

**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. 80<sup>th</sup> 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	Quercus x warei 'Long'	REGAL PRINCE OAK	25"	SINGLE-STEMMED
MTE	7	Quercus x warei 'Long'	REGAL PRINCE OAK	4"	SINGLE-STEMMED
MTF	10	Pinus strobus	EASTERN WHITE PINE	8'	NATURAL FORM
MTH	14	Picea pungens	COLORADO SPRUCE	8'	NATURAL FORM
MTI	57	SEE PAGE L2	SEE PAGE L2	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 L.S. CORRIDOR		POND	
	REQ	PROP	REQ	PROP	REQ	PROP	REQ	PROP	REQ	PROP	REQ	PROP
CANOPY TREE	30	30	16	17	28	28	10	11	1	1	11	11
ORNAMENTAL / EVERGREEN TREE	10	10	6	6	9	9	4	4	2	2	6	6
SHRUBS	160	160	96	96	152	152	52	47	0	0	76	76
DECIDUOUS SHRUB	112	112	67	67	106	106	36	36	0	0	45	45
EVERGREEN SHRUB	48	48	29	29	46	46	16	11	0	0	21	21

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
SHADE TREES					
PT1	17	Acer freemanii 'Sienna'	SIENNA GLEN MAPLE	25"	SINGLE-STEMMED
PT2	20	Celtis occidentalis	COMMON HACKBERRY	25"	SINGLE-STEMMED
PT3	15	Gleditsia triacanthos v. inermis 'Skycole'	SKYLINE LOCUST	25"	SINGLE-STEMMED
PT4	22	Quercus macrocarpa	BUR OAK	25"	SINGLE-STEMMED
CT1	23	Liriodendron tulipifera	TULIP TREE	25"	SINGLE-STEMMED
CT2	22	Platanus x acerifolia	LONDON PLANETREE	25"	SINGLE-STEMMED
CT3	20	Pyrus calleryana	CLEVELAND SELECT PEAR	25"	SINGLE-STEMMED
CT4	24	Ulmus spp.	HYBRID ELM	25"	SINGLE-STEMMED
CT5	1	Quercus x warei 'Long'	REGAL PRINCE OAK	25"	SINGLE-STEMMED
EVERGREEN TREES					
ET1	3	Pinus strobus	EASTERN WHITE PINE	6'	NATURAL FORM
ET2	6	Picea glauca	BLACK HILLS SPRUCE	6'	NATURAL FORM
ET3	5	Juniperus virginiana	EASTERN RED CEDAR	6'	NATURAL FORM
ET4	5	Pseudotsuga menziesii	DOUGLAS FIR	6'	NATURAL FORM
ORNAMENTAL TREES					
OT1	4	Crataegus phaenopyrum	WASHINGTON HAWTHORN	6'	MULTI-STEMMED
OT2	4	Malus spp.	CRABAPPLE SPP.	6'	MULTI-STEMMED
OT3	5	Syringa pekinensis 'Zhang Zhiming'	PEKING LILAC	6'	MULTI-STEMMED
OT4	4	Cercis canadensis	EASTERN REDBUD	6'	MULTI-STEMMED
OT5	3	Carpinus caroliniana	AMERICAN HORNBEAM	6'	MULTI-STEMMED
DECIDUOUS SHRUBS					
DSA	73	Aronia melanocarpa	BLACK CHOKEBERRY	36"	B4B
DSB	42	Cotoneaster acutifolius	PEKING COTONEASTER	36"	B4B
DSC	83	Cornus alba 'Bailhala'	IVORY HALO DOGWOOD	36"	B4B
DD	58	Physocarpus opulifolius 'Seward'	SUMMER WINE NINEBARK	36"	B4B
DSE	68	Viburnum lantana 'Mohican'	MOHICAN VIBURNUM	36"	B4B
DSF	42	Hydrangea arborescens 'Annabelle'	ANNABELLE HYDRANGEA	24"	#5
DSG	3	Weigela florida 'Bokraspiul'	SPLLED WINE WIEGELA	18"	#3
DSH	31	Calycanthus floridus	COMMON SWEETSHRUB	36"	#7
EVERGREEN SHRUBS					
ESA	79	Juniperus x pfitzeriana 'Sea Green'	SEAGREEN JUNPER	36"	B4B
ESB	3	Buxus 'Green Velvet'	GREEN VELVET BOXWOOD	18"	B4B
ESC	30	Rhododendron x 'P.J.M.'	P.J.M. RHODODENDRON	30"	B4B
ESD	27	Taxus media 'Hicks'	HICKS YEW	36"	B4B
PERENNIALS & GRASSES					
G1	3	Calamagrostis x acutiflora Karl Foerster'	KARL FOERSTER FEATHER REED GRASS	#1	18" O.C.
G2	3	Panicum virgatum 'Shenandoah'	SHENANDOAH SWITCHGRASS GRASS	#1	18" O.C.
P1	9	Hemerocallis 'Pardon Me'	PARDON ME DAYLILY	#1	18" O.C.
P2	10	Nepeta x faassenii 'Early Bird'	EARLY BIRD CATMINT	#1	18" O.C.
P3	10	Liriope spicata	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

#### LANDSCAPE PLAN APPROVAL

THIS LANDSCAPE PLAN HAS BEEN REVIEWED FOR COMPLIANCE WITH SECTION 6-305 OF THE VILLAGE OF ORLAND PARK'S LAND DEVELOPMENT CODE.

ADDITIONAL APPROVAL INCLUDES: MONITORING AND MANAGEMENT PLAN / TREE MITIGATION PLAN

FILE # 2018-0021

APPROVAL DATE: 2/27/19



Signature of the landscape architect.

#### 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 / YEAR 1 / YEAR 2 / YEAR 3

\*Additional Inspections May Be Required

FILE # 2018-0021

Inspection Schedule: 2019

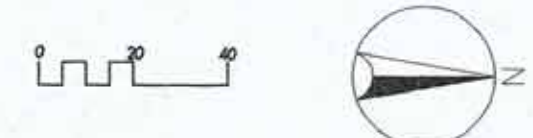
Year 1 - 2020

Year 2 - 2021

Year 3 - 2022

1	2/28/18	REVIEW 1 REVISIONS
2	4/18/18	REVIEW 2 REVISIONS
3	1/8/18	REVIEW 3 REVISIONS
4	2/13/19	REVISED PER 1/2/19 COMMENTS

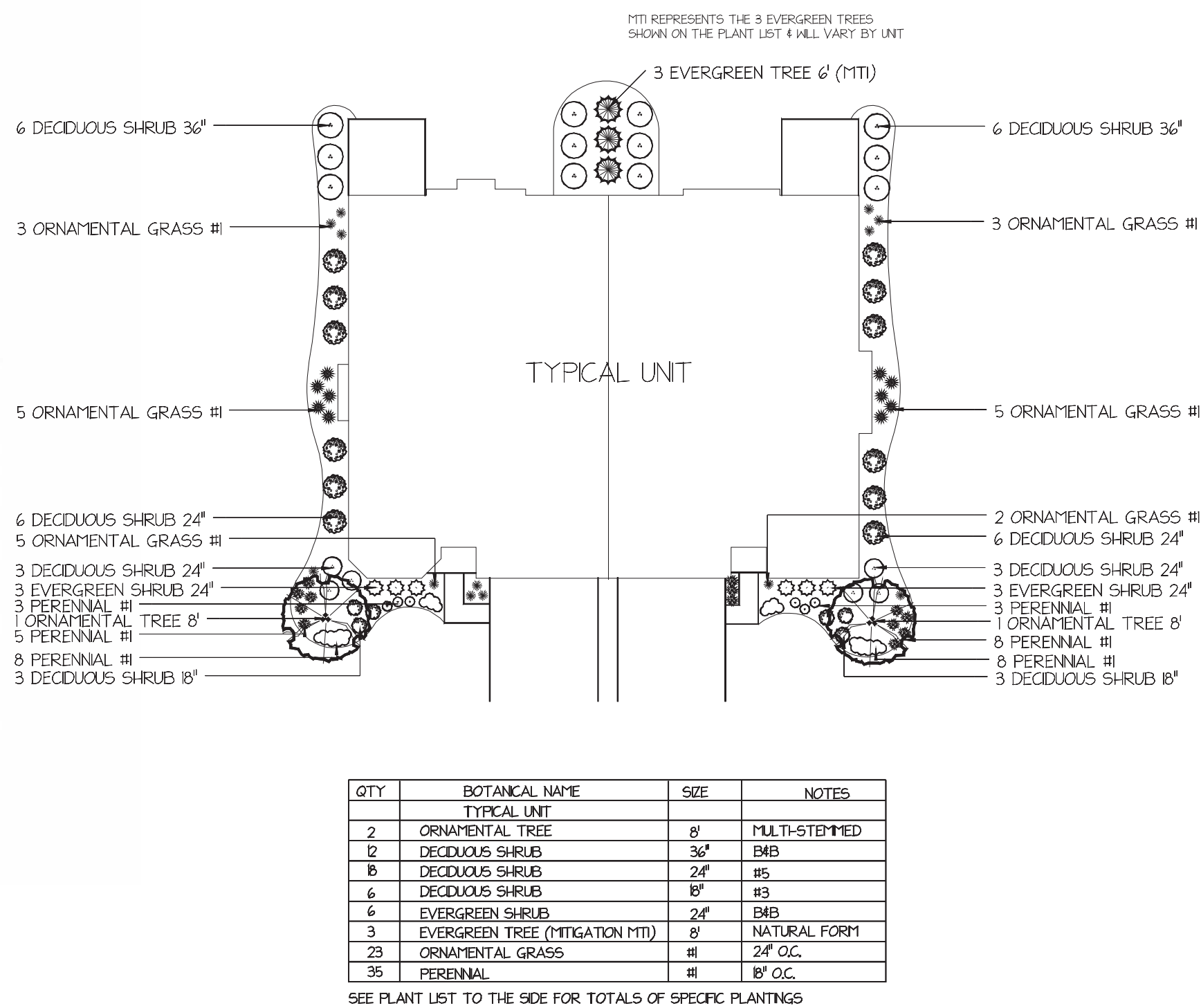
MARTH CONSTRUCTION  
VILLAS OF TALLGRASS  
167TH & SCARLETT  
ORLAND PARK, ILLINOIS



SCALE	1" = 40'
DESIGNED BY	KLT
CHECKED BY	
DATE	12/17/2017
DATE OF PRINT	
PROJECT NO.	
SHEET NO.	L1



QTY	BOTANICAL NAME	COMMON NAME	SIZE
<b>ORNAMENTAL TREES</b>			
6	Carolinia caroliniana	AMERICAN HORNBAM	8"
6	Cornus canadensis	WAXY BURNING BUSH	8"
6	Magnolia 'Star'	JANE MAGNOLIA	8"
10	Hamamelis virginica	CHAMPAGNE SPY	8"
10	Syringa reticulata	JAPANESE TREE LILAC	8"
16	Cornus sericea 'Bailly'	BAILLY REDTIDE DOGWOOD	36"
80	derivata rivularis	KESKAM HORNYSUCKLE	36"
60	Hydrangea abnormis 'Annabelle'	ANNABELLE HYDRANGEA	36"
18	Kousa japonica	JAPANESE KESKAM	36"
16	Physocarpus opulifolius 'Little Dove'	LITTLE DOVE NINEBARK	36"
16	Syringa patula 'Miss Kim'	MISS KIM LILAC	36"
24	SHRUBS		
60	Carthya alternifolia	SUMMERWELT	24"
60	Hydrangea paniculata 'Doyle'	DOYLE HYDRANGEA	24"
42	Rosa radraz	KNOCKOUT ROSE	24"
90	Spiraea latifolia 'Tiger'	PINK SPARKLES TIGER SPIREA	24"
72	Wegelia florida 'Dark Prince'	DARK PRINCE WEGELIA	24"
18	SHRUBS		
24	derivata asarifolia 'Cool Spirit'	COOL SPIRIT HORNYSUCKLE	18"
30	Syringa x nimbua	SUGAR BABY FORSYTHIA	18"
24	Hydrangea serrata	TINY TUFF STUFF HYDRANGEA	18"
24	Spiraea japonica 'Walden'	MAGIC CARPET SPIREA	18"
<b>EVERGREEN TREES</b>			
12	Juniperus chinensis 'Ketele'	KETLELE JUNIPER	6"
18	Juniperus scopulorum 'Yoshida Blue'	WITCHEN BLUE JUNIPER	6"
24	Thuja occidentalis 'Emerald Green Arrowvittae'	EMERALD GREEN ARROWVITAE	6"
<b>EVERGREEN SHRUBS</b>			
48	Illex 'Green Velvet'	GREEN VELVET BOXWOOD	24"
66	Taxus media 'Densiformis'	DENSE YEW	24"
<b>ORNAMENTAL GRASSES</b>			
183	Calamagrostis canadensis 'Karl Foerster'	KARL FOERSTER REED GRASS	#1
60	Panicum virgatum 'Shenandoah'	SHENANDOAH SWITCH GRASS	#1
194	Pennisetum alopecuroides 'Stardust'	DWARF FOUNTAIN GRASS	#1
<b>PERENNIALS</b>			
45	Allium 'Summer Beauty'	SUMMER BEAUTY ALLIUM	#1
22	Aster chinensis	ASTILBE	#1
75	Echinacea	PURPLE CONEFLOWER	#1
120	Geranium	CANNESBELL	#1
132	Hemerocallis	DAYLILY	#1
66	Heuchera	CORAL BELLS	#1
52	Hosta	HOSTA	#1
39	Nepeta x 'Hazeon' Walker's Low'	WALKER'S LOW CATMINT	#1
32	Salix spectabilis 'Autumn Joy'	AUTUMN JOY SWEET	#1



## SEED MIXES

Low Profile Prairie With Flowers Seed Mixture - Upper Basin Slopes

Botanical Name	Common Name	Lbs. /AC
<b>Grasses</b>		
Bouteloua curtipendula	Side Oats Grama	8,000
Panicum virgatum	Prairie Switch Grass	0,125
Elymus canadensis	Prairie Wild Rye	1,000
Schizanthus scoparium	Little Blue Stem	6,000
Total Grasses 5,125		
<b>Wildflowers/Broadleaves</b>		
Allium cernuum	Nodding Wild Onion	0,190
Amorpha canescens	Lead Plant	0,125
Asclepias tuberosa	Whorled Milkweed	0,063
Asclepias verticillata	Canada Milk Vetch	0,063
Astragalus canadensis	Prairie Coreopsis	0,025
Coreopsis palmata	Pale Purple Coneflower	1,000
Echinacea pallida	Purple Coneflower	0,500
Echinacea purpurea	Rattlesnake Master	0,125
Eryngium yuccifolium	Round-Headed Bush Clover	0,125
Liatris pycnostachya	Rough Blazing Star	0,088
Monarda fistulosa	Prairie Bergamot	0,063
Parthenium integrifolium	White Prairie Clover	0,025
Penstemon digitalis	Fragrant Beardtongue	0,025
Parthenium integrifolium	White Prairie Clover	0,025
Petalostemum purpureum	Purple Prairie Clover	0,063
Potentilla arguta	Prairie Gayefall	0,025
Pycnanthemum tenuifolium	Sleender Mt. Mint	0,025
Rubia pinnata	Yellow Coneflower	0,025
Rudbeckia fulgida var. sullivantii	Shiny Black-Eyed Susan	0,500
Rudbeckia hirta	Sweet Black-Eyed Susan	0,063
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	0,063
Symphoricarpos laevis	Smooth Blue Aster	0,063
Tradescantia virginiana	Spokenwort	0,063
Verbena stricta	Hairy Vervain	0,025
Zizia aurea	Golden Alexanders	0,050
Total Wildflowers/Broadleaves 3,917		
Total Low Profile Prairie Seed Mixture 20,35		

5' BUFFER ZONE NATIVE GRASS

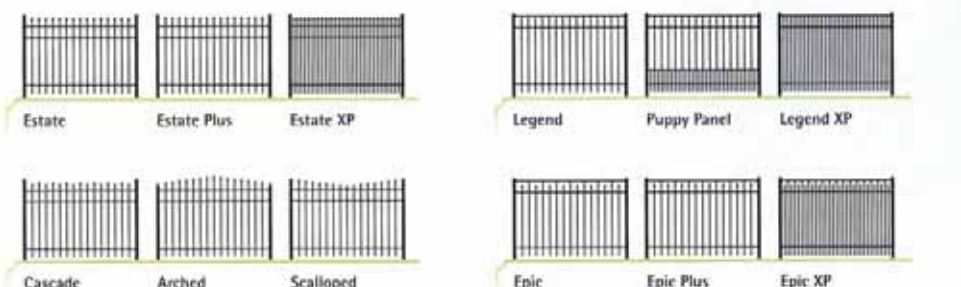
Botanical Name	Common Name	Lbs. /AC
Bouteloua curtipendula	Side Oats Grama	6,000

Wet Meadow Seed Mixture - Lower slopes of basin

Botanical Name	Common Name	Lbs. /AC
<b>Grasses and Sedges</b>		
Carex bebbii	Bebbs Oval Sedge	0,250
Carex bicknellii	Bicknells Sedge	0,250
Carex brevior	Plains Oval Sedge	0,250
Carex cristatella	Crested Oval Sedge	0,250
Carex molesta	Field Oval Sedge	0,250
Carex normalis	Spreading Oval Sedge	0,250
Carex scoparia	Painted Broom 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	Fowl manna grass	0,190
Juncus acedry	Dudleys Rush	0,003
Juncus torreyi	Torreys Rush	0,005
Panicum virgatum	Switch Grass	1,000
Scirpus atrovirens	Dark Green Rush	0,060
Scirpus cyperinus	Wool Grass	0,06
Total Grasses and Sedges 6,303		
<b>Wildflowers/Broadleaves</b>		
Alcidesia inornata	Swamp Milkweed	0,500
Bidens cernua	Nodding Bur Marigold	0,190
Boltonia asteroides	False Aster	0,031
Chamaecrista fasciculata	Partridge pea	1,000
Euthamia graminifolia	Grassleaved Goldenrod	0,025
Eupatorium perfoliatum	Common Boneset	0,005
Helenium autumnale	Sneezeweed	0,063
His virginica shrevei	Blue Flag	1,500
Loebelia spicata	Great Blue Lobelia	0,031
Mimulus ringens	Monkey Flower	0,003
Symphoricarpos laevis	New England Aster	0,250
Pycnanthemum virginicum	Common Mountain Mint	0,063
Rudbeckia fulgida var. sullivantii	Shiny Black-Eyed Susan	0,500
Zizia aurea	Golden Alexanders	0,050
Total Wildflowers/Broadleaves 3,917		
Total Wet Meadow Seed Mixture 6,27		



An Integrity® fence is an investment that increases property value by enhancing, defining and protecting your property with the most elegant fence available today. Reassuring the safety and protection of your loved ones, aluminum fencing is the choice of many developers and landscapers who demand the highest quality and maintenance-free performance.



Estate, Estate Plus, Estate XP, Legend, Puppy Panel, Legend XP, Cascade, Arched, Scallop, Epic, Epic Plus, Epic XP

## GENERAL NOTES:

Plant material shall be nursery grown and be either balled and burlapped or container grown. Sizes and spreads on plant list represent minimum requirements.

Size & grading standards of plant materials shall conform to the latest edition of ANSI Z601 AMERICAN STANDARD OF NURSERY STOCK, by the American Nursery & Landscape Association.

Any materials with damaged or crooked/damaged leaders, bark, abrasion, unsound, insect damage, etc. are not acceptable and will be rejected. Trees with multiple leaders will be rejected unless called for in the plant list as multi-stem or clump (cl).

Grading shall provide slopes which are smooth and continuous. Positive drainage shall be provided in all areas.

Quantity lists are supplied as a convenience. However, the contractor shall verify all quantities. The drawings shall take precedence over the lists.

All plant species specified are subject to availability. Material shortages in the landscape industry may require substitutions. All substitutions must be approved by the Landscape Architect and/or Owner.

Contractor shall verify location of all underground utilities prior to digging. For location outside the City of Chicago call "JULIE" (Joint Utility Location for Excavators) 1-800-642-0125.

Contractor shall report any discrepancies in the field to the Landscape Architect and/or Owner.

Plant symbols illustrated on this plan are a graphic representation of proposed plant material types and are intended to provide for visual clarity. However, the symbols do not necessarily represent actual plant spread at the time of installation.

All perennial, ornamental grass, groundcover and annual beds shall be topdressed with a minimum of three inches (3") of mulchroom compost. The topdressing shall be worked into the soil to a minimum depth of nine inches (9") by the use of a cultivating mechanism. Upon completion perennial & ornamental grasses shall be mulched with an additional two inch (2") layer of shredded wood mulch. Annuals & groundcovers shall be covered with an additional two inch (2") layer of mulchroom compost.

All other planting beds and tree savers shall be mulched with a minimum of three inches (3") of shredded wood mulch, with the exception of evergreen trees which shall receive one inch (1") of shredded hardwood mulch over two inches (2") of southern pine bark.

All bed lines and tree savers shall require a hand spaced edge between lawn and mulched areas.

Planting beds adjacent to building shall be mulched in their entirety to the building foundation. Plant materials shall not be installed under building overhangs and other such areas which do not receive natural rainfall.

Sod shall be mineral base only.

Grass seed shall be applied mechanically so that the seed is incorporated into the top one-half inch (1/2") of the seed bed. The seed shall then be covered with the specified straw blanket or Hydro-mulch.

All plant material shall be guaranteed for one (1) year from the date of acceptance.

NO.	DATE	DESCRIPTION
1.	2/28/18	REVIEW 1 REVISIONS
2.	4/17/18	REVIEW 2 REVISIONS
3.	1/18/18	REVIEW 3 REVISIONS
4.	2/13/19	REVISED PER V2/19 COMMENTS

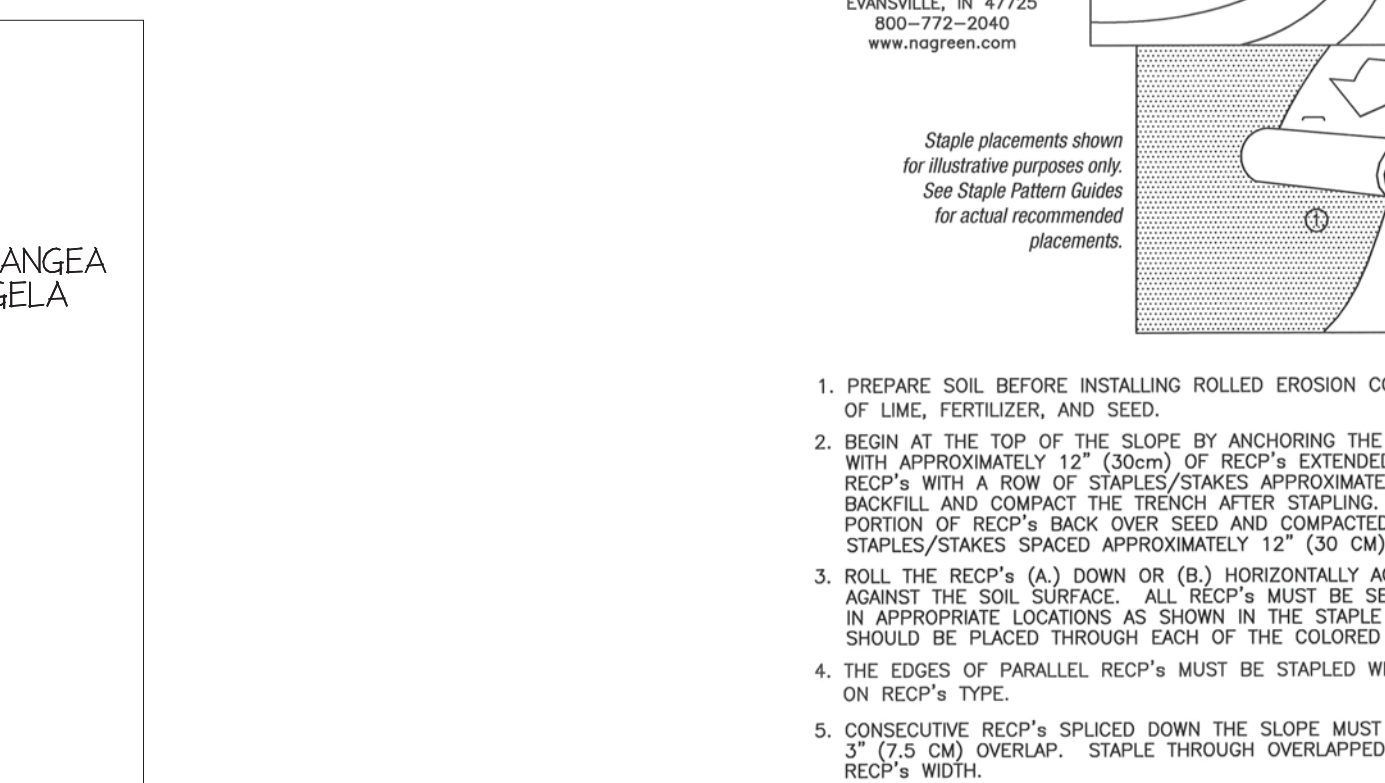
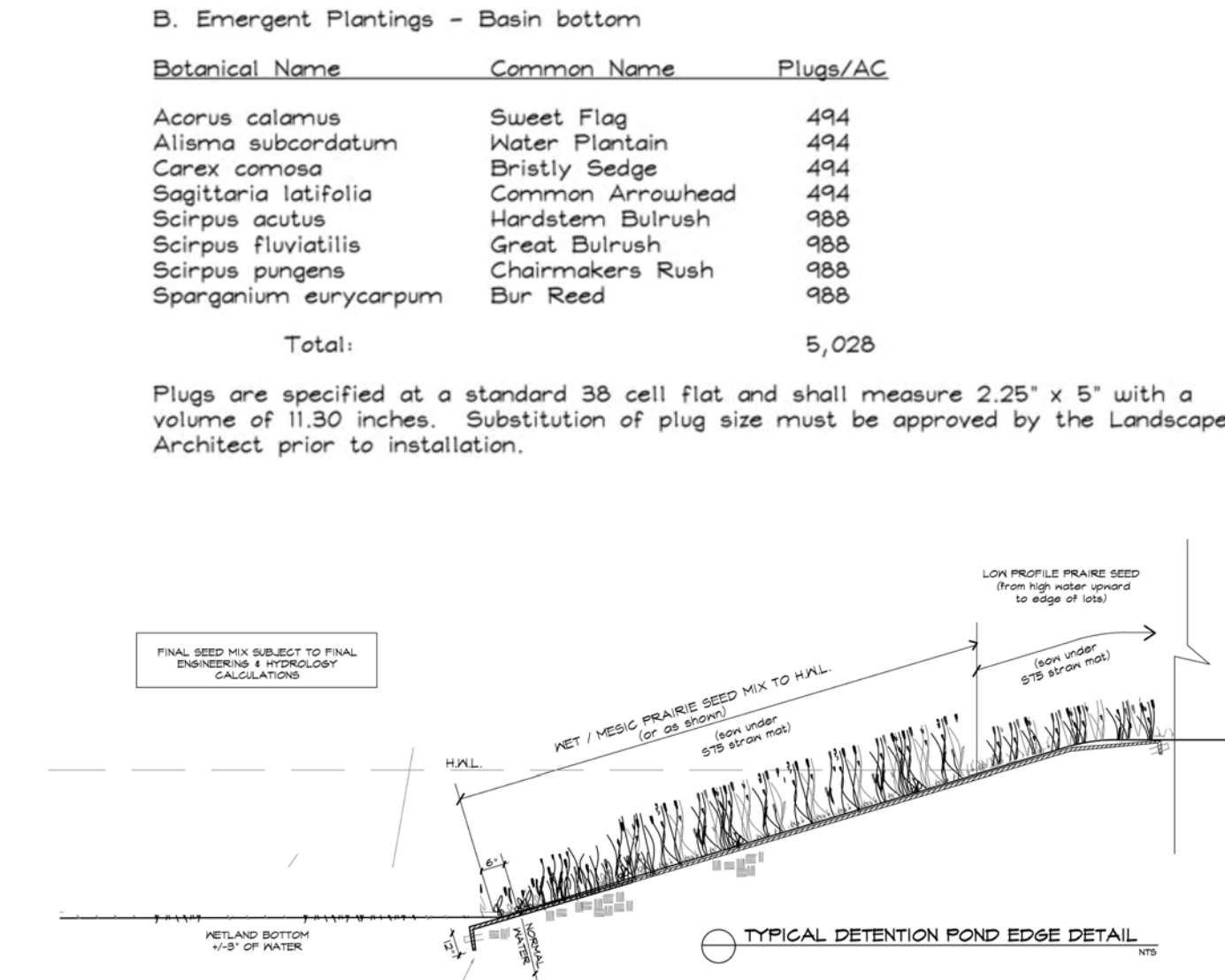
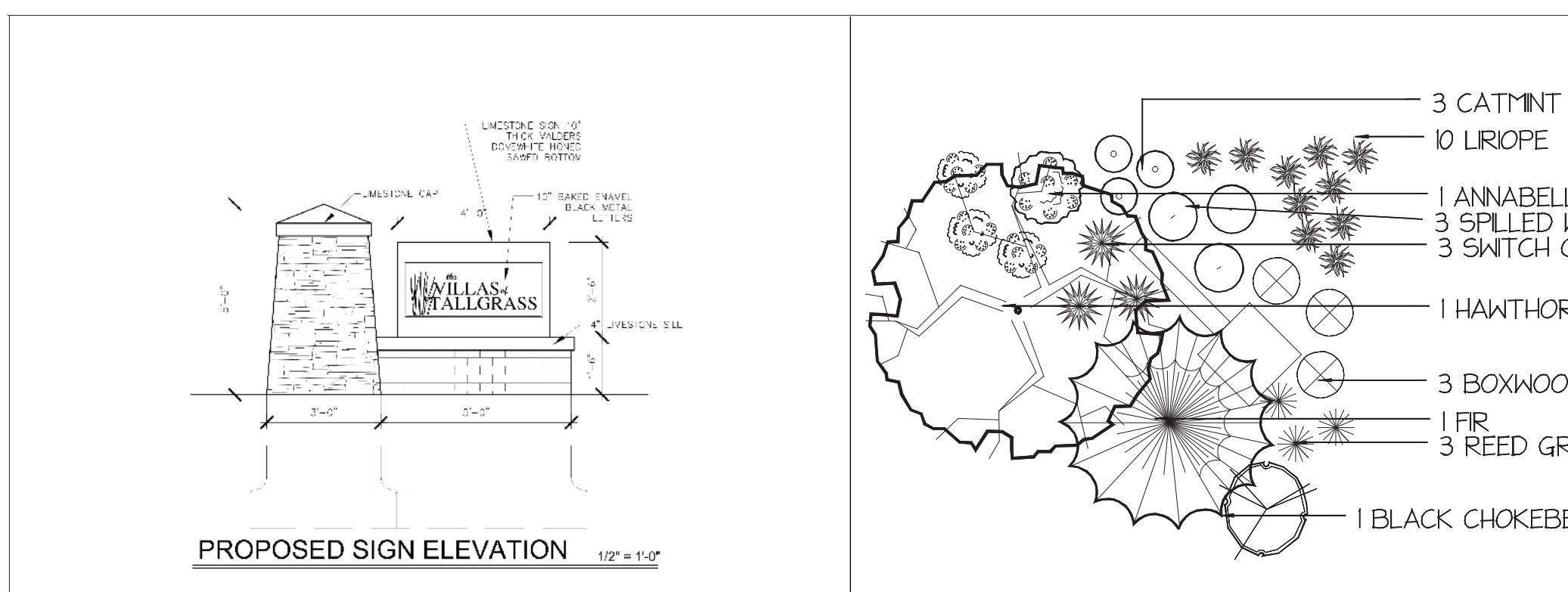
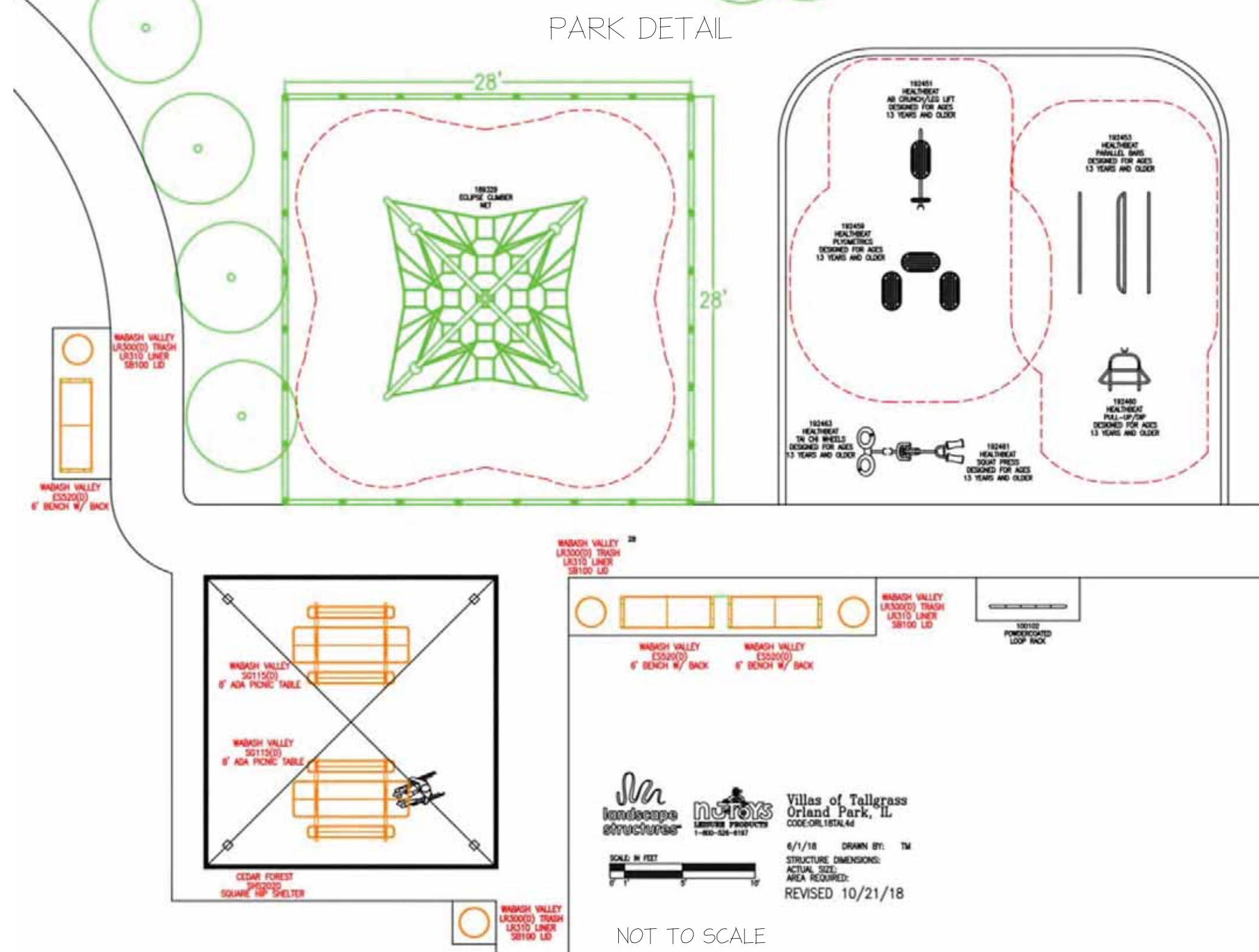
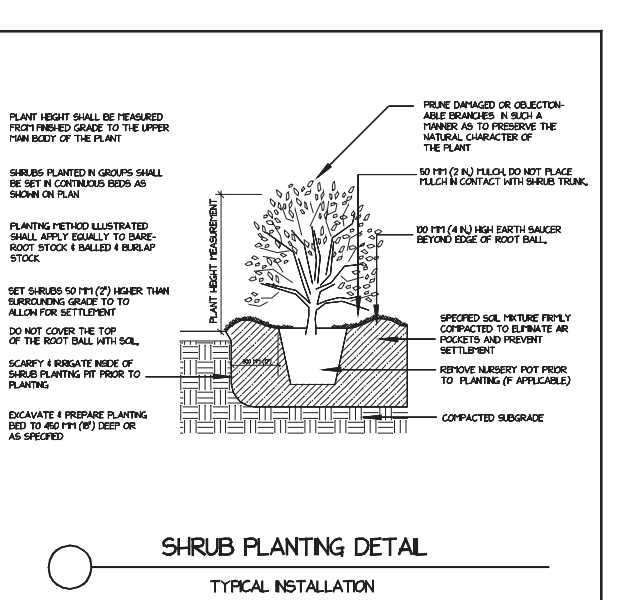
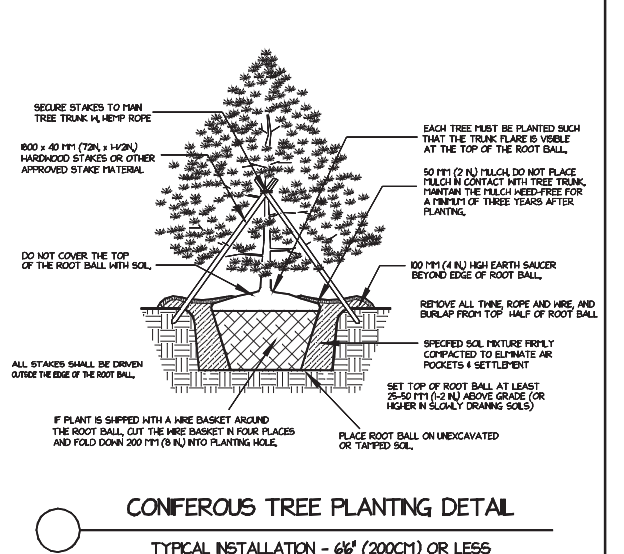
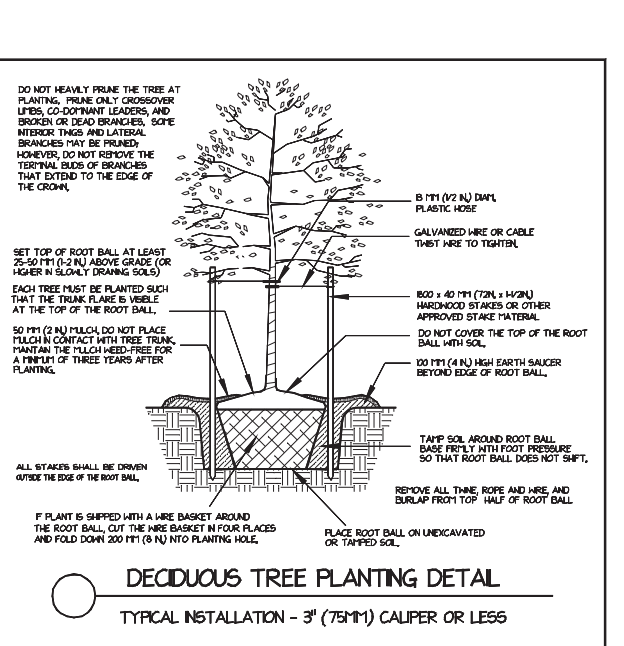
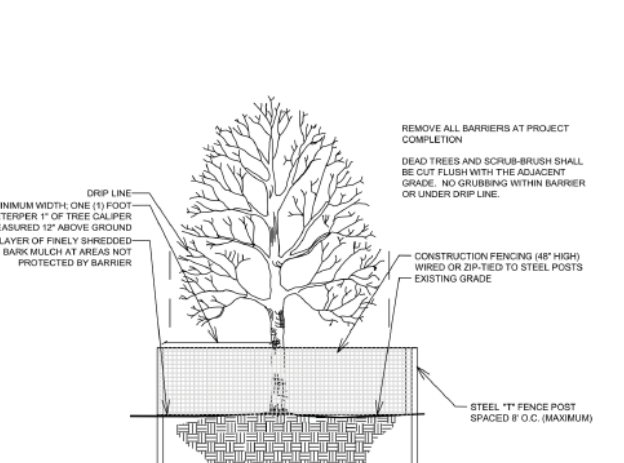
MARTH CONSTRUCTION  
VILLAS OF TALLGRASS  
167TH & SCARLET  
ORLAND PARK, ILLINOIS

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE



All plant growth in landscaped areas shall be controlled by pruning, trimming, or other suitable methods so that plant materials do not interfere with public utilities, restrict pedestrian or vehicular access, or otherwise constitute a traffic hazard; and

All planted areas shall be maintained in a relatively weed free condition and clear of undergrowth

All existing trees marked for preservation shall be done so according to UDO 17.20.130.C.

If any trees marked for preservation are damaged or removed they will be replaced in accordance with UDO 17.20.130.D.

NOT TO SCALE

NOT TO SCALE

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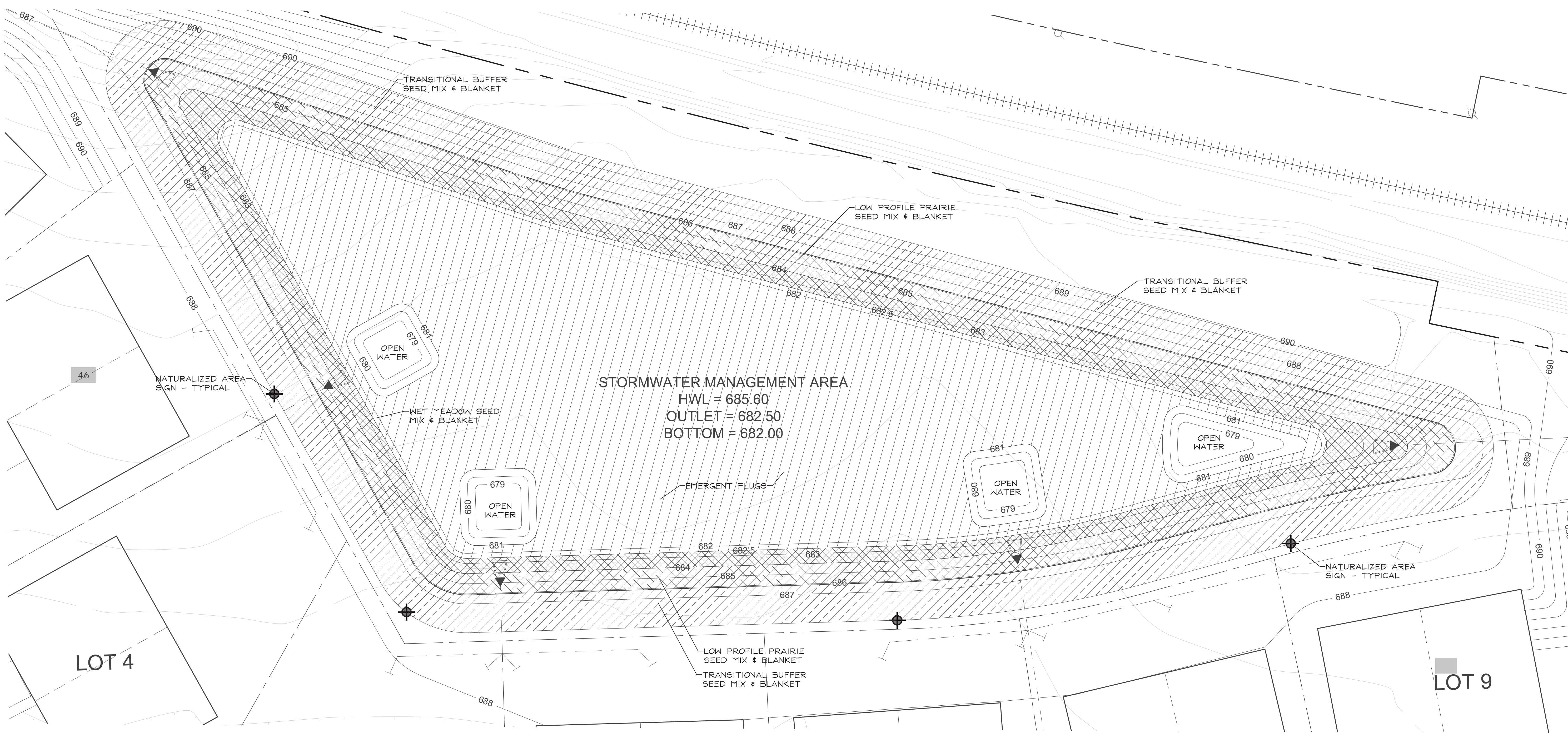


GARY R. WEBER  
ASSOCIATES, INC.  
LAND PLANNING  
ECOLOGICAL CONSULTING  
LANDSCAPE ARCHITECTURE  
212 SOUTH MAIN STREET  
WHEATON, ILLINOIS 60187  
PHONE: 630-668-7197

DEVELOPER  
**MARTH CONSTRUCTION**  
14800 S. 80TH AVENUE  
ORLAND PARK, ILLINOIS 60462

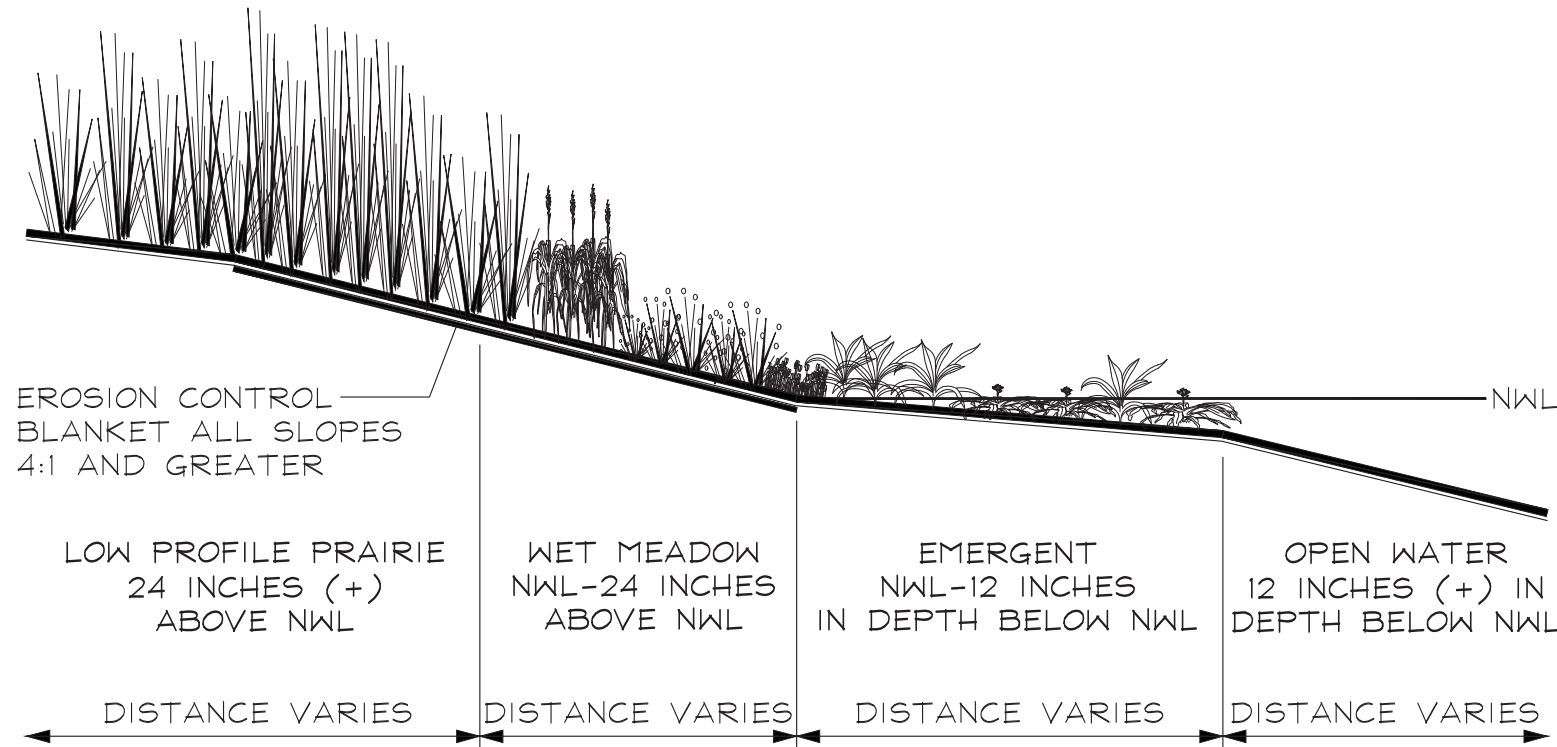
CIVIL ENGINEER  
**DESIGNTEK ENGINEERING INC.**  
9930 W. 190TH STREET, SUITE L  
MOKENA, ILLINOIS 60468

THE VILLAGES OF TALLGRASS  
ORLAND PARK, ILLINOIS  
BMP PLANTING PLAN

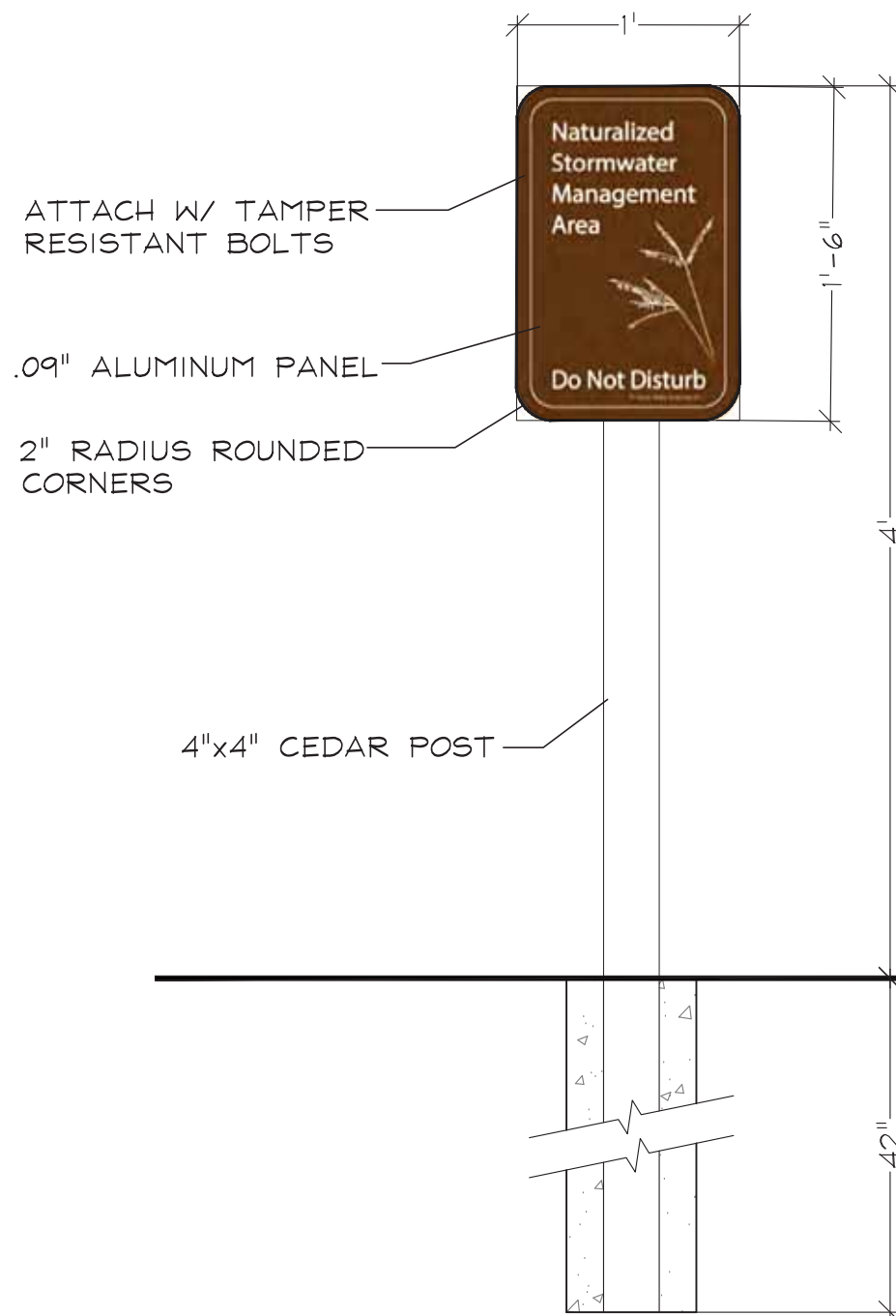


GENERAL NOTES

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.



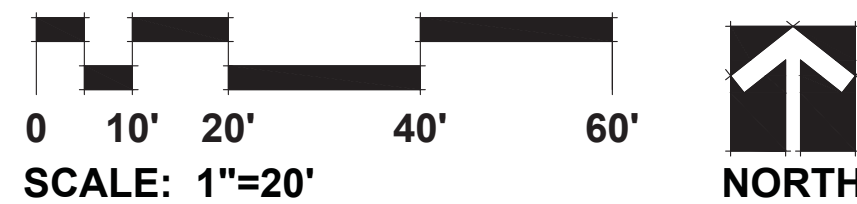
PLANT COMMUNITY SECTION  
NOT TO SCALE



NATURALIZED AREA SIGN DETAIL  
NOT TO SCALE

SIGN NOTES:

1. SIGN BACKGROUND COLOR:  
C=40, M=70, Y=100, K=28  
SIGN FONT AND GRAPHIC COLOR: WHITE
2. FONT STYLE: MYRIAD PRO  
FONT SIZE: 11/6 PT.
3. SIGN ARTWORK SHALL BE PROVIDED BY GARY R. WEBER ASSOCIATES, INC.
4. CONTRACTOR TO SUBMIT SHOP DRAWING AND COLOR SAMPLE FOR THE STORMWATER MANAGEMENT AREA SIGN FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION.



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

4	12.17.18
3	11.12.18
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 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 (FQI) 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 hills 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	Box elder
Alnus glutinosa	Black Alder
Elaeagnus umbellata	Autumn olive
Euonymus alatus	Burning bush
Lonicera spp.	Honeysuckle
Rhamnus spp.	Buckthorn
Robinia pseudoacacia	Black locust
Rosa multiflora	Multiflora rose
Ulmus pumila	Siberian elm

Broadleaf Plants

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

Grass-like Plants

Agropyron repens	Quackgrass
Bromus tectorum	Cheatgrass
Bromus japonicus	Japanese brome
Bromus inermis	Smooth brome
Phalaris arundinacea	Reed canarygrass
Phragmites australis	Common reed
Poa pratensis	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.

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 seeding area.

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

Botanical Name	Common Name	lbs. /AC.
Avena sativa	Seed Oats	40.0 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
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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.
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Grasses and Sedges

Carex bebbii	Bebbs Oval Sedge	0.250
Carex bicknellii	Bicknells Sedge	0.250
Carex brevior	Plains Oval Sedge	0.250
Carex cristatella	Crested Oval Sedge	0.150
Carex molesta	Field Oval Sedge	0.250
Carex normalis	Spreading Oval Sedge	0.250
Carex scorparia	Pointed Broom 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	Fowl meadow grass	0.150
Juncus dudleyi	Dudleys Rush	0.003
Juncus torreyi	Torreys Rush	0.005
Panicum virgatum	Switch Grass	1.000
Scirpus atrovirens	Dark Green Rush	0.060
Scirpus virinus	Wool Grass	0.015

Total Grasses and Sedges: 6.303

Wildflowers/Broadleaves

Alsiclerpias incarnata	Suampt Milkweed	0.500
Bidens cernua	Nodding Bur Marigold	0.190
Boltonia asteroides	False Aster	0.031
Chamaecrista fasciculata	Partridge pea	1.000
Euthamia graminifolia	Grassleaved Goldenrod	0.025
Eupatorium perfoliatum	Common Boneset	0.015
Helianthus autumnale	Sneezeweed	0.063
Iris virginica sibirica	Blue Flag	1.500
Loebelia siphilitica	Great Blue Lobelia	0.031
Mimulus ringens	Monkey Flower	0.003
Symphytirichum novae-angliae	New England Aster	0.250
Pycnanthemum virginianum	Common Mountain Mint	0.063
Rudebeckia fulgida var.sulivantii	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.
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Grasses

Bouteloua curtipendula	Side Oats Grama	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
Coneopsis palmata	Prairie Coneopsis	0.025
Echinacea pallida	Pale Purple Coneflower	1.000
Echinacea purpurea	Purple Coneflower	0.500
Eryngium yuccifolium	Rattlesnake Master	0.125
Lepedeza capitata	Round-Headed Bush Clover	0.125
Liatris aspera	Rough Blazing Star	0.250
Liatris pycnostachya	Prairie Blazing Star	0.108
Monarda fistulosa	Prairie Bergamont	0.063
Parthenium integrifolium	Wild Quinine	0.016
Penstemon digitalis	Foxglove Beardtongue	0.125
Liatris aspera	White Prairie Clover	0.125
Petalostemum candidum	Purple Prairie Clover	0.156
Petalostemum purpureum	Smooth Blue Aster	0.063
Potentilla arguta	Slender Mt. Mint	0.051
Pycnanthemum tenuifolium	Slender Mt. Mint	0.031
Ratibida pinnata	Yellow Coneflower	0.125
Rudebeckia fulgida var.sulivantii	Showy Black-Eyed Susan	0.500
Rudebeckia hirta	Black-Eyed Susan	0.500
Rudebeckia subtomentosa	Sweet Black-Eyed Susan	0.063
Symphytirichum laeve	Smooth Blue Aster	0.063
Tradescantia ohimensis	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 Grama	60.000
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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 1.3.C.

2.6 EROSION CONTROL

- A. Erosion Control Blanket: North American Green S150, or equivalent approved equal.
- D. 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 extraneous matter shall be removed and disposed of legally off-site.

5. Granular mycorrhizal inoculants shall be installed with the seed mix at a rate of 40lbs/ acre. Inoculant can be banded under seed, worked into seed or added into spray tanks. Native areas shall not receive fertilizer.
6. Contractor shall be solely responsible for the proper handling and storage of the seed according to the best seed handling and storage practices, including fungicide treatments and stratification considerations. Owner shall make no compensation for damage to the seed because of improper storage, cleaning, threshing, or screening operations.
7. Except where site conditions preclude their use, seeding shall be performed using a Truax drill, Truax Trillion seeder, or comparable equipment designed specifically for installation of native seed. For areas where site conditions preclude the use of specialized equipment, seed may be installed through hand broadcasting and followed by light raking. Hand broadcast seed shall be spread at twice the specified rate. Other methods of seed installation may be used with prior approval from the Landscape Architect.
8. Prior to starting work, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. In general, the optimum seeding depth is 0.25 inch below the soil surface. Areas where the seed has not been incorporated into the soil to the proper depths will not be accepted, and no compensation for materials or labor for the rejected work will be made by the Owner.
9. Seeding and soil tracking/firming shall not be done during periods of rain, severe drought, high winds, excessive moisture, frozen ground, or other conditions that preclude satisfactory results.
10. Wet mesic and emergent areas shall be planted, and seed allowed to germinate (if possible), prior to flooding with significant amounts of water. Any areas of significant permanent water located within the planting area will receive live plugs in lieu of seed.
11. After the seeding operation is completed, install erosion control blanket per manufacturer's specifications.
12. Emergent plugs shall be planted in natural groupings within designed areas containing saturated soils or shallow inundation. Plants within groupings shall be planted at 2 foot centers.
13. Emergent plugs shall not be planted less than the specified rate and shall be protected with goose enclosures around all natural groupings of plugs.

B. Trees and Shrubs

1. Set balled and burlapped (B&B) stock plumb and in center of pit or trench with top of ball at an elevation that will keep the root flare exposed upon backfill and mulching. Remove burlap from top and sides of balls; retain on bottoms. When set, place additional topsoil backfill around base and sides of ball and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.
2. Dish top of backfill to allow for mulching. Provide additional backfill berm around edge of excavations to form shallow saucer to collect water.
3. Mulch pits, trenches and planted areas. Provide not less than 2" thickness of mulch and work into top of backfill and finish level with adjacent finish grades. Maintain exposed root flare at all times.
4. Prune only injured or dead branches from flowering trees, if any. Protect central leader of tree during shipping and pruning operations. Prune shrubs to retain natural character in accordance with standard horticultural practices.
5. Remove and replace excessively pruned or ill-formed stock resulting from improper pruning.
6. The Contractor shall be wholly responsible for assuring that all trees are planted in a vertical and plumb position and remain so throughout the life of this contract and guarantee period. Trees may or may not be staked and guyed depending upon the individual preference of the Contractor; however, any bracing procedure(s) must be approved by the Owner prior to its installation.

3.3 INITIAL MAINTENANCE

- A. Begin maintenance immediately after planting, continuing until final acceptance. A minimum of thirty (30) days.
- B. Maintain planted and seeded areas by watering, rolling/regrading, replanting and implementing erosion control as required to establish vegetation free of eroded or bare areas.
- C. Native Planting areas are to be mowed only once per spring during the initial three year establishment period.

3.4 NATIVE LANDSCAPED AREAS  
CONTINUED MONITORING & MAINTENANCE

Please refer to the Monitoring and Management Plan provided.



GARY R. WEBER  
ASSOCIATES, INC.

LAND PLANNING  
ECOLOGICAL CONSULTING  
LANDSCAPE ARCHITECTURE  
212 SOUTH MAIN STREET  
WHEATON, ILLINOIS 60187  
PHONE: 630-668-7197

DEVELOPER

MARTH CONSTRUCTION  
14800 S. 80TH AVENUE  
ORLAND PARK, ILLINOIS 60462

CIVIL ENGINEER

DESIGN/TEAM ENGINEERING INC.  
9930 W. 190TH STREET, SUITE L  
MOKENA, ILLINOIS 60448

THE VILLAS OF TALL GRASS  
ORLAND PARK, ILLINOIS  
SPECIFICATIONS

4	12.17.18
3	11.12.18
2	4.25.18
1	3.08.18

REVISIONS

DATE	12.20.17
PROJECT NO.	MC1702
DRAWN	GF8
CHECKED	ELR
SHEET NO.	

2 OF 2





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 167<sup>th</sup> 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 80<sup>th</sup> 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 28<sup>th</sup> 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-foot 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: [Signature]

Printed Name: Michael Mazza

Title: Mayor

Date: 02/27/19

### PETITIONER/OWNER

Submitted By: James M. Marth

Printed Name: James M. Marth

Property Address: The Villas of Tallgrass @ 167th 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



**Appendix 1**  
**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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Appendix 2.

Long-term Monitoring & Management Tasks for Naturalized Landscapes.

Activity	Schedule																					
	Frequency							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	D	
<b>Debris/Litter Management</b>																						
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										
<b>Structural Management</b>																						
Perform structural inspection of control structure/spillway and clean-out/repair and dispose of debris in an appropriate off-site location.			X									X								X		
Inspect basin/pond slopes and embankments.			X										X				X				X	
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.						X				X	X	X									X	X
Perform corrective maintenance any time a basin takes longer than design time to return to +6 inches of NWL.						X				X	X	X	X			or						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	X			X	X				X
<b>Vegetation Management</b>																						
<b>General Weed Management</b>																						
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						X					X	X	X							X	X	X
Bush honeysuckle						X					X	X	X									X
Cattails						X								X	X							
Common reed						X											X					
Purple loosestrife						X								X	X		X	X				



Activity	Schedule																
	Frequency							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
<b>General Weed Management CONT.</b>																	
Reed Canarygrass																	
Sweet Clover																	
Teasel						X				X	X	X					X
Thistles						X								X			X
<b>Prescribed burning</b>																	
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.																	
<b>Mowing</b>																	
Conduct a high mow (12 inches) to prevent weed seed production.						X									X		
Conduct single-season mow in place of prescribed burning.						X						X			or		X
<b>Clearing/Removal</b>																	
Remove wetland plants killed by sediment build up to prepare bed for replanting and dispose of at an appropriate off-site location.						X						X					X
<b>Replanting</b>																	
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.						X								X			X
<b>Other Management Actions</b>																	
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.					X					X							
Maintain and upkeep fencing, refresh planting beds, enforce access restrictions, etc.						X		X				X	X	X	X	X	X
Manage wildlife and control mosquitos.						X						X	X	X	X	X	X

