensions indicate minimum spread for spreading and semi-spreading type evergreens and height for other types. Provide quality evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown. Provide balled and burlapped (B&B) evergreen trees and containerized shrubs.

F. Inspection: All plants shall be subject to inspection and review at the place of growth or upon delivery and conformity to specification requirements as to quality, right of inspection and rejection upon delivery at the site or during the progress of the work for size and condition of balls or roots, diseases, insects and latent defects or injuries. Rejected plants shall be removed immediately from the site.

2.5 PLANTING SOIL MIXTURE

Provide planting soil mixture consisting of clean uncompacted topsoil (stockpiled at site) for all planting pits, perennial, annual and groundcover areas. Topsoil shall be conditioned based on any recommendations resulting from the soil test in 1.C.C.

2.6 EROSION CONTROL

A. Erosion Control Blanket: North American Green S150, or equivalent approved equal.

B. Shoreline Erosion Control Blanket: North American Green SC150, or approved equal. To be installed per manufacturer's recommendations.

2.7 MULCH

Provide mulch consisting of shredded hardwood. Provide sample to Landscape Architect for approval prior to ordering materials.

LANDSCAPE WORK PART 3 - EXECUTION

3.1 PLANTING SCHEDULE

At least thirty (30) days prior to the beginning of work in each area, submit a planting schedule for approval by the Landscape Architect.

3.2 PLANTINGS

A. Seeding Native Areas

1. The period for planting prairie seed shall be from April 1 to June 15 or September 15 to just before the first frost. Seeding outside of these timeframes must be approved by the landscape architect.

2. The General Contractor and Native Landscape Contractor shall be responsible for performing all work necessary to achieve and maintain an acceptable seedbed prior to seeding. All areas must be properly prepared before seeding begins. Equipment having low unit pressure ground contact shall be utilized within the planting areas.

3. If present, compacted soils shall be disked or raked prior to seeding. Remedial measures for the access area may, at the direction of the Wetland Consultant, involve ripping from 12 to 18 inches of the soil horizon prior to disking.

4. Prior to seeding, planting areas shall have at least twelve inches of clean un-compacted topsoil. Clumps, clods, stones over 2" diameter, roots and other extr

THIS INSTRUMENT WAS PREPARED BY:

AFTER RECORDING RETURN TO:

[The above space for Recorder's Office]

VILLA OF TALLGRASS

LRC-2017-872

**MONITORING AND MANAGEMENT PLAN AGREEMENT FOR
NATURALIZED LANDSCAPE AREAS (“PLAN”)**

SECTION 1.0 GENERAL

1.1 CONTACT INFORMATION

Marth Construction will be responsible for the timely execution of all near and long-term maintenance activities within the naturalized landscape, unless otherwise noted, as set forth in this Plan for the naturalized landscape areas located at Villas of Tallgrass at 167th St (“Subject Property”). The following party should be contacted regarding management activities and is the party responsible for compliance with this Plan:

Names, addresses, contacts, and telephone numbers of the property owner(s):

Marth Construction _____
14800 S 80th Ave _____
Orland Park, IL 60462 _____

Names, addresses, contacts, and telephone numbers of the party or parties legally responsible for operations and maintenance:

Same as above _____

1.3 LETTER OF CREDIT

The approved letter of credit amount for the naturalized landscape portion of this project is \$ **\$290,362.00**, as approved by the Development Services Department on **10/2/2018**.

1.3 LOCATION INFORMATION

See attached Naturalize BMP Plan

1.4 PROHIBITED ACTIVITIES

This section outlines various activities restricted or prohibited within areas of naturalized landscaping except as needed to achieve and maintain a naturalized landscape consistent with the approved plan as directed by a natural landscape maintenance specialist:

- dumping of yard waste or debris
- replacement of approved vegetation with non-approved materials
- construction or placement of structures
- application of pesticides, fertilizer, or herbicides
- mowing other than for meeting specific management goals
- commercial, industrial, agricultural, residential developments, buildings, or structures, including but not limited to signs, billboards, other advertising material, or other structures
- removal or destruction of trees or plants, mowing, draining, plowing, mining, removal of topsoil, sand, rock, gravel, minerals or other material
- operation of snowmobiles, dune buggies, motorcycles, all-terrain vehicles or any other types of motorized vehicles.
-

1.5 ESTIMATED EXPENSES

Owner shall submit documentation of the estimated routine and non-routine expenses as well as the source(s) of funding for continued inspection, operation and maintenance.

1.6 HOMEOWNERS ASSOCIATION/BUSINESS OWNERS ASSOCIATION

If a homeowners association or business owners association (“Association”) is the party responsible for compliance with this Plan, the Association shall include language in its governing documents authorizing the collection of fees for the naturalized landscape maintenance and outline the process for corrective action(s) to be taken, if necessary.

1.7 OBLIGATIONS TO RUN WITH THE SUBJECT PROPERTY

This Plan shall be binding upon and inure to the benefit of the parties hereto, successor owners of record of the Subject Property, assignees, lessees and upon any successor municipal authorities of said Village and successor municipalities.

1.8 AUTHORITY TO SIGN

Each Party, and the person signing on behalf of each Party, represents that the person signing this Plan has the authority to execute this document and thereby bind the Party hereto on whose behalf the person is signing.

1.9 SEVERABILITY

If any provision of this Plan is held invalid by a court of competent jurisdiction or in the event such a court shall determine that the Village does not have the power to perform any such provision, such provision shall be deemed to be excised herefrom and the invalidity thereof shall not affect any of the other provisions contained herein, and such judgment or decree shall relieve Village from performance under such invalid provision of this Plan.

1.10 AMENDMENTS TO COVENANTS AND RESTRICTIONS

Any amendment to covenants or restrictions pertaining to the Subject Property must be submitted to the Village for approval if the amendment(s) alters the site beyond the original condition.

1.11 AMENDMENTS TO MANAGEMENT ACTIONS

Potential issues and management requirements are likely to change over time. Owner may have additional responsibilities which may include, but are not limited to, access restriction enforcement (e.g. fly dumping, fishing, recreational vehicles) and wildlife management (e.g., including control of carp, muskrats, and geese). Owner and Village will evaluate the need for other management actions when performing other maintenance visits and inspections.

SECTION 2.0 NEAR-TERM MONITORING AND REPORTING

2.1 RESPONSIBLE PARTIES

March Construction (“Owner”) will be responsible for funding and implementing a near-term monitoring and management plan (typically three years in length) and for the long-term monitoring and managements set forth in Section 4.0 for establishing a naturalized landscape area(s) associated with the proposed Villas of Tallgrass Residential Development. If the performance standards are not achieved after the initial three-year monitoring and management period, then annual monitoring and management activities shall continue until the minimum performance standards are met. The Owner may elect to contract management and maintenance services to a third party to ensure proper implementation in accordance with the following standards.

2.2 MONITORING METHODOLOGY

Owner’s agent will monitor areas of naturalized landscaping following methodologies as outlined herein. Agent will perform meander survey monitoring on an annual basis for a minimum of three years after planting is substantially complete, or until the naturalized landscape area(s) in question is/are accepted by the Village. Annual vegetation monitoring will occur in August, September, or early October. Meander survey methodology will involve taking five to 10 representative site photographs and performing a review of at least 20 percent of each vegetative community to identify the following:

- a. the limits of all vegetation areas by general community type and dominant species within each planting zone (e.g., wetland and prairie zones),
- b. all plant species (native and non-native) in each planting zone,
- c. the approximate percent ground cover by native species within each planting zone,
- d. the percent ground cover by non-native or invasive species in each planting zone,
- e. erosion and sedimentation problems,
- f. water level or drainage problems,
- g. areas of bare soil larger than one square-meter, and

h. observations on specific management strategies necessary to achieve acceptance requirements.

2.3 REPORTING REQUIREMENTS

Upon completion of landscape installation, the Owner will notify the Village that the natural landscape area installation has been installed as per the approved landscape plan. Owner will provide nursery packing lists indicating the species and quantities of materials installed with this notice.

In addition, the Owner will submit an annual monitoring report to the Village of Orland Park by February 28th of the following year evaluating the progress of the naturalized landscape toward design goals. The report will contain a location map, a summary of annual monitoring observations, a description of management performed during the year, a tabular summary of annual progress relative to acceptance standards, and a list of proposed management activities during the upcoming year.

2.4 PERFORMANCE STANDARDS

Satisfactory landscape development associated with naturalized vegetation in the stormwater facility will be based on the following items. If these standards are met at the end of the initial near-term monitoring and management period, as determined by the Village, the Village will approve the naturalized landscape areas and return the letter of credit. If these standards are not met at the end of the initial near-term monitoring and management period, the time period will be extended until the performance standards are met and the letter of credit will be held until the performance standards are met.

First Year:

- First Year: Within three months of seed installation (or three months after the start of the growing season following dormant seeding), at least 90 percent of the seeded area, as measured by aerial cover, will be vegetated or otherwise stabilized against erosion. The cover crop may be included in this measurement.

Second Year:

- Second Year: By the end of the second growing season, the planted areas shall have a minimum of 50 percent ground cover by species in the approved plant list and/or native species with native coefficient of conservation (C-) values of 2 or greater (per Swink and Wilhelm 1994 or more current version).

Third Year:

- Third Year: By the end of the third growing season, the planted areas (e.g. wetland, prairie) shall have a minimum of 75 percent ground cover and emergent areas shall have minimum of 35 percent ground cover (by species in the approved plant list and/or native species with native coefficient of conservation (C-) values of 2 or greater. The cumulative plant list, across all vegetative communities shall have a minimum native floristic quality index (FQI) of 20 and a (C-) value of 3.5 or greater.

Second and Third Year Additional Performance Standards:

- Naturalized landscapes shall not have more than one square-meter devoid of vegetation, as measured by aerial coverage.
- Seeded/planted areas (Excluding emergent zone) shall have no rills or gullies greater than four inches wide by four inches deep.
- Areas seeded to turfgrass or low-maintenance turf shall have 95 percent ground cover.

- Installed woody materials within the naturalized landscape area shall be alive, in healthy condition, and representative of the species.
- No more than 25 percent of any specific plant community shall be individually or collectively dominated by non-native or weedy species.
- None of the three-most dominant species may be non-native or weedy, including but not limited to the following:

Woody Plants

<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

Broadleaf Plants

<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>Melilotus</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

Grass-like Plants

<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

- Common Reed (*Phragmites australis*) is an aggressive invasive species that is especially problematic in the Orland Park region and is extremely difficult to control once established. Therefore, particular attention should be made for the early detection and eradication of Common Reed across the entire project property.
- Cattails (*Typha* spp.) do not count towards the 25 percent weed criterion provided they represent no more than 20 percent cover.

SECTION 3.0 NEAR-TERM MANAGEMENT FOR NATURALIZED LANDSCAPES

Near-term management for naturalized landscapes associated with the Villas of Tallgrass will involve monitoring and management to promote germination and establishment of desired plants and to prevent the establishment of invasive species. The least costly and most effective action for controlling invasive species is their early identification and eradication. The following is the near-term management plan that Owner shall follow for naturalized landscape areas associated with the Villas of Tallgrass.

3.1 NEAR-TERM MANAGEMENT TASKS

For a minimum of three years after installation, Owner will manage naturalized landscapes on a regular basis to ensure successful establishment. The following management tasks provide a reasonable approach to most conditions likely to be encountered during the establishment of naturalized habitat. However, site characteristics can significantly influence how management and maintenance techniques are implemented. Therefore, vegetation management actions may differ from the tasks and frequencies indicated below based on specific recommendations from a qualified native landscape restoration specialist.

3.1.1 Undesirable Plant Control

The Owner acknowledges that it is best to perform corrective actions for vegetation management early in the revegetation effort. Owner will manage aggressive and/or non-native species such that their presence and density does not threaten the attainment of performance standards.

Depending on the type of plant being targeted, control of undesirable plant species may involve removing all above-ground and below-ground stems, roots, and flower masses prior to development of seeds. Weeding practices will avoid damaging the native plantings and be timed to prevent development of weed seeds. Therefore, the ability to differentiate between weeds and native seedlings is important and must be conducted by personnel with experience in the establishment of native vegetation.

Owner shall use various means of weed control, as appropriate, and may include mechanical control, chemical control, and/or biological control.

Mechanical Control: Mechanical control of nuisance plant species typically includes cutting, mowing and/or the digging up individual plants by hand. In many cases, cutting or mowing a plant before its seeds mature will minimize further spread. Cutting or mowing close to the ground surface with a weed-eater or hand-scythe can be an effective means of control for species such as sweet clover, various thistles, and ragweed. For general mowing of swaths of vegetation, mowers will be set to a height of 12+

inches above the ground surface or to a height that treats weedy species yet minimizes impacts on desirable plants.

For species such as common reed, purple loosestrife, Canada thistle, and reed canarygrass, mowing actually encourages the spread of underground stems. Hand digging these species and woody undesirables such as multiflora rose can result in control if there are fewer than 100 plants throughout the entire site. Where more than 100 individuals of such plants are present, chemical control will be the primary method of control. (Note: Pulling and digging out weeds generally is discouraged because the soil disturbance can uproot desirable plants and encourage the growth of more weeds.)

Chemical Control: When employed in conjunction with prescribed burning and mechanical control, the judicious use of herbicides can be an important component of management programs for controlling weeds. Some weeds such as purple loosestrife, buckthorn (*Rhamnus* spp.) and honeysuckle (*Lonicera* spp.), reed canarygrass, common reed, sandbar willow, and cattails are controlled more effectively by chemical treatment than by most mechanical control measures.

For aggressive weeds, an appropriate herbicide will be applied. Because of the potential for damage to native plant communities, the use of preventative herbicides will be limited to problem areas and problem species for which manual control is ineffective. Aquatic herbicides will not be used to treat algal blooms.

Glyphosate herbicide (trade names Rodeo or Roundup) is often recommended for use in naturalized landscape areas. Other herbicides such as Transline, Plateau, and Garlon are also used. The application of herbicides will be performed only by persons licensed or certified in the State of Illinois for pesticide/herbicide application. Herbicide use will be in strict compliance with all application rates, procedures, warning labels and applicable codes, standards and best management practices.

Generally, wick application will be preferred over spray application, which is less selective. Wicking applies herbicide only to individual plants, typically using hand application or pipe dispersal methods. The handwicking or “glove of death” method for specifically targeting weedy plants while protecting higher quality plants in sensitive habitats. Pipe dispersal methods are also appropriate for targeting weedy plants while avoiding desirable plants growing alongside them by using a canvas-covered, perforated, chemical filled PVC pipe. Trained personnel walk the area, swinging pipe (commonly 8-feet long) from side to side above the native plants but deliberately striking invasive species. The pipe strikes and bends the weeds, smearing them with the chemical and destroying them within a few days. If used, spray applications will not occur on gusty days because non-target species could be affected.

Biological Control: An alternative to chemical treatment, use of biological controls for purple loosestrife will be considered provided site conditions are appropriate to support and maintain the insect population. Through this method, host-specific insects (one a root infesting weevil; others are leaf-eating chrysomelid beetles) are released to feed on the roots or leaves of purple loosestrife. If purple loosestrife becomes abundant, biological control can prove a cost-effective means of management.

3.1.2 Wildlife Management

Nuisance species such as ducks, geese or muskrats often forage on young emergent wetland plants. Herbivory fencing may be installed to protect the wetland plants during establishment. Herbivory fencing typically consists of chicken wire, netting or string to deter waterfowl or other species from areas where native plugs have been installed. The fencing can be removed once the vegetation is well established. Additional control of nuisance

species must be performed if monitoring indicates such species are responsible for poor plant establishment and performance. The method of control will be determined by a native landscape restoration specialist.

It is generally accepted that the long-term use of even the most benign pesticides has effects on wildlife that are still only barely researched. Therefore, Owner will not use pesticides broadly or routinely in any naturalized landscape other than for mosquito abatement (should that be necessary). Owner will use pesticides only for specific and localized problem areas as determined by a native landscape restoration specialist with experience in installation and development of native plant communities, should such areas occur. Standard application procedures and precautions for chemical application in wetland areas will be followed.

3.1.3 Fertilizer Application

For ecological reasons, a conservative approach to the application of fertilizers will be taken. Turf management chemicals will not be used within areas of naturalized plantings unless specifically prescribed by and per the direction of a native landscape restoration specialist. If used, special care will be taken to not apply fertilizers when inclement weather is forecast.

3.2 SCHEDULE OF NEAR-TERM MANAGEMENT ACTIVITIES

Appendix 1, titled “Near-Term Management & Management Tasks for Naturalized Landscapes”, and the following text provide the schedule of management and management tasks for installation and establishment of naturalized landscape areas. The actual schedule and tasks performed in any given year may differ from those indicated based on specific recommendations from a natural landscape restoration specialist.

3.2.1 Inspection Schedule – Near Term Activities

Inspections will be made as detailed in **Appendix 1**, which **must** be attached to this document prior to document approval.

3.2.2 First-Year Management Actions

To prevent weed seed development, Owner will mow to a height of 6 inches when vegetation reaches a height of 12 inches. (Note: Weekly mowing at turf lawn height will **NOT** be performed, as mowing too often can set-back native planting development.) Owner must use a rotary or flail-type mower to finely chop the cut material. If clippings shade the ground or smother the remaining plants, Owner will bag the clippings for off-site disposal or otherwise dispersed. The Owner must time the last mow so that vegetation can grow to a height of eight to 10 inches before winter.

Owner will avoid weeding practices that damage the native plantings and will time the practices to prevent development of weed seeds. For aggressive weeds, herbicide will be selectively applied (e.g., wick application, not spraying). Turf management chemicals will not be used on native plantings except as directed by a Village-approved landscape restoration specialist.

Debris and litter (e.g., paper, plastic, metal, concrete, grass clippings, brush, etc.) will be removed every other month between 1 March to 31 October to prevent floating materials from clogging the outlet. Debris will be disposed of at an appropriate off-site trash receptacle.

Other potential responsibilities may include, but are not limited to, access restriction enforcement, insect/pest control, erosion repairs, and wildlife management (e.g., control of carp, muskrats, geese, etc. as needed). The

Owner will determine the need for other management actions on a quarterly basis when performing general maintenance visits for dam embankments and control structures.

3.2.3 Second-Year Management Actions

During the second growing season, Owner will mow the seeded area as close to the ground as possible in early spring and the cuttings raked or bagged. If annual weeds remain a problem, Owner will perform an additional mow during mid- to late June, with the mow height set to 12 inches.

Weed management will emphasize control of biennial and perennial weeds. Biennial weeds targeted for control include sweetclovers (*Melilotus* spp), Queen Anne's lace (*Daucus carota*), and teasel (*Dipsacus* spp.). Proper weed control may require multiple treatments, and Owner will perform the treatments at times that will provide maximum treatment effectiveness.

Other management practices will include debris and litter removal, access restriction enforcement, and erosion control and repairs (as needed). Additional management tasks may include insect/pest control, reseeding/replanting in targeted areas, wildlife management as determined on a quarterly basis. If there is sufficient fuel, a prescribed burn may be attempted at the end of the second growing season, provided Owner obtains proper permits from the Illinois Environmental Protection Agency and provides notice to the Village and local authorities.

3.2.4 Third-Year Management Actions

Typical management in the third growing season will involve the use of prescribed fire in combination with mechanical and chemical methods for controlling aggressive biennial and perennial weeds.

Owner will obtain a permit from the Illinois Environmental Protection Agency, Cook/Will County and Village prior to conducting a prescribed burn. Burns must be performed by a qualified contractor. All other required permits need to be in place before the Village will issue a permit. The burn will occur between mid-October and April as weather and site conditions permit. Prior to conducting a prescribed burn, Owner must provide notice to the Village and local authorities. If prescribed burning is not practical, Owner will substitute mowing in late fall or very early spring. The burn-replacement mow will be done at a height of two inches, with cut material bagged for off-site disposal.

As in the first two years, Owner will continue management of aggressive weeds. Other management practices will include debris and litter removal, access restriction enforcement, and erosion control and repairs (as needed). Additional management tasks may include insect/pest control, reseeding/replanting in targeted areas, wildlife management and the Owner will determine the need for other management actions, on a quarterly basis, when performing general maintenance visits for dam embankments and control structures.

SECTION 4.0 LONG-TERM MANAGEMENT FOR NATURALIZED LANDSCAPES

Traditional turfgrass maintenance practices are not appropriate for naturalized landscapes. Owner must provide proper management which shall be performed by parties experienced in native landscape maintenance.

4.1 LONG-TERM MANAGEMENT TASKS

Long-term maintenance of naturalized landscapes involves significantly less effort and cost than for landscapes vegetated with traditional turfgrass. Routine maintenance activities for naturalized landscapes include debris management, structural inspections, vegetation maintenance, and pest species management. Non-routine maintenance and management actions are performed as site-specific conditions warrant and include sediment/pollutant removal, structure replacement, and replanting. **Appendix 2, titled Long-Term Management & Management Tasks for Naturalized Landscapes**, presents the schedule for typical activities associated with long-term management of naturalized landscapes.

4.1.1 Debris and Litter Management

Owner shall remove debris and litter (e.g., paper, plastic, metal, concrete, grass clippings, brush, etc.) every other month between 1 March to 31 October and dispose of it at an appropriate off-site trash receptacle.

4.1.2 Structural Management

Owner will inspect water control structures quarterly and within 24 hours of each major rainstorm (>1 inch rainfall). Inspections will include an evaluation on the stability of the outlet, embankments, and inlets. Observations will be made on the presence and extent of erosion, lack of vegetation, or other problems such as soil cracking, the outlet/inlet structure degradation, sink holes, or wet areas on the slopes. An engineer will perform or participate in these inspections.

Capture of sediment and pollutants eventually results in a decrease in pool volume and/or water quality in a stormwater facility and sediments need to be removed. Because each facility is different, there are no set timeframes for sediment/pollutant removal. The need for sediment removal is expected when the pool volume is reduced by 15 to 20 percent of the design volume.

4.1.3 Vegetation Management

Long-term management actions emphasize regular prescribed burning, accompanied by periodic herbicide treatment, mowing, or a combination of these practices. Accurate plant identification is essential. The type of vegetation management will be based on recommendations from a native landscape restoration specialist.

Prescribed Burning: If possible, established naturalized landscapes should be burned every two to three years or as directed by a landscape restoration specialist/ecologist. Large areas can be divided into management sections and burned on a rotational basis, with only a portion burned each year and the entire area burned over a three-year period. The timing of the burn should be determined based on weather conditions and management goals as recommended by the landscape restoration specialist/ecologist.

A permit must be obtained from the Illinois Environmental Protection Agency prior to conducting a prescribed burn. The burn should occur between mid-October and April as weather and site conditions permit. Burning should only be conducted by a qualified burn contractor experienced in grassland fire control and only upon receipt of a permit from the Illinois Environmental Protection Agency. Prior to conducting a prescribed burn, Owner must provide notice to the Village and local authorities. If

prescribed burning is not practical, Owner will mow in late fall or very early spring to substitute for burning. The burn-replacement mow will be done at a height of two inches, with cut material bagged for off-site disposal.

Weed Management: Aggressive plants can overtake naturalized landscapes in the absence of management intervention. The “worst offenders” typically include purple loosestrife (*Lythrum salicaria*), cattails (*Typha* spp.), bush honeysuckles (*Lonicera* spp.), buckthorn (*Rhamnus* spp.), multiflora rose (*Rosa multiflora*), black locust (*Robinia pseudoacacia*), teasel (*Dipsacus* spp.), garlic mustard (*Alliaria petiolata*), wild parsnip (*Pastinaca sativa*), thistles (*Cirsium* and *Carduus* spp.), common reed (*Phragmites australis*), and reed canarygrass (*Phalaris arundinacea*).

Owner will perform mechanical, chemical, or biological control of these and other aggressive weeds as directed by the native landscape restoration specialist.

Mechanical Control — Mechanical control of nuisance plant species typically includes mowing and/or the digging up individual plants by hand.

The timing and height of the mow depends on the species being controlled but typically is between 12 to 18 inches high. Owner will use a rotary or flail mower to chop the cut material into fine pieces that will not smother native plants

Hand pulling or digging of these species and woody undesirables can provide control if there are fewer than 100 plants.

Chemical Control — Owner will limit use of preventative herbicides to selected problem areas with a dominance of plant species that do not respond well to prescribed burning and/or mechanical control measures.

Herbicide application must be performed by a licensed professional applicator in strict compliance with all warning labels and applicable codes, standards and best management practices.

Herbicides will be applied selectively (e.g., wick application rather than spraying).

Biological Control — Special attention will also be given to purple loosestrife control, should it occur on the site. Where the plant is abundant, biological control can prove a cost-effective means of management. Through this method, host-specific insects are released to feed on the roots or leaves of purple loosestrife.

Supplemental Planting/Revegetation: Remedial actions may be needed as site conditions warrant. Such actions may include spot reseeding. Installation of supplemental plugs and/or seed using species in the approved mix (or if approved by the Village, with modifications) must be performed if any of the following circumstances exist: 1) more than half of the area of emergent plantings does not establish or persist; 2) the slope has any area greater than 0.25 square-meter in size devoid of vegetation; 3) the shoreline has any area more than five feet in length devoid of vegetation; or 4) any area (regardless of size) is actively eroding.

Except for the cover crop, Owner will use seed from native species with an emphasis on establishment of the grass matrix, which will support prescribed burn management. A native landscape management

specialist must determine the type and quantity of seeds based on site-specific conditions. Owner will use a cover crop when seeding bare areas, with seed oats comprising the primary cover crop species. If used, annual ryegrass will be applied at a rate not to exceed 5 lbs/ac.

4.1.4 Pesticide and Fungicide Use

Pesticides will not be used broadly or routinely. Instead, Owner will use pesticides at specific and localized problem areas. Owner will exercise particular care in the areas near or directly tributary to surface waters. Owner will follow standard application procedures and precautions. Insecticides and fungicides are generally unnecessary. If public perception or the identification of a specific mosquito problem warrants the use of insect controls, Owner will consider biological measures. This could include stocking a wet basin with fish that feed on mosquito larvae and/or the use of BTI (*Bacillus thuringiensis israelensis*) to selectively kill mosquito larvae. Habitat structures also could be installed to encourage the nesting and feeding of purple martins, bats, or other insectivorous wildlife.

4.1.5 Fertilizer Use

For ecological reasons, turf management chemicals will not be used on naturalized plantings except as directed by a native landscape restoration specialist.

4.1.6 Other Management Actions

When properly installed and established, naturalized landscapes typically require less management and maintenance than conventional landscapes. However, naturalized landscapes are not maintenance free. Therefore, a budget for long-term management activities should be established to protect the investment that has been made in the naturalized areas.

4.2 SCHEDULE OF LONG-TERM MANAGEMENT ACTIVITIES

Appendix 2, titled “**Long-Term Management & Management Tasks for Naturalized Landscapes**”, provides the schedule of management and maintenance tasks for installation and establishment of naturalized landscape areas. The actual schedule and tasks performed in any given year may differ from those indicated based on specific recommendations from a natural landscape restoration specialist.

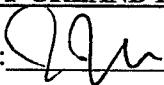
4.2.1 Inspection Schedule – Long-Term Activities

Inspections will be made as detailed in **Appendix 2**, which **must** be attached to this document prior to document approval.

Continued on next page

5.0 APPROVAL

VILLAGE OF ORLAND PARK

Approved By: 

Printed Name: Michael Marth

Title: Runner

Date: 02/27/19

PETITIONER/OWNER

Submitted By: James M. Marth

Printed Name: James M. Marth

Property Address: The Villas of Tallgrass C 16 7th St.

Contact Phone: 708-873-9700

Contact Email: marthhomes@aol.com

Date: 2/22/2019

ATTACHMENTS TO THIS DOCUMENT

- Appendix 1 – Near-term Management & Management Tasks for Naturalized Landscapes
- Appendix 2 – Long-term Management & Management Tasks for Naturalized Landscapes

Near-term Monitoring & Management 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
General Weed Management CONT:												
Thistles							X				X	X
Teasel									X	X		X X X
Prescribed burning												
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.						X			X	X X X		X X
Mowing									X	X		X X X X
Conduct variable-height mowing to prevent weed seed production.		X										X X X X
Conduct variable-height mowing to prevent weed seed production.							X					X
Conduct single-season mow in place of prescribed burning.							X		X			or X
Clearing/Removal									X		X	
Remove wetland plants killed by sediment build up to prepare bed for replanting. Dispose of material at an appropriate off-site location.										X X		X X
Replanting									X			
Replace/supplement wetland and upland vegetation to meet performance standards.											X X	
Other Management Actions									X			
Manage wildlife and control mosquitos.										X X X X X X X X X X		
Vegetation Monitoring												
Installation and Establishment												
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 X
Reporting												
Installation												
Submit installation documentation within 10 days of completing landscape work.												X X X X X X X X X X
Establishment												
Prepare and submit to village an annual monitoring report.								X		X	X	X
Growing Season: 1 March to 31 October												
* Major Storms >1 inch within a 24-hour period.												

Appendix 2.

Long-term Monitoring & Management Tasks for Naturalized Landscapes.

Activity	Frequency						Schedule						Calendar							
	Monthly	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
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																		
Structural Management																				
Perform structural inspection of control structure/spillway and clean-out/repair and dispose of debris in an appropriate off-site location.			X																X	
Inspect basin/pond slopes and embankments.			X															X		X
Repair damage to slopes/embankment, including undercut or eroded areas if 1 m ² in size or 5 lin. ft. or 4 in x 4 in wide or greater.					X															
Perform corrective maintenance any time a basin takes longer than design time to return to +6 inches of NWL.						X														
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													
Vegetation Management																				
General Weed Management																				
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:																		X	X	X
Buckthorn																				
Bush honeysuckle																				
Cattails																				
Common reed																				
Purple loosestrife																				

Activity	Schedule												Calendar												
	Frequency				Every 5 to 10 years								Every 2 to 3 years				After major storms *				Every 2 to 3 years				
Monthly	Every other month	Quarterly	Semi-annual	Annual	As needed	Monthly	Every other month	Quarterly	Semi-annual	Annual	As needed	Monthly	Every other month	Quarterly	Semi-annual	Annual	As needed	Monthly	Every other month	Quarterly	Semi-annual	Annual	As needed		
General Weed Management CONT.																									
Reed Canarygrass																									
Sweet Clover																									
Teasel																									
Thistles																									
Prescribed burning																									
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.																									
Mowing																									
Conduct a high mow (12 inches) to prevent weed seed production.																									
Conduct single-season mow in place of prescribed burning.																									
Clearing/Removal																									
Remove wetland plants killed by sediment build up to prepare bed for replanting and dispose of at an appropriate off-site location.																									
Replanting																									
Install supplemental plugs and/or seed when a) more than half of the emergent plantings do not persist, b) the slope has any 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.																									
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.																									

Activity	Schedule												Calendar											
	Monthly	Every other month	Quarterly	Semi-annual	Annual	As needed	After major storms *	Every 2 to 3 years	Every 5 to 10 years	Every 10 to 20 years	Every 20 to 50 years	Every 50 to 100 years	M	J	A	M	J	A	N	D				
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.																								